What does it mean to young people to be part of a care farm?
An evaluation of a care farm intervention for young people with
behavioural, emotional and social difficulties.

Sarah Hambidge BSc

Copyright statement

This copy of the thesis has been supplied on condition that anyone who consults it is understood to recognise that its copyright rests with its author and due acknowledgement must always be made of the use of any material contained in, or derived from, this thesis.

What does it mean to young people to be part of a care farm? An evaluation of a care farm intervention for young people with behavioural, emotional and social difficulties.

Author: Sarah Hambidge

Abstract

This PhD thesis presents the findings of an evaluation to understand the impact of a care farm aiming to improve the mental and social health of disadvantaged young people with behavioural, emotional and social difficulties (BESDs) from low-socioeconomic backgrounds who are at risk of becoming NEET (Not in Employment, Education and Training) at sixteen years of age. It examines the potential for underlying mechanisms of a care farm to enhance young people's chances of remaining in education, employment and training and lead to improvements for this disadvantaged group's health and well-being. The Self-Determination Theory (SDT) was used as a theoretical framework to explore the psychological mechanisms underlying experiences of attending the care farm.

This mixed-method study, explores the experiences and perceptions of young people attending the care farm. Data were longitudinally captured using a validated questionnaire pack, semi-structured interviews at baseline, six months and nine months, triangulated with observational fieldwork. The RE-AIM (Reach, Effectiveness, Adoption, Implementation, and Maintenance) evaluation framework was used to contextualise these findings.

Inferential statistical analysis of behavioural, emotional and subjective well-being measure scores identified statistically significant differences in respect of the amount of time the young people had been attending the care farm and reductions in conduct problems, hyperactivity and the use of non-productive coping strategies and increased satisfaction with school, awareness of how actions affect the environment and overall connection to nature. Analysis of qualitative data suggested the young people perceived the farm as an inclusive environment, which improved their green environmental engagement (e.g. positive experiences from animals, sense of freedom from the physical space, increased participation in physical activity), personal functioning (e.g. coping, trust, self-confidence, self-efficacy, kindness, empathy), social functioning (e.g. pro-social behaviour: relationships with family, peers and in the school environment, social inclusion, sense of belonging to the care farm) and personal development (e.g. re-engagement with school, life & work skill learning). The young people also reported a reduction in their self-reported mental health risks (depression, anxiety and stress) and behavioural regulation difficulties

The thesis concludes by arguing that this care farm initiative provides an alternative to traditional classroom based learning for pre-NEET young people with BESDs when they are therapeutically supported in a green space. The farm environment is conducive for young people to build key social, life and relationship skills, thus enhancing their chances of remaining in education, employment or training.

Contents page

List of tables and figures

Tables

Figures

Acknowledgements

NB. Acknowledgement by name of the care farm, staff and participants has not been given on the grounds of confidentiality to protect and minimise any potential risk to the young people attending the care farm during the duration of this PhD study.

Author's declaration

This dissertation is submitted for the degree of Doctor of Philosophy at the Bournemouth University. The research described herein was conducted under the supervision of Dr Andrew Mayers and Dr Erika Borkoles, between January 2014 and January 2017.

This work is, to the best of my knowledge, original except where acknowledgements and references are made to the previous work. Neither this, nor any substantially similar dissertation has been or is being submitted for any other degree, diploma or other qualification at any other university.

Chapter 1: Introduction

There are currently almost 1 million young people (aged from 16 to 24) in the United Kingdom (UK) who are Not in Education, Employment and Training (NEET; Office for National Statistics, 2016). Young people in a NEET situation represent a high financial burden for the economy. NEETs amongst 20-24 year olds costs £22m per week in Jobseekers Allowance, and between £22-133m per week in lost productivity (The Princes Trust, 2010). Short-term and long-term effects on physical and mental health are evident among these young people and are thus regarded as a concern to public health and social care professionals (Public Health England, 2014). One potential indicator of becoming NEET is exhibiting/suffering from behavioural, emotional and social difficulties (BESDs; Carpenter, Papps et al., 2013). BESDs can indicate and cause a variety of educational needs which challenge educators to provide a meaningful education delivering positive outcomes (Priory Education Services, 2014).

Prevention is the most successful method to reduce the number of NEET young people (Department for Education, 2012). Interventions, which offer a restorative approach with therapeutic support, are recommended support mechanisms towards preventing NEET (Ofsted, 2008). Key areas of delivery should be focused on maintaining and enhancing well-being, developing social, personal and life skills and offering accreditation for future employment or training (Public Health England, 2014). Evidence indicates that despite a rise in alternative provision for pre-NEET young people (Office for National Statistics, 2016) interventions still need a conceptual shift away from education, in favour of a focus on 'learning'. Thus, exposure to the natural environment and animal assisted therapy may be useful mechanisms within interventions to encourage learning and enhance the health and well-being of pre-NEET young people. However, there is a shortfall in evidence which identifies successful intervention programmes and any subsequent impact on pre-NEET young people (Britton, Gregg, Macmillan & Mitchell, 2011). Intended impacts would be enhancing their chances of remaining in education, employment and training and leading to reducing their behavioural, emotional and social difficulties.

Farms are traditionally associated with agricultural production and rearing animals but, more recently, farming activities are being used for therapeutic purposes. Care farming in the UK is one type of 'green care' (e.g. nature based treatment intervention) that uses nature to nurture vulnerable individuals. Care farms provide health (physical, mental and psychological), social or educational care services delivered through structured programmes of farming-related activities to promote individual health and well-being and the opportunity to develop transferable skills, personal development, social inclusion and rehabilitation (Sempik Hine & Wilcox, 2010; Leck, Evans & Upton, 2014; Care Farming UK, 2016; Bragg & Atkins, 2016). Care farms in the UK make provision for a range of service users included disaffected young people. However, there is currently no evidence to support our understanding of the impact of a care farm to improve

the physical, mental and social health of disadvantaged young people with BESDs from low-socioeconomic backgrounds who are at risk of becoming NEET at sixteen years of age.

It is the primary aim of this longitudinal pilot study to evaluate the impact of a care farm model on pre-NEET young people. This study examines the potential underlying mechanisms of a care farm that can enhance young people's chances of remaining in education, employment and training and lead to improvements for this disadvantaged group's health and well-being. The Self-Determination Theory (SDT; Deci & Ryan, 2002 & 1985a; Ryan & Deci, 2007 & 2000) was used as a theoretical framework to explore the underlying psychological mechanisms of experiences of attending the care farm, and the RE-AIM (Reach, Effectiveness, Adoption, Implementation, and Maintenance) evaluation framework was used to contextualise these findings. This will be explored later.

This study will enhance the existing knowledge base through the evaluation of the care farm intervention by showing if it can provide an alternative to traditional classroom based learning for young people with BESDs when they are supported in a green space. This PhD study will evaluate if the farm environment is conducive for young people to build key social, life and relationship skills, increase life satisfaction and overall connection to nature thus enhancing their chances of remaining in education, employment or training.

This PhD was match funded by a care farm located in a rural southern county in England. The farm provides vulnerable people with access to a rural environment to enhance their well-being and help them to reach their potential. A resilience model is used to structure programmes of practical activities to encourage progression. The care farm commissioned this doctoral project to provide an evaluation of the care farm model in delivering their intervention offered to the hardest to reach young people who are at risk of permanent exclusion from the education system (pre-NEET) due to BESDs.

1.1 Personal and professional context: Introducing the researcher

In this section I outline my personal and professional motivations for undertaking this study because these will impact on the conduct of the research and the findings, which will help to acknowledge the constraints and the context of this research.

My interest in this area of research developed from early childhood experiences having had the opportunity to spend many hours in the school holidays on a number of farms due to the nature of my Dad's work and in an era with fewer health and safety rules. This offered us hours of endless fun gifted by nature, animals and farming life. My fondest memories include spending time with the farm animals and eagerly learning from the farmer about how to care for the animals, driving the lorries and tractors around the big open fields, fruit picking when the seasons and weather allowed and climbing extremely high piles of chalk or lime (used for treating the soil) and sliding or rolling all the way down again. As a young adult I realised the unique experiences and life-skills this opportunity had lent me and how all of these memories were accompanied with a sense of happiness and wellbeing. Spending time on the farms

helped to develop my love for the great outdoors and animals. I now spend a lot of my free time walking my dog in many of Dorset's beautiful locations, gardening, cycling the Purbecks and taking any opportunity to spend time outside, all of which appear to provide a sense of wellbeing by removing or reducing the stresses we all experience from time-to-time in our lives.

After completing my undergraduate degree my professional research career evolved around health, social and care topics with a specific focus on disadvantaged groups. While the research topics aimed to find solutions to improve various outcomes for these groups of people, no project had conceptualised using nature to nurture. Concurrently, I had considered the task of completing a PhD (it appeared to be a natural step in academic life), but I had never found the topic to keep me engaged and excited while climbing 'mount PhD'. However, a Bournemouth University funded studentship focusing on a care farm as an intervention for pre-NEET young people became available, which now sits as this PhD study. Previous research work I had undertaken demonstrated the importance of the social environment and day-to-day relationships and interactions on an individual's wellbeing and experiences. The principles of the care farm appeared to understand and manage the physical and mental health and well-being of their clients in holistic terms through recognising both the biomedical aspects, but also the social and cultural factors that impact on client's experiences. Based on this philosophy and my own experiences of farming and nature I believed this study had the potential to stimulate research that could create positive short- and long-term change for a specific group of young people whose behaviour, social and emotional difficulties presented a barrier to learning and participation. I was curious to understand if and how a care farm can help young people inadequately supported within the school and social system. While I was fortunate to have a stable home-life and thus my circumstances growing up were different to the young people attending the care farm I was curious to know if the care farm was able to provide the life skills, a connection to others (including animals) and a sense of well-being that I had gained as a child and young adult from spending time at a farm. Whilst undertaking this study I drew upon the research values that I have always followed in my professional career by providing a platform for all participants to express themselves, while representing their opinions and experiences in a fair and ethical manner in the hope that positive changes will be experienced both within their lives and in the way they are viewed more widely by other people (including those in the education, employment and care services).

1.2 Outline of thesis content

This PhD thesis is presented in eight chapters, following this introduction chapter, the rest of the thesis is presented as follows:

Chapter 2 provides a detailed description of care farming, its relevance to the broader green care context, the current form and extent of care farming in the UK and its historical context through to the modern day incidences of using nature to nurture. Relevant research is discussed before positioning the research in the distinct areas of NEET and BESDs. SDT is discussed as the theoretical framework in this study to explore the underlying psychological

mechanisms of experiences of young people at the care farm. Chapter 2 concludes with a statement on the purpose of this thesis.

Chapter 3 presents and discusses the care farm model which is used to help the young people with BESDs strategically and practically to enhance their well-being, resilience, and progression. The model has five components: 'Basics', 'Belonging', 'Learning, 'Coping' and 'Core-self'; each component has a number of subcategories. The five components of the model are discussed in detail to better understand why the model is used and how it is implemented as a framework for the intervention.

Chapter 4 discusses the rationale for selecting a pragmatic framework with a mixed methods approach adopted for this study. The research design, instrument selection, sampling, data collection and ethical procedures are explained. The RE-AIM (Reach, Effectiveness, Adoption, Implementation, and Maintenance) evaluation framework used to contextualise the findings of this study is described and how it works with a mixed methods design.

Chapter 5 presents the quantitative data findings of this study that were longitudinally captured using a validated questionnaire pack at baseline, six months and post-intervention (9 months). The findings initially examine demographic information about the study participants. The questionnaire pack measured behavioural difficulties, emotional problems, coping strategies, life satisfaction and nature-relatedness. The nature of the outcome at each time-point and associated change is explored and discussed.

Chapter 6 presents the qualitative findings obtained from interviews with the care farm service users, the farmer and previous service users and weekly observations of a care farm session. The demographics of the six care farm service users who participated in the baseline and post-intervention interviews are presented, followed by participants' perceived value of attending the care farm and self-reported outcomes and any associated change.

Chapter 7 presents an overall discussion of this PhD thesis and the evidence provided by this study with consideration to previously reported literature. This chapter relates the findings to the original research questions and evaluates the findings in accordance to the RE-AIM framework.

Chapter 8 The discussion of key findings in Chapter 7 provides an opportunity to discuss theoretical considerations, practical implications, limitations and recommendations for future research and policy in this concluding chapter.

Chapter 2: Literature review

2.1 Positioning the research

This chapter focuses on the definition and development of care farming in the UK and how care farming positions itself within wider nature-based interventions, commonly referred to as 'green care' (Care Farming UK, 2016). Definitions of care farming (the concept of using farming activities to promote multifunctional agriculture, well-being and social inclusion) will be discussed and contextualised. Care farming practices, and how they could benefit both individuals and communities, will be expanded upon. The strengths of care farming will then be reviewed to provide a rationale for this PhD study and show how the practice could benefit young people with BESDs who are disengaged from education and are at risk of becoming NEET. In this context, the impact of exposure to nature/animals upon young people will be explored, along with how care farming can facilitate this process, to improve young people's chances of remaining in education, employment and training and lead to improvements in their health and well-being.

2.2 Care farming

Care farming, alternatively referred to as 'social farming' or 'green care farming' (de Boer, Hamers, Beerens, Zwakhalen, Tan, & Verbeek, 2015; Bragg et al., 2016) is one type of green care (e.g. nature-based treatment interventions). It uses contact with nature to help vulnerable individuals with a defined medical, psychological or social need to achieve positive outcomes (Care Farming UK, 2016; Bragg et al., 2016). Service users in the UK are typically adults with learning difficulties, autism spectrum disorders, or mental health issues, and disaffected young people, but can also include those with differing personal needs such as those with a history of addiction, work-related stress, employability challenges, dementia and issues related to military service (Hine et al., 2008a,b; Hine et al., 2009; Hegarty, 2010;Hine, Peacock & Pretty, 2008; Leck, 2013; Maynard, 2013; Bragg, 2014; Bragg et al., 2014; Leck, Evans & Upton 2014, Leck, Upton & Evans, 2015; de Boer et al., 2015). Research has highlighted the positive outcomes for service users, which include enhanced social, physical, mental, and educational well-being (Haubenhofer, Elings, Hassink,& Hine, 2010; Hassink, Elings, Zweekhorst, van den Nieuwenhuizen & Smit, 2010; De Bruin, Oosting, van der Zijpp, Enders-Slegers & Schols, 2010), and the opportunity to experience nature-connectedness (Hegarty, 2010; Cervinka, Roderer, & Hefler, 2012; Nisbet, Zelenski, & Murphy, 2011). Care farming also helps the agricultural community to remain viable and facilitates public interaction with the natural environment (Hine et al., 2008, Leck et al., 2014). It is clear from the evidence presented that care farming has a broad reach of service users and has the potential to deliver positive outcomes, such as enhanced social and educational well-being for young people with BESDs as a specific group of service users.

Care farm attendance is increasingly a result of referral from a range of different agencies, including social services, primary care (e.g. GPs) and education authorities. Clients can also be

self-referred as part of a direct payment scheme, or referred from other sources, such as the prison service and youth offending teams (Care Farming UK, 2016). Care farms provide health (physical, mental and psychological), social or educational care services delivered through structured programmes of farming-related activities (crop and vegetable production, animal and livestock husbandry, horticulture, the use of machinery and land management) to promote individual health and well-being and the opportunity to develop transferable skills, personal development, social inclusion and rehabilitation (Sempik et al., 2010; Leck et al., 2014). It will be important for this PhD study to understand if a care farm can provide improvements to young people's health and well-being in addition to helping them learn transferable social and life skills.

The definition of 'care farming' has subtle differences between countries which reflect national policy contexts (Braastad and Bjornsen, 2006; Hassink and van Dijk, 2006; Dessein, 2008; Haubenhofer, Elings, Hassink & Hine, 2010; Dessein, Bock & de Krom, 2013; Leck et al., 2014), but the linking philosophy is the therapeutic use of farming practices (Care Farming, UK 2016). In the UK, care farming is commonly described as 'the use of commercial farms and agricultural landscapes as a base for promoting mental and physical health, through normal farming activity' (Hine et al., 2008a, p. 247). The structure of care farms usually falls into one of two categories: care farms where there is an absence of formal 'care' and the primary focus is the daily work undertaken on a farm and the relationships with the farmer and staff; and care farms where 'care' (using nature as a co-therapist through activities such as walking outside, planting seeds and wood craft activities; Hegarty, 2010) dictates the structure and agricultural activities for the benefit of the service user, rather than for commercial farming production (Hassink et al., 2007). Through these structures, care farming helps to restore the physical and mental well-being of individuals by drawing attention to what the individual can do, rather than what they cannot, and providing them with new skills which can positively improve their life prospects. The data collected in this PhD will need to capture if the care farm helps young people to recognise their strengths and how they can cope with the tasks and emotions they may struggle to control. Care farming is also of social and economic benefit to the farm and rural communities, service providers and commissioners (Leck, 2013; Care Farming West Midlands, 2015).

Care farming is positioned within two concepts: multifunctional agriculture; and the health care sector (Haubenhofer et al., 2010). Care farming is both a traditional and an innovative use of agriculture, typically introduced from a 'grassroots level' by new and established farmers (Lanfranchi, Giannetto, Abbate & Dimitorva, 2015), and represents a partnership between farmers, health and social care providers, education authorities and service users. Supervision is led by the care farmer, assisted by staff or volunteers who deliver a programme of farming related activities in a supportive and caring environment. Care farms in the UK typically provide regular services (day care once or twice a week), for a fixed and limited period of time. The majority of care farms are commercial agricultural businesses, small holdings or community farms, with the remaining connected to health institutions, or existing as farms within therapeutic communities.

2.2.1 History and background of care farming

Care farming is both a traditional and a modern concept. Historically, policy-makers and researchers have emphasised the importance of the connection between the natural environment and human health (Ulrich, 1993; Frumkin, 2001; Bird, 2007; Hickman, 2009; Sempik et al., 2010). The origins of care farming are found in the traditional self-help systems existing in rural areas before the modernisation of agriculture and the public welfare system (Di Iacovo & O'Connor, 2009). By the Middle Ages, nature-based practices to support health and well-being were routine (Bird, 2007). Many hospitals and monasteries had picturesque gardens and outside shelter, and institutions allowed patients to participate in physical work on small farms or in gardens as a form of stimulation (Bird, 2007; Nightingale, 1860, 1996; Gerlach-Spriggs et al., 1998; Frumkin, 2001). Victorian asylums developed this concept, providing patients with the opportunity to grow food for the inhabitants and selling any surplus (Sempik & Aldridge, 2006). The farm work was viewed as providing patients with the opportunity to experience a variety of different sensory experiences considered to be therapeutic (Sempik et al., 2010).

In the 19th century Benjamin Rush (1812; cited in Davis, 1998), one of the founders of American psychiatry and a signatory of the United States Declaration of Independence in 1776, was credited as a pioneer of occupational therapy and modern therapeutic horticulture because of his comprehensive work observing the institutionalised and the natural environment (Davis, 1998; Sempik et al., 2003). It was believed that allowing residents to interact with animals reduced the need for restraints and drugs (Willis, 1997), while the work undertaken on a farm or in a garden helped to improve physical and mental health. The following is an extract from the Report of the Commissioners of the Scotch Board of Lunacy of 1881:

> 'It is impossible to dismiss the subject of asylum farms without some reference to the way in which they contribute to the mental health of the inmates by affording subjects of interest to many of them. Even among patients drawn from urban districts, there are few to whom the operations of rural life present no features of interest; while to those drawn from rural districts, the horses, the oxen, the sheep, and the crops are unfailing sources of attraction. The healthy mental action which we try to evoke in a somewhat artificial manner, by furnishing the walls of the rooms in which the patients live, with artistic decoration, is naturally supplied by the farm. For one patient who will be stirred to rational reflection or conversation by such a thing as a picture, twenty of the ordinary inmates of asylums will be so stirred in connection with the prospects of the crops, the points of a horse, the illness of a cow, the lifting of the potatoes, the growth of the trees, the state of the fences, or the sale of the pigs' (Tuke, 1882, pp. 383-384).

Before industrialisation and urbanisation, it was commonplace for family members to care for relatives with physical or mental health needs as an alternative option to asylum or hospital

care, particularly in rural areas (Srivastava, 2009). However, the growth of industrialisation and urbanisation saw industrial towns taking over green spaces and caused a transition towards smaller family units. These changes affected the traditional family support system because family members were less able to care for relatives outside of their immediate family due to their increasingly disparate locations (Srivastava, 2009). It was acknowledged at this time that people had a diminishing relationship with nature, which subsequently had an ill-effect on their mental and physical health, compounded by the lack of availability of care traditionally provided by the family. As the 20th century progressed, the use of the natural environment and animals as a therapy began to decline due to increasing concerns about the possible exploitation of patients as unpaid labour (Sempik et al., 2010) and the increased prevalence of scientific medicine (Allderidge, 1991). Asylums became hierarchical institutions, where therapy was replaced with medication and the priority for the organisation of daily life shifted from creating opportunities for social interaction and towards ensuring hygiene and safety (Fakhourya & Priebe, 2007). As a consequence, individuals became institutionalised and socially isolated, causing a further decline in their health and well-being (Chow & Priebe, 2013 2010).

The above notion relates to the 'medical model' of psychological problems, conceptualised by the psychiatrist Laing in his 'The Politics of the Family and Other Essays' (1971). Laing suggested that in the medical model, a disorder affecting mental functioning is assumed to be a consequence of physical and chemical changes which take place primarily in the brain. It is thus a biological approach with a preference for physical treatment methods, primarily drugs. Laing was particularly critical of the medical model approach in the treatment of schizophrenia, and there has been criticism of it relating to some other conditions and symptoms. The model is unhelpful in understanding certain aspects of psychological health, such as social interaction, improvement of self, or psychological and behavioural skills (e.g. coping). It is now widely believed that there is a need to understand and manage health and well-being in more holistic terms, accounting for biomedical aspects but also considering the social and cultural factors that impact on an individual's experiences. This is commonly referred to as person-centred care. The development of modern green care farming recognises the importance of the individual in their treatment and thus aims to therapeutically support service users to retain autonomy, support the maintenance of self and well-being, and enhance social inclusion (Hemingway, Ellis-Hill & Norton, 2016; Hegarty, 2014). The evidence presented above demonstrates to the researcher the need for this PhD to capture qualitative data to truly understand the various factors that impact on the young people's individual experiences at the care farm, and to also adhere to the notion of person-centred care. If the young people are not treated as integral to the research through their expression of opinions and experiences then the research practice itself will reduce their sense of autonomy and inclusion.

The decline of contact with nature continued until the 1940s. In 1948, the World Health Organisation (WHO) redefined health as 'a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity' (1948, p. 2), which influenced changes to health policies and the care system (Yach, 1998). An increasing awareness developed regarding the benefits of participative, group-based approaches and the use of outside space

for psychological treatments. Psychiatric institutions were increasingly decentralised, and there was a move towards a multi-professional team approach and external facilities as service provision for treatment. Therapeutic communities, which included care farming, began to re-emerge (Bauer, 2005), and the focus of treatment became the needs of the individual, as well as their quality of life (Elings & Hassink, 2006). However, in the UK, many farms and outside spaces for therapeutic use were closed at increasing rates. A key driver identified in the downward trend of farming as a therapy was the lack of long term financial sustainability (Hlusickova & Gardianova, 2014).

In the last decade, the UK has experienced a growing range of therapeutic interventions that have focused on the relationship between physical and mental health and well-being and the use of the natural environment (Green Care, 2010; Pretty & Pencheon, 2016). These have become commonly known as 'green care' interventions (Marmot et al., 2010). The Self Determination Theory (SDT; Deci & Ryan, 2000) explains how contexts such as nature and the natural environment can stimulate healthy functioning, motivation and well-being of green care recipients (Ryan & Deci, 2000b; Deci & Ryan, 2008). According to SDT, functioning, motivation and well-being are promoted through contexts that support the psychological needs of competence, relatedness and autonomy (Ryan & Deci, 2000a; Deci & Ryan, 2008) (Section 2.9). The growing interest in green care is linked to the increasing challenge faced by pharmaceutical companies and healthcare systems in combatting or moderating specific physical and mental health conditions, social and behavioural problems (Pretty et al., 2005; Wilkinson and Pickett, 2010). The multi-functioning purpose that agriculture and farming can offer, which includes education, cultural, ethical, physical and social functions (Renting, Rossing, Groot et al., 2008) offers much more assistance than many other social services and therapies (Hermanowski, 2006).

Background of care farming

Care farming is positioned within 'green care', which is a collective term used in the UK to describe 'nature based therapy or treatment interventions specifically designed, structured and facilitated for individuals with a defined need' (Bragg & Atkins, 2016, p. 30).

Figure 1: Summarises the activities that fit under the green care umbrella.
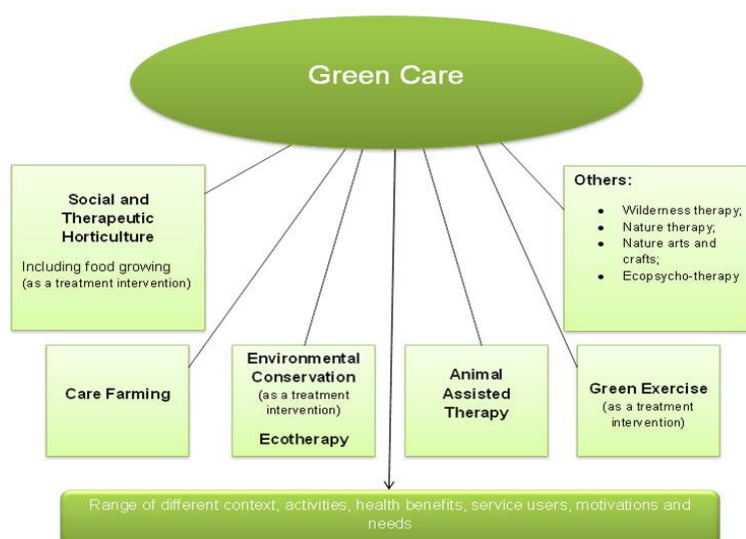
(Adapted from Hine et al., 2008; Sempik et al. 2010:27)

Green care is different from nature-based health promotion activities because the activities focus on contact with nature to provide specific health promotion, social rehabilitation or care interventions in a natural environment (Elings, 2012), with identifiable outcomes for specific groups of people (Sempik et al., 2010; Sempik & Bragg, 2013). The landscape and framework used for each intervention can vary, but it is from this extensive choice of interventions that the most suitable treatment of personalised care can be offered (Hine et al., 2008). Green care is an active process. Contact with nature can only become green care when it involves 'nature-based therapy or treatment interventions specifically designed, structured and facilitated for individuals with a defined need' (Green Care Coalition, 2015, p. 100). In this study, the word 'care' in 'care farming' and 'green care' is used in its broadest sense and as an all-encompassing term, in reflection of this definition. While green care is associated with elements of the natural environment, other types of green care interventions can also take place in alternative environments including hospitals, schools, care homes, and other institutions (Sempik & Bragg, 2016). It is the provision of care, the use of nature and the association to the natural environment as a framework that links the various interventions (Sempik & Bragg, 2016). The content and level of application of each green care intervention can vary from structured and focussed to more spontaneous and general.

Care farming has rapidly developed in numerous European countries (Hassink et al., 2006). Leading countries include Norway (approximately 1,100 care farms), the Netherlands (1,000), France (900), Italy (675), Belgium (300), Austria (250), the UK (240; 8 in Wales, 12 in Scotland, 15 Northern Ireland and 205 in England), and Germany (160) (Hassink et al., 2006; Hassink, 2012; de Boer et al, 2015, Care Farming UK, 2015). The current literature identifies the key factors that service users acknowledge as providing them with benefits: the relationship with the

farmer (or staff members); being part of a community; being able to engage in meaningful work activity and the informal, non-clinical setting of the farm environment (Bragg et al., 2016, p. 41). The literature also shows the positive effects attending the care farm has on the psychological and social health of service users: an increase in social inclusion; social and work skills; empowerment; social functioning; ability to cope; social rehabilitation; cognitive functioning and well-being; self-esteem; and a reduction in mood and depression and anxiety related symptoms (Bragg et al., 2016). It will be important that the psychological and social health of the young people is measured as part of this PhD study to better understand if the individual benefits (as described above) are a positive outcome for young people with BESDs attending a care farm.

2.2.2 Current relevance of care farming

The increasing demand for alternative forms of care and rehabilitation is also addressed through care farming. According to Barker (1998, p. 141) 'living within a well arranged collective with a clear division of responsibilities in which people know exactly what they will have to do in every moment does not only mean a restriction of freedom but can also decrease fears and insecurity. Consequently, it releases people from responsibilities and allows them to develop skills and talents within a relatively secure atmosphere'.

Care farming is able to support people in an environment where there is a clear structure and the opportunity to participate in meaningful work based activities, allowing them to learn new skills and build confidence based on the individual's capabilities (Hine, Peacock & Pretty, 2008; Pedersen, Ihleaek & Kirkevold,. 2012; Pedersen, Martinsen, Berget & Braastad, 2012). Care farms can provide a flexible, work-orientated environment, where service users work at their desired pace (Elings & Hassink, 2008; Hassink, Elings, Zweekhorst, et al., 2010) and have the choice to switch between activities relevant to their interests and functional capability (Iancu, Zweekhorst, Veltman, et al., 2014; Elings & Hassink, 2008). Social introduction at a care farm provides contact with nature and animals, and provides social inclusion through emotional support and guidance from the farmer and farm workers/peers (Hine, Peacock & Pretty, 2008; Pedersen, Ihlebæk & Kirkevold,. 2012; Elings & Hassink, 2008; Hassink, Elings, Zweekhorst et al., 2010; Hauge, Kvalem, Berget et al., 2013). This method draws on the connection of modern therapeutic knowledge and care opportunities in a less specialised agricultural setting. Evidence supports the idea that attending a care farm increases service users' sense of security and feelings of acceptance, which contributes to improved well-being (Iancu, Zweekhorst, Veltman, et al., 2014; Elings & Hassink, 2008; Hassink, Elings, Zweekhorst et al., 2010; Hauge, Kvalem, Berget et al., 2013). It will be important for this PhD study to understand if the care farm has mechanisms which attempt to create a sense of belonging for the young people attending the farm, and what impact this has on their social development and well-being.

Care farming as part of multifunctional agriculture can offer individuals positive opportunities and prospects. Research groups such as 'Cost Action for Green Care for Agricultural' (COST) (Gallis, 2007) conclude that care farms offer unique opportunities to enhance skills, physical and mental well-being as one way to counteract the current social issues, individual challenges

and problems faced by disadvantaged groups, which can include pre-NEET young people with behavioural, emotional and social difficulties.

2.3 The role of multifunctional agriculture and care farming (Nature, Well-being and Social Value)

The practice of agriculture has changed significantly since World War II, as a result of economic, political, environmental, social and cultural developments. Recent difficulties have included Bovine Spongiform Encephalopathy, Foot and Mouth, fluctuations in the market value of consumer goods, late subsidy payments and adverse climatic conditions (e.g. flooding), all of which have threatened the viability of farms (Farming UK, 2015). The overall impact has been negative for many farmers who are struggling with financial pressures, social isolation and the decline of tradition (Gray, 1996; Di Iacovo & O'Connor, 2009; Price & Evans, 2009; Vik & Farstad, 2009). Although the primary task of agriculture is food production, farmers are now using farms as 'landscapes of consumption' (Cloke, Marsden & Mooney, 2006, p. 19) which has been caused by socio-cultural processes (Risgaard et al., 2007) such as the increasing mobility and connectivity of goods, services and people (Hedberg & do Carmo, 2012). Other causes include the aging population, pressure to reduce public spending, particularly for health and welfare provisions (Carone & Costello, 2006) and the promotion of healthier living, which encourages individuals to take control of their health.

The use of land to provide environmental, recreational and health services is commonly described as 'multifunctional' agriculture (Wilson, 2007; Hine et al., 2008). Care farming is a unique example of utilising the restorative benefits of nature through these combined elements. However, conceptualising the new structure of farming has caused the farming community and academics to query the cultural construction of modern farming (Morris & Evans, 2004). While there is not enough evidence to confirm if multifunctional agriculture has changed perceptions of farming, care farming is recognised as helping to address a number of societal issues. These issues include improving the economic feasibility of farming, providing initiatives to engage people with nature, and offering effective and economical options to public health bodies in order to deal with physical, mental and psychological health problems (Hassink et al., 2007; Hine et al., 2008). Any long term impacts are therefore expected to apply more broadly than simply to the service users who access the service to improve their health, social or educational needs.

2.3.1 The relationship between health, well-being and nature

This section identifies existing literature that links health and well-being to natural environments and landscapes, which include care farms. It assesses evidence developed through academic research and connects it to policy engagement.

2.3.1.1 Defining health and well-being: characteristics

The concept of well-being originated with the need to de-medicalise health, moving away from disease or the absence of it, and to better understand factors that contribute towards poor

health (Stratham & Chase, 2010). The medical model of disease left no room within its framework for the social, psychological, and behavioural dimensions of illness, which were being recognised as contributing factors of physical and mental 'wellness'. Well-being is now understood as a concept that can change depending on what stage an individual is at (Stratham & Chase, 2010). Well-being is typically viewed as 'how people feel and how they function, both on a personal and a social level, and how they evaluate their lives as a whole'. How people feel refers to emotions such as happiness or anxiety. How people function refers to things such as their sense of competence or their sense of being connected to those around them. How people evaluate their life as a whole is captured in their satisfaction with their lives, or how they rate their lives in comparison with the best possible life' (Stoll, Michaelson & Seaford, 2012, p. 6).

It is important to understand the difference between the notion of well-being and the factors that drive it. The notion of well-being comprises emotions, judgements and experiences (Stoll et al., 2012). Drivers of well-being affect how the individual feels and functions and include internal factors (e.g. self-esteem) and external factors (e.g. education; Stoll et al., 2012). Well-being is critical to the individual, to communities and to wider society, and encompasses numerous attributes of the human condition. Feelings of well-being are fundamental to the overall health of an individual, enabling them to successfully overcome difficulties and achieve what they want out of life. This has subsequently had an impact on health policy (e.g. resources such as appropriate interventions and finances). Policy development has traditionally relied on objective measures of well-being such as the level of educational achievement, employment, crime or material well-being (Waldron, 2010). However, it is now acknowledged that individuals' subjective self-reported well-being (e.g. life satisfaction, happiness, psychological well-being) is also beneficial. Human perception is fundamental to the definition of well-being and it can be argued that the individual is the only person who really knows how they are feeling (Dolan, Layard & Metcalfe, 2005). This evidence confirms the importance of capturing both subjective and objective measures of well-being though the study design of this PhD, using both quantitative and qualitative methods to holistically capture the young people's experiences of attending the care farm.

To help understand subjective well-being, there are two main theoretical perspectives that are used to describe it within SDT. They are the hedonic and eudaimonic approaches to happiness (Keyes et al., 2002). SDT (Ryan & Deci, 2001) claims that well-being cannot be understood by hedonic conceptions of 'happiness' alone. Instead, SDT uses the concept of eudaimonic well-being. Additionally, SDT promotes the idea that, because autonomy is facilitated by reflective awareness, the role of mindfulness in self-regulation and wellness is important (Ryan, 2009). The hedonic interpretation is a developmental approach based on the assumption that subjective experiences of increased pleasure (e.g. consumption, livelihood and wealth) and decreased pain (e.g. poverty and inequality) lead to satisfaction with life (Carruthers & Hood, 2004; Cantor and Sanderson, 1999). However, psychological evidence indicates that wealth as an experience of pleasure is less influential in determining well-being than other factors (Michaelson, Addallah, Steuer, Thompson & Mark, 2008), which include 'intentional activities'

(e.g. behaviour, attitude and motivation) (Lyubomirsky, King & Diener, 2005; Cantor and Sanderson, 1999; Headey, 2008).

Eudaimonic philosophy supports the idea that 'happiness occurs when individuals perform personally expressive behaviours during meaningful goal pursuits' (Lee & Carey, 2013: 17). These benefit the individual and wider communities through personal accomplishment, supportive relationships and sustainable outcomes (Bruni & Porta, 2007). Research confirms that care farm service users report increased levels of happiness from attending a care farm (Leck, 2013; Leck at al., 2015). It can therefore be suggested that, if the care farm environment can provide meaningful activities that allow young people to use expressive behaviours, this may have a positive impact on their well-being. The term has developed to mean a subjective sense of 'doing what is worth doing' (Ryan & Deci, 2001; Waterman, 2013) and relates to the 'being' rather than 'having' approach (Fromme, 1997). Meaningful activities are thus reflective of the 'true self'. This involves personal and universal potential, which, when developed through activities that provide personal fulfilment, provide a sense of well-being and supportive social relationships (Waterman, 2008; Camfield et al., 2009). Care farms provide the opportunity for service users to participate in meaningful activity through the daily tasks undertaken on the farm, such as mucking out, feeding and grooming of animals. This allows service users to build skills that can impact positively on self-efficacy, interpersonal skills and other areas of personal potential, leading to a changing but positive reflection of the 'true self' (Murray, Elsey & Gold, 2016). Promoting autonomy, which is the universal need to be a causal agent of one's own life and to act in harmony with one's integrated self, is the outcome of green care engagement.

There are several key aspects of social connection that the individual can obtain through social relationships (Smith & Christakis, 2008). Having access to, and receiving, social support on an unconditional basis is important to well-being because it enables an individual to know that they have reciprocal care and love, and are thus a member of a network of mutual obligations (Ryan & Deci, 2000). This type of support does not typically exist in the families or school environments of the young people in this study. However, the care farm intervention in this PhD study aims to offer the opportunity to build such support with the farmers, the mentor and the animals.

A poor quality (or lower quantity) of social relationships affects mental health, other health behaviours (e.g. smoking, drinking or drug taking) and physical health (Umberson & Montez, 2010). Poor social relationships can be extremely stressful (Walen & Lachman 2000), resulting in psychological and physiological distress. This can lead to reduced physical health because individuals may engage in unhealthy behaviours to cope with stress and unpleasant arousal (Kassel, Stroud, & Paronis 2003; Umberson & Montez, 2010). Support groups are recognised as one way to reduce the problems associated with poor social relationships and to increase well-being. This is because personal resilience can be built through a reduction in stress, the sharing of life skills and developing a better understanding of the self (Diener & Seligman, 2002; Milligan, Gatrell & Bingley, 2004).

The components of 'well-being', and how important these components are is still debated. Psychometric measures focus on 'multiple dimensions of children's lives, and most include domains which relate to their physical, psychological and social well-being in one form or another. They also incorporate to varying degrees measures of socio-economic and environmental well-being (Stratham & Chase, 2010, p. 6). This includes educational attainment and satisfaction with school life. The school environment and learning are critical factors in a young person's behavioural, emotional and social well-being (Gutman & Feinstein, 2008).

Well-being is recognised as having three main components: positive and negative affect and life satisfaction (Dodge, Daly, Huyton & Sanders, 2012). Positive and negative affect typically refer to emotions, mood and experiences, whereas life satisfaction is the individual's evaluation of their life as a whole (Dolan et al., 2011). Life satisfaction typically reflects those experiences that have positively influenced an individual's life. These experiences can motivate individuals to set, pursue and reach their goals (Dodge, Daly, Huyton & Sanders, 2012). How an individual sees their life is influenced by two types of emotions: hope and optimism. Hope is the ability to generate plans to reach goals (Snyder, 2002), and the belief in the energy to implement these plans, while optimism is the belief that good rather than bad things will happen (Scheier & Carver, 1985). Both of these emotions have cognitive processes that instigate the perception and achievement of goals and can be linked to an increased sense of life satisfaction (Baily, Eng, Frisch & Snyder, 2007).

Research concludes that the happier individuals are, the less negatively focused they will be (Seligam, 2012). When an individual experiences happiness, they have a higher tendency to like other people, which is associated with higher levels of life satisfaction (Seligam, 2012). Life satisfaction is an important measure of well-being because it can be assessed in terms of mood, satisfaction with relationships with others and achieved goals, self-concepts, and self-perceived ability to cope with daily life (Dolan et al., 2011).

There is very limited data on the well-being of pre-NEET young people, and therefore this PhD study takes into account specific factors of the young person's life. Well-being for young people aged 13-16 years old is a widely used concept, but there is a weak theoretical basis for this and there is currently no satisfactory index of adolescent subjective well-being in the UK. This helps to explain the major evidence gap. The aim of this PhD thesis therefore is to measure both objective and subjective perspectives on the life satisfaction of young people over a period of time at a care farm and document both the strengths and difficulties of young people participating in this study.

Further evidence is needed that considers the well-being of young people excluded from school and captures the views of these young people (Stratham & Chase, 2010). This PhD work will therefore focus on identifying components of well-being, which will include behavioural regulation, pro-social relationships, depression, anxiety, stress, coping strategies and life satisfaction. Mixed method research techniques will be employed, which will help to understand the impact of the care farm model on these young people. A better understanding of well-being

will contribute to knowledge about the impact of care farms as an intervention on the well-being of young people. This will help to tailor the type of intervention and the structure of interventions to promote well-being and to make a difference to the lives of these disadvantaged young people. It is hoped that the findings of this PhD study might influence how interventions are structured and the components that are used to achieve positive outcomes for young people, as well as supporting policy changes which ensure young people are able to access suitable service provision.

2.3.1.2 Social inclusion:

SDT suggests that individuals are born with intrinsic motivation, which encourages them to explore, absorb and master their surroundings (Deci & Ryan, 1995; Ryan & Deci, 2004). This is reported when basic psychological needs (e.g. relatedness, competency and autonomy) are in equilibrium (Ryan & Deci, 2004). When social conditions, such as social inclusion, support the three basic needs it results in personal growth, vitality (the state of feeling alive and alert–to having energy available to the self; Ryan & Deci, 2001) and well-being (La Guardia, Ryan, Couchman & Deci, 2000). Relatedness is the individual's inherent ability to connect with others through cultural practices and values (Ryan & Deci, 2004). There are several key aspects of social connection that the individual can obtain through social relationships (Smith & Christakis, 2008). To fully understand how aspects of social relationships affect health and well-being, it is important to understand the following connections.

Social isolation is a lack of rewarding social relationships with other people where human interaction takes place (e.g. individual, group, community and the larger social environment; Zavaleta, Samuel & Mills, 2014). Furthermore, it is 'a process by which certain groups are systematically disadvantaged because they are discriminated against on the basis of their ethnicity, race, religion, sexual orientation, caste, descent, gender, age, disability, migrant status or where they live. Discrimination occurs in public institutions, such as the legal system or education and health services, as well as social institutions like the household' (Betts, Watson & Gaynor, 2005, p. 1). While social integration involves having good, informal social relationships (e.g. friendships) or formal social relationships (e.g. volunteer organisations), the quality of those relationships is determined by the presence of positive aspects (e.g. emotional support) and the absence of aspects of conflict (e.g. arguments and physical fights). A social network is the matrix of the individual's social relationships and the strength of those individual relationships. Having access to social relationships is an important factor in determining health and well-being because it enables the individual to know they belong to a network where relationships are reciprocal and, from these relationships, they gain continuous support and acceptance, as well as a sense of being cared for, loved and supported (Ryan & Deci, 2000). An abundance of scientific evidence confirms that social relationships benefit health (Umberson & Montez, 2010).

If positive outcomes can be achieved in the five areas of the care farm model ('basics', 'belonging', 'learning', 'coping' and 'core-self'), through participation at a care farm, then a

positive change in well-being should be evident. The inequalities experienced by the young people who attend the care farm are often associated with social exclusion. In the current study the intervention will be evaluated to see if it has any effect on reducing the social exclusion, behavioural and emotional difficulties experienced by participants.

Given that the young people in this study experience social isolation at school, as well as from a lack of family and/or peer group belonging, aspects of their well-being (e.g. the physical, mental and social) are affected. Furthermore, many of the young people who attend the care farm may experience discrimination because of their personal issues or needs (e.g. educational, behavioural, emotional or social issues). This creates additional difficulties for those individuals in being an integral part of a social group. While it is still not clear what processes contribute to the social isolation of an individual, it is the aim of this study to understand if the care farm has an impact on the social factors which influence the physical and mental health of participants' well-being.

2.4 Care farming and pre-NEET young people

An informative scoping study looking at the extent and nature of care farming in the UK (Bragg., et al 2013) revealed young people from a variety of backgrounds and age groups are one of the most common service user groups. The literature review for this study revealed UK farmers are offering health, social and/or educational care services through therapeutic experiences to pre-NEET young people with BESDs. This includes young people on the margins of the education system who have been temporarily/permanently excluded, those who are under-achieving or not attending school, those who attend Pupil Referral Units and those with various kinds of special educational needs (Care Farming UK, 2014).

However, while there are a large number of care farms offering services to pre-NEET young people, the majority of providers do not have a conceptual model or a theoretical framework to deliver specific outcomes for these young people. Instead the natural environment and the needs of the farm guide the activities. The unique contribution of the care farm in this study is that it has adapted a model to provide a conceptual framework incorporating specific outcomes to ensure every young person achieves progression. It is the intention of this study to better understand the impact of this model on the behavioural, emotional and social outcomes for pre-NEET young people (the model will be discussed in-depth in Chapter 3). If the data from this longitudinal pilot study show that the model can produce positive outcomes for pre-NEET young people, it may be useful to replicate it in a future (larger) study to better understand whether the model can be employed in other care farm settings. This would subsequently strengthen the role of care farms providing services for pre-NEET young people, as well as the evidence base.

The literature review demonstrates that care farming is becoming an increasing popular 'care' intervention in the UK (Bragg et al., 2016). It is continuing to grow in terms of the number of farms and the types of service users the farms provide care provision for. Care farming as a concept is much more widely practised in other European countries and has been established in them for a longer period of time. This demonstrates the potential longevity of care farms as a

care practice in the UK. The available research on care farming confirms that attending a farm can provide a connection to animals and nature, which has a positive impact on service users' health and well-being. The reviewed literature provides evidence and the foundation for this study to explore what the intervention can offer for pre-NEET young people by utilising the rural environment to enhance their well-being.

2.4.1 Background and policy for pre-NEET young people

This PhD thesis uses the definition of NEET status confirmed by the Office for National Statistics (2013):

> 'For these statistics, a person is NEET if they are aged 16 to 24 and not in education, employment or training. Within the ONS estimate, a person is considered to be in education or training if they:

> - are doing an apprenticeship;
> - are on a Government employment or training programme;
> - are working or studying towards a qualification;
> - have had job-related training or education in the last four weeks;
> - or are enrolled on an education course and are still attending or waiting for term to (re)start.

> Therefore, anybody aged 16 to 24 who is not in the above forms of education or training and who is not in employment, is considered to be NEET. The definition of 'in employment' follows that used for the official labour market statistics. This definition is based on that recommended by the International Labour Organisation' (Office for National Statistics, 2013, p. 1)

While this definition is clear, the ONS confirms that the database is not harmonised across the four countries of the UK. The information is gathered for a variety of reasons by multiple departments, from various sources and for different age ranges, which affects the collection and reporting of the data. It should further be clarified that:

> 'Not all unemployed 16-24 year olds are NEET and not all people who are NEET are unemployed. 61% of unemployed 16-24 year olds are NEET, the remaining 40% are in education or training. 47% of people who are NEET are unemployed, the rest are economically inactive: not seeking work and/or not available to start work' (Mirza-Davies, 2014, p. 1).

In February 2016, the Department for Education (Single Departmental Plan: 2015 to 2020) made a commitment that all young people should be prepared for adult life:

> 'All 19 year olds complete school or college with the skills and character to contribute to the UK's society and economy and are able to access high quality work or study options' (p. 1).

There were 857,000 young people (aged 16 to 24) NEET in the UK between July to September 2016 (Office for National Statistics, 2016). This reflects an increase of 14,000 from the previous three months, up 3,000 from 2015. The proportion of NEET young people has increased to 11.9% from 11.7% in the previous quarter. The current figure for NEET young people has significantly decreased from 16.9% five years ago, but this change for the latest quarter has reflected current concerns that young people's opportunities will suffer if 'Brexit' (UK leaving the European Union) uncertainty weakens the jobs market.

Young people in a NEET situation carry a high financial deficit for the economy. NEETs amongst 20-24 year olds cost £22m per week in Jobseekers Allowance, and between £22-133m per week in lost productivity (The Prince's Trust, 2010). This has a long-term, knock on effect on society as a whole. The lost taxes, additional public service costs and associated impacts, such as youth crime and poor physical and mental health, will cost Britain in excess of £77 billion a year if this structural problem is not solved (Public Health England: Local action on health inequalities, 2014).

Some young people become NEET for a short period of time due to a transition from compulsory education to post-16 education, training or employment (Department for Business Innovation and Skills, 2013). However, approximately 10% of NEET young people remain so for longer periods of time because of BESDs, learning difficulties and minimal support from home (Copps & Keen, 2009; Carpenter et al., 2013). BESDs can lead to a variety of educational needs, so it continues to be a challenge to deliver a broad and engaging education with positive outcomes for all learners regardless of their skills and needs, to ensure they can successfully progress beyond compulsory education (Priory Education Services, 2014). Evidence confirms the statistical association between being NEET and a long-term impact on young people's lives. Risk factors include being at higher risk of substance misuse and offending behaviour, physical and mental health problems that include emotional and/or behavioural problems and a lack of attendance at school or further education that leads to academic underachievement and reduces employment opportunities (Pemberton, 2008; Bynner, 2012).

During the 1990s, terminology which included 'social exclusion'; 'disadvantage' and 'risk' increasingly influenced government policy and practice in relation to young people. In 1997 the Labour Government established The Social Exclusion Unit (SEU, later the Social Exclusion Task Force) to tackle social exclusion and associated factors. In 1999, 'Bridging the Gap' set out plans for reducing the number of NEET young people. It was within this document that the term NEET was first introduced to describe this group (SEU, 1999). The adjoining document 'Young People' (SEU, 2000) made two important policy recommendations for disadvantaged young people: the introduction of the Educational Maintenance Allowance (EMA) provided families with financial assistance to support their child to remain in post-16 education, and the establishment of Connexions, a national service, which provided holistic support and advice for young people (Bynner, 2012).

In 2010 the Coalition Government replaced the EMA with a 16-19 bursary fund for disadvantaged young people. In 2012, careers education was overhauled and schools became responsible for providing young people with access to independent careers guidance (England and Wales Statutes, 2012). Thus, the task of identifying and supporting young people at risk of becoming NEET became and remains the responsibility of schools. This move has been heavily criticised due to an overall reduction in the quality and quantity of career education and guidance available to young people (Langley, Hooley & Bertuchi, 2014). It has further been argued that government policies with an underlying focus on reducing the budget deficit, such as lowering the 'bill' for welfare provision, represent a further challenge for pre-NEET and NEET young people (Williams, 2011; Chadderton & Colley, 2012; Fergusson, 2013).

Despite the changes of government and policies, prevention is regarded as the most successful way to reduce the number of NEET young people (Department for Education, 2012). Support needs to be offered through a broader education system, which can engage young people with different learning capabilities and ambitions, without reducing the quality of the individual's education (Imputes, 2014). This means establishing alternative provision that is respected by the individual and can offer both realistic and practical work-based education, and vocational options that are robust. A review of vocational education in the UK revealed the most common vocational qualifications have very little or no relevance to the labour market (The Wolf Report, 2011). Evidence confirms that, despite a rise in alternative provision for pre-NEET young people, interventions need a conceptual shift away from education, and towards 'learning' (Office for National Statistics, 2015). Education is regarded as a process through which a society passes on knowledge, values and skills from one generation to another, while learning is acquiring new skills, knowledge, and values (Future of Talent Institute, 2013). Interventions should provide the support mechanisms for children to develop capacities such as life skills, social skills and personal skills (Hart, Drummond & McIntyre, 2007). Based on this evidence it will be critical for this PhD study to assess if the care farm as an intervention provides young people with learning opportunities which allow them to develop new skills and to determine the benefit of these skills to the young person's life.

Ofsted (2008) suggest that one support mechanism for pre-NEET young people would be interventions that offer a restorative approach to learning with therapeutic support. Thus, exposure to the natural environment and animal assisted therapy may be useful mechanisms to encourage learning, enhancing the health and well-being of pre-NEET young people. SDT suggests that this type of intervention provides young people with the autonomous support needed to develop their life skills and self (Ryan & Deci, 2000). Furthermore, recommendations suggest the interventions should be small, flexible and offer personalisation with one-to-one support. The report suggested that the key areas of delivery should be: maintaining and enhancing well-being; developing personal, relationship and life skills and offering accreditation for future employment. There is a shortage of evidence identifying intervention programmes that make a difference for pre-NEET young people and any subsequent impact. In February 2016, the House of Commons Business Innovation and Skills (BIS) committee confirmed that the

solution to reducing NEET numbers requires a long-term plan and not a short term fix, and that the skills and education of young people are integral to this process.

The above evidence supports the importance of engagement in learning and acquiring skills for pre-NEET young people. Furthermore, the Institute of Health Equity highlighted the importance of preventing young people from becoming NEET through effective mechanisms that support and motivate pre-NEET young people (Allen, 2014). Thus, interesting and supportive interventions that work to re-engage pre-NEET young people are essential so that these young people can successfully re-engage in learning and reduce their chances of becoming NEET. Mentoring, group support, relevance to the world of work and flexibility are keys to successful programmes to engage students at risk of becoming NEET (Allen, 2014).

This thesis presents data to evaluate whether attending a care farm intervention that offers therapeutic support through contact with the natural environment, animals and staff benefits pre-NEET young people.

2.5 Behavioural, emotional and social difficulties (BESDs) in young people

The Government's Green Paper on special educational needs (SENs; Department of Education, 2011) identifies that, between 2005 and 2010, there was an increase of 23% in the number of pupils classified as having BESDs. Figures for England reveal there are approximately 158,000 pupils with BESDs in mainstream state-funded and special schools (Department for Education, 2013). Of every 10,000 pupils, three without SENs are permanently excluded from school, compared to 24 with statements of SENs and 30 with SENs but without statements. Teachers report that disruption in the classroom is their biggest behaviour challenge (Times Educational Supplement, 2010, p.16) and the area of most concern for them is the school's ability to offer suitable education to those pupils with complex social, emotional and behavioural needs (Macbeath, Galton, Stewards, MacBeath & Page, 2005).

This definition of BESDs is part of the 'Children with Special Educational Needs Code of Practice,' which was introduced in January 2002 to replace the five stage model of the 1994 SEN code. SEN is a statutory code, which applies in England and explains the duties of local authorities, health bodies, schools and colleges to provide for those with special educational needs (Children and Families Act, 2014). The term SEN is the definition used for individuals who will experience one or more of the following difficulties: learning (including literacy and numeracy); cognitive skills; behavioural, emotional and social skills; communication and interaction skills; physical and sensory skills (GOV.UK, 2016). Depending on their individual needs, pupils with a statement of SEN can be placed on School Action (which identifies that the young person requires an intervention separate or in addition to school) or School Action Plus (which allows schools to seek support from external support services).

The definition of BESDs is a widely debated topic. Children with BESDs were historically categorised as maladjusted, and regarded as 'moral imbeciles', 'minor delinquents' or 'educationally sub-normal' (Cole, 1989). The Warnock Committee Report (Department for

Education and Skills, 1978) was the first to challenge these negative connotations and introduced the concept of 'inclusion' as recognised in practice today. In 1988, the introduction of the National Curriculum (Department for Education and Skills, 1988) developed this concept by stating that every child is entitled to a 'broad and balanced curriculum'. By 1994, the SEN code of practice (Department for Education and Skills, 1994) defined root causes of BESDs as physical or mental illness (including conduct disorders, sensory or physical problems and psychological trauma), abuse or neglect. The official definition was used by the Department for Education and Skills until 2015 (Department for Education and Skills, 2001):

> 'Children and young people who demonstrate features of emotional and behavioural difficulties, who are withdrawn or isolated, disruptive and disturbing, hyperactive and lack concentration; those with immature social skills; and those presenting challenging behaviours arising from other complex special needs' (2001, p 93).

However, in 2015, the classification of the previous code of BESDs was removed and a new code 'Social, emotional and mental health' (SEMH) was introduced. The change reflected the removal of the 'behaviour' tag from the title to focus greater attention on any emotional, social or mental health need, which might underlie behaviour. The new classification is not a direct replacement of the BESDs classification, and, due to the changes in coverage and classification, it is not possible to produce a direct comparison with data prior to 2015. It was therefore decide for these reasons that this PhD study would continue to use the BESDs classification. This project began in 2013 and would be unable to include data before 2015 if the SEMH classification were used.

The cause of BESDs can be attributed to one, or a matrix of, the following factors that include social, psychological, biological, and/or medical (Cooper, Smith & Upton, 1994). While there is no significant correlation between BESDs and a specific factor, evidence indicates that they are typically more common in males, in older pupils (11-15 years old), and those from a lower income background (eligible for free school meals), those living in socially deprived city areas, and those who are 'looked after' by the State (Department for Education, 2012). A child is legally defined as 'looked after' by a local authority if he/she: gets accommodation from the local authority for a continuous period of more than 24 hours; is subject to a care order (to put the child into the care of the local authority); is subject to a placement order (to put the child up for adoption; Children Act 1989). Fundamental causes for BESDs can include factors internal and external to a young person. Young people with BESDs can experience specific behavioural characteristics at a personal level (e.g. low self-image, anxiety, depression, withdrawal or defiance), at the verbal level (e.g. interrupting, arguing or swearing), at the non-verbal level (for example truancy, inability to follow rules, disruptiveness, destructiveness, aggression or violence) or at the work skills level (e.g. an inability or unwillingness to work without direct supervision, to concentrate, to complete tasks or to follow instructions) (Department for Education, 1994). These characteristics can lead to significant implications for the young person's ability to engage with the curriculum. Many typically find school problematic because of

difficulties with social and educational engagement that leaves them at high risk of exclusion (Berridge, Brodie, Pitts, Porteous & Tarling, 2001).

Every Child Matters (ECM) is a UK government initiative for England and Wales, launched in 2003 and shortly followed by the 2004 Children Act. EMC was launched to increase the government's focus on the well-being of children and young people, in recognition of the need to better safeguard them following the murder of an eight year old girl in the care of guardians. It is one of the most important policy initiatives and development programmes in relation to children and children's services of the decade (Department for Education: Every Child Matters, 2003).

ECM covers children and young adults up to the age of 19, or 24 for those with disabilities. The principal aim of ECM is to ensure that every child has the chance to fulfil their potential by reducing poor education, ill-health, substance misuse, teenage pregnancy, abuse and neglect, crime and anti-social behaviour (Department for Education: Every Child Matters, 2003). The agenda outlined five outcomes for children and young people to be met by parents, schools and any other relevant bodies or agents (e.g. social services, health care providers). The five outcomes were: staying safe; being healthy; enjoying and achieving; making a positive contribution and achieving economic well-being.

The five principles act as a safeguarding framework to address 'the negative consequences of deficiencies in social and emotional competence and well-being' (Frederickson & Cline, 2009: 40). Furthermore, the ECM agenda developed a SEN action programme, which focused on practical measures to promote early identification and intervention for children with SEN. This was developed to raise the expectations and achievement of young people with SEN while enhancing the capacity of schools to provide accessible teaching and support for all young people. Each of the five principles allowed schools to once again explore alternative provisions (including those that involved working with animals and nature), using ECM as a pathway. The importance of the ECM agenda for children and young people with BESDs was seen as paramount in supporting them to gain the skills required to access a mainstream curriculum.

> 'Where the work of a provider includes provision for young people who are
> vulnerable through the residential nature of their provision, or because they
> are physically, mentally or socially disadvantaged, inspectors will evaluate
> the quality of the provision in relation to the five outcomes.' (DCSF, 2005)

ECM acknowledged that some young people required extra support for a host of reasons, including BESDs and SEN, to prevent poor mental health and well-being. Furthermore, EMC acknowledged the role of parental contribution in helping young people to achieve the five overarching aims of the agenda (Nutbrown, Clough & Atherton, 2013). Thus, parents have a responsibility to help young people to a) 'Be Healthy' by promoting healthy choices; b) 'Stay Safe' by providing safe homes and stability, and c) 'Enjoy & Share' by supporting learning.

However, many of the young people with BESDs who attend the care farm in this study do not have their basic needs (such as adequate daily food and care provision) met by their parents or other agencies. Many have no parental support at all. Therefore, these young people do require specific support within an intervention that can provide a framework to help them to reach the five aims of ECM. All participants in this study have BESDs and some have a statement of SEN. It is beyond the scope of this study to identify the cause of each individual's BESDs. The behaviour, social aspects, and emotional issues of the young people however, is of interest to this study in an attempt to understand if care farming, as an intervention, provides benefits to help improve the difficulties they experience. ECM is no longer mandatory for schools, but Ofsted considers that its application remains good practice.

In Chapter 3, considerations of the theoretical frameworks underpinning work with BESDs, such as research into trauma and its implications, will be reviewed and linked to theories that underpin literature concerning the relationship between human well-being and the natural environment. The aim is to better understand the link between nature and animals as facilitators for good mental, psychological and emotional health.

2.5.1 Alternative services for pre-NEET young people with BESDs

The number of permanent exclusions across all state-funded primary, secondary and special schools has increased from 4,950 (2013/14) to 5,800 (2014/15; Department for Education: Permanent and Fixed Period Exclusions in England 2014 to 2015, 2016). Eighty-three per cent (2014/15) of the total number of permanent exclusion were from secondary schools, an increase of 2% since 2013/14. The highest increase in the number of permanent exclusions was in secondary schools. 4,790 permanent exclusions occurred in 2014/15 compared to 4,000 in 2013/14 (Department for Education: Permanent and Fixed Period Exclusions in England 2014 to 2015, 2016). A fixed period exclusion refers to a pupil who is excluded from a school for a set period of time which can involve part of the school day and it does not have to be for a continuous period. A pupil can be excluded for one or more fixed periods up to a maximum of 45 school days in a single academic year and includes exclusions from previous schools covered by the exclusion legislation.

The number of fixed period exclusions in state-funded primary, secondary and special schools has increased from 269,480 in 2013/14 to 302,980 in 2014/15. Of the total number of fixed period exclusions 79 per cent were in secondary schools (2014/15), which have increased from 78 per cent during 2013/14 (Department for Education: Permanent and Fixed Period Exclusions in England 2014 to 2015, 2016). Persistent disruptive behaviour is the most common reason for permanent exclusions and for fixed period exclusions. Over half of all permanent and fixed period exclusions are from pupils in year 9 (13/14 years old) or above. Over a quarter of all permanent exclusions and fixed period exclusions were for pupils aged 14 (Department for Education: Permanent and Fixed Period Exclusions in England 2014 to 2015, 2016). Males were three times more likely than females to be permanently excluded and to have a fixed period of exclusion. Pupils eligible for free school meals (FSM) were four times more likely to

receive a permanent or fixed period exclusion than those who are not eligible, while pupils with a statement of SEN made up over half of all permanent exclusions and fixed period exclusions. Pupils with SEN were over 7 times more likely to receive a permanent exclusion than pupils with no SEN (Department for Education: Permanent and Fixed Period Exclusions in England 2014 to 2015, 2016).

The White Paper: Educational Excellence Everywhere (2016) suggests that by every objective measure, pupils referred to alternative provision (AP) do considerably worse than their peers:

> 'Very few achieve the qualifications that will help them succeed in adult life and they are considerably more likely to become NEET (not in education, employment, or training). This is not about funding levels, as AP is typically very expensive – we need to reform provision in order to deliver better outcomes' (P. 102).

The White Paper (2016) acknowledges that 'some AP is outstanding' but to help pupils achieve the knowledge and skills they require post-16 years of age 'innovative and specialist provision' (The White Paper: Educational Excellence Everywhere. 2016, p. 102) needs to be developed. With just under one million young people NEET (Office for National Statistics, 2015) there is a demand for innovative strategies to encourage young people to learn, and to secure employment. It will thus be timely for this PhD study to capture data which will help to better understand if care farms as an intervention can deliver an innovative strategy (and what mechanisms are used) to help re-engage young people at risk of becoming NEET with learning, and if this has an impact on their future work aspirations.

There is also a social and moral responsibility to ensure that all young people have the opportunity to participate in daily life and society as fully functioning citizens. NEETs, and the subsequent consequences of social exclusion and unemployment, have been a policy priority for governments since 1997 (Yates & Payne, 2006). Research in the early 2000s indicated that school performance and educational attainment were significantly lower in disadvantaged areas, and in response, the serving government introduced area-based policies to improve the educational experiences of young people (Lipsett, 2009; Connelly, Sullivan & Jerrim, 2014). By 2009, the first large scale study of NEETs was published (The Prince's Trust, 2009), which introduced new strategies to tackle the problem of NEETs, such as a guaranteed place in education or training for all school leavers and a £650,000,000 investment to support young people. In 2010, the Coalition Government introduced the National Citizen Service, which had a strong focus on providing young people with relevant skills and workplace experience (2010 to 2015 government policy: Young People, 2015).

During this period of large scale government initiatives, a variety of different smaller interventions have taken place, which include information, one-to-one support (Local Government Association, 2009), informal learning programmes (Evans et al., 2009) volunteering programmes and working life familiarisation (Grist & Cheetham, 2011). However,

these initiatives have failed to have any large scale success for various reasons. Information is often deemed not relevant to the young people and the individual circumstances of their lives, while the social agencies involved fail to adequately support the young people, and the programmes fail to provide them with a sense of social inclusion and skills learning (e.g. interpersonal skills; Walker & Donaldson, 2010). Informal learning programmes are often for short periods of time and are not long enough for any effective change to occur (Mavin, Lee, Robson, 2010). Volunteering programmes and working life familiarisation often finds the young person attending a placement where they have little interest and thus no motivation to attend or to fully engage with the opportunity, and are therefore unlikely to gain any positive outcomes, such as learning new skills (Kettlewell, Southcott, Stevens & McCrone, 2012). Based on the failings of previous interventions it will be relevant for this PhD to better understand what motivates the young people to attend the care farm and what elements of the intervention keeps them engaged with the activities at the farm. This data may provide important insight for achieving positive outcomes in future interventions.

Psychological approaches typically provide counselling or other forms of therapy, such as Cognitive Behavioural Therapy (CBT; Grist & Cheetham, 2011). However, for many of the young people, this approach tends not to be effective because it is difficult for them to talk about their problems with someone they do not trust. The care farm in this study uses animals as a third party to encourage the young people to talk about their lives and the associated difficulties. Additionally, there is limited evidence to detail the effectiveness of the psychological approaches and there is 'limited understanding of the differential effectiveness of interventions dependent on the broader cultural and economic context in which they are delivered' (Oliver et al., 2014, p.2).

The Wolf Report (2011) raised the concern that up to one-quarter of NEET young people were attending interventions that did not provide skills that would transfer to further education or employment. However, the care farm in this study has a specific focus on teaching young people personal, life and work-related skills. The review suggested that vocational educational interventions need to be innovative and relevant to local labour markets (Wolf Report, 2011). The care farm in this study offers a unique opportunity for young people to interact with animals and nature while learning valuable personal and life skills which enhance their chances of remaining in education or employment. This PhD study will evaluate the impact of the care farm as a vocational and learning intervention.

There is a need for research to evaluate the effectiveness of out-of-school educational interventions as a way of engaging pre-NEET young people with BESDs. Furthermore, this study will focus on the experiences of pre-NEET young people with BESDs in an attempt to identify the benefits of attending a care farm (recognised as an alternative educational programme), which uses a unique care farm model to influence the implementation of the programme. However, there are several barriers that can prevent young people from engaging with nature or natural spaces. For the young people who attend the care farm, these barriers include a lack of support from parents who are unable or unwilling to support the young

person's access to and engagement with natural spaces. A lack of self-confidence stops the young person from participating in a new activity in an unfamiliar environment and causes an unwillingness to socialise with people due to experiences of poor relationships with family, teachers and peers. A negative attitude towards outdoor activities is often a result of no previous exposure to outdoor environments like farms because of geographical and transport barriers or a lack of parental input to do so (Natural England: Access to Nature Here to stay – Building a legacy from access to nature, 2012).

The Government (and parents) have been criticised for allowing children to learn about nature by simply reading books, using a computer and conducting experiments in the classroom (Mercogliano, 2007). Nature is currently not easily accessible to young people living in disadvantaged areas for a number of reasons. The availability and cost of transport set against the limited finances of the parents is paramount. For some parents, there is a lack of interest in or understanding about the benefits of access to nature for young people. The perceived 'dangers' of the natural environment have also deterred some parents and schools from exposing young people to it. Lack of engagement with the natural environment can lead to 'nature deficit disorder', which is the result of a disconnection with nature and can lead to a diminished use of senses, attention difficulties and increased rates of emotional and physical illness (Louv, 2005).

However, the Government has begun to acknowledge the importance of connecting young people to nature through education and physical, hands-on experience (Natural England, 2012). The Government has pledged that every child in England will have the opportunity to learn and experience the natural environment. Teachers will be able to create and offer different ways of learning through a reduction in statutory duties, which will create opportunities for learning outside of the classroom and school environment (Department for Education, 2010). Partnership work between schools and environmental organisations has already begun and has provided 1.2 million young people in the UK with the opportunity to engage in environmental education activities at outdoor learning sites (Ofsted, 2008; Natural England, 2012).

Government policy suggests alternative provision for young pupils with BESDs, outside of mainstream schools, should take three main forms: pupil referral units (PRUs) funded and managed by the local authority; independent projects (private or charitable sector); and Further Education Colleges (FECs; Taylor, 2012). Government statistics reveal that approximately half of the young people in alternative provision are typically unable to cope in mainstream schools and are at risk of exclusion or are permanently excluded (Department for Children, Schools and Families, 2008). The Schools White Paper (2016), which focuses on schools transferring to academy status to empower greater autonomy and accountability, suggests that schools should have more autonomy regarding how to deal with disruptive pupils (including those with BESDs). The paper recognises that there should be improved accountability for the outcomes of these young people. In partial response to this objective, a range of alternative provision has been identified which aims to address the various and individual needs of young people, one source of which is care farms. Green care interventions, including care farms, can provide a natural

and cultural context for learning any subject or skill, which provides a variety of unique ways of learning for young people compared to being in a classroom (Waite, 2013, Waite & Pratt, 2015). A holistic approach to school learning and informal learning is typically used (Bragg et al., 2013), which can have a positive effect on personal, social and health outcomes (Dillion & Dickie, 2012) and improve attainment in curricular subjects (Ofsted, 2008). However, further research is required to understand the subtleties that each type of green care intervention contributes, so that concepts of 'green education' are better understood. This evidence highlights the need for the data captured in this PhD to contribute evidence which demonstrates the subtleties care farms can provide to create a positive effect on the personal, social and health outcomes of the young people attending.

Current research suggests there are several factors that increase the likelihood of a positive outcome for young people sent to educational provisions (Gutherson et al., 2011). In one Ofsted report, all of the schools consulted with warned that becoming a young person who was not in education, employment or training (NEET) was a likely outcome for some of the students prior to placements in alternative provision (Ofsted: Alternative Provision, 2016). The factors dictating whether that would occur included whether: the programme of delivery was tailored for the individual's needs and was flexible; the programme could address a wide range of individual and group needs; the programme was based on an accurate assessment of the needs of the individual; the programme provided a smaller learning space and the programme was delivered by caring and knowledgeable members of staff (Gutherson Davis & Daszkiewicz, 2011). All of these factors are present at the care farm in this study.

Inter-linked with the care farm model, which delivers specific outcomes, the above-mentioned factors determine why the farm is defined as a care farm rather than simply a farm where young people work voluntarily. Furthermore, this combination is more likely to experience the well-being and resilience of young people (Hart, Thomas & Blincow, 2007). However, to date, the research to demonstrate the success of care farming as an alternative provision is limited and requires further investigation.

2.6 The relationship between young people, nature and animals

It is important to acknowledge that, although the farm in this study is located on natural land, there has been human influence on its natural landscape (e.g. the farmer's home, barns and hutches for the animals). In this study, nature is thus defined as 'environments in which the influence of human is minimal or non-obvious, to living components of that environment (animals), and to inanimate natural environmental features' (Clayton & Opotow, 2003, p.6). It is suggested that the relationship between nature, animals and young people is of evolutionary significance because the mental and physical development of young people is conditional on their experiences with nature and animals (Kahn & Kellert, 2002). However, their development will also be influenced by other human beings (e.g. the farmer, their mentors and their peers) in the same environment.

There has been a decrease in outdoor or green space educational opportunities. Technological entertainment (e.g. computer games and smartphones) and increased time watching television have also become more prevalent. Recent research confirms that the average 11-15 year-old spends 7.5 hours per day in front of a screen and 20 hours per week online (Moss, 2012). However, these factors are not mutually exclusive. A young person could be playing computer games for several hours a day but then choose to spend time in nature too, but there is little evidence for this (Entin, 2011).

Exposure to nature can have a positive developmental effect on children and young people and there is a growing concern amongst environmentalists and some parents that the decline in interaction between young people and nature is having negative effects on health and well-being (Mayer & Frantz, 2004; Hine et al., 2009). Nature requires the use of all the senses: sight, sound, smell, touch, and taste (through eating food grown or produced at the farm) (HM Government, 2010). It is the diversity of these sensory experiences that initiates a more creative learning environment for young people and fundamentally works against the 'natural deficit disorder' (NDD; Louv, 2006). NDD is the human cost of alienation from nature, and causes a reduction in the use of all senses, an increase in attention difficulties and in rates of both physical and emotional illness (Louv, 2006, p. 34).

For individuals to fully benefit from contact with nature, they need to have an understanding of nature and have a connection to the natural world (Bratman, Hamilton & Daily, 2012). Physical and mental health problems are cited as the most typical consequences from a lack of engagement with nature, which can lead to declining emotional resilience and the inability to develop life skills such as assessing risks (Moss, 2012). Symptoms relating to conditions such as BESDs and attention disorders thus develop because of young people's limited exposure to going outside and nature (Strife & Downey, 2009). This PhD will aim to capture through the experiences of the young people's time spent at the farm, if there are any positive behavioural or emotional changes related to their time spent outside in the farm environment.

Historically, there is very limited evidence about the impact of outdoor interventions that use nature and animals as an alternative provision to mainstream education for young people (Department for Education, 2015). Early studies anecdotally suggest that nature and animals were used for therapeutic purposes to promote mental and emotional well-being by creating a sense of responsibility for natural land and the ability to nurture animals (Bridgeland, 1971). Research that is not specific to BESDs shows that young people's social, physical, educational and psychological health is positively impacted when they have daily contact with nature (Natural England, 2009; Bragg, Wood Barton & Pretty, 2010; Moss, 2012). The positive impacts can include multiple development domains (e.g. emotional, social and physical) (Kellert, 2005); problem-solving skills (Bell & Dyment, 2006); improving academic performance (American Institutes for Research, 2005); reducing symptoms of ADHD (Kuo & Taylor, 2004); increasing physical activity (Bell & Dyment, 2006); improving social relations (Burdette & Whitaker, 2005); improving self-discipline (Taylor, Kuo & Sullivan, 2001); and reducing stress (Wells & Evans, 2003). All of these factors are components that the care farm in this study seeks to help the

young people who attend the farm to develop through the combined use of the natural land, the animals and the care farm model.

In recent years, the use of nature and animals in BESDs education or interventions has become more prevalent, and a growing body of empirical evidence is emerging (Marmot, 2015). Research findings support the idea that access to nature and animals has a positive impacts on young people's education, physical health, emotional well-being, and personal and social skills, which encourages them to become responsible members of society (Bingley & Milligan, 2004; Marmot & Bell, 2012). Research undertaken by the Office for Standards in Education (2008), reported that some of the most successful outcomes for hard to reach young people were achieved outside of the classroom. This could be achieved, for example, in natural settings, through flexible, short courses that offer both vocational and social skills.

In summary, this study will focus on whether exposure to the care farm and the natural environment has an impact on the young people's behavioural and emotional regulation and social skills, reducing the risks of them becoming NEET.

2.7 In what way do care farms support young people with BESDs?

Care farms are becoming a recognised service that uses learning outside of the classroom to help young people with BESDs overcome educational, physical and social problems (Hine et al., 2008). In the UK, disaffected young people make up approximately 51% of service users (Hine et al., 2008). The farms typically offer care to children and young people between the ages of 2 and 18 years old. Farm visits happen during school hours, or less typically at weekends or in the school holidays. A visit to a care farm is not simply a trip to a farm. Young people are given responsibilities to help complete the day-to-day, but essential, duties that keep the farm operational.

Young people learn about the welfare of the animals, growing plants and vegetables and the general running of the farm, which encourages them to complete tasks and take responsibility for themselves and others. Hine et al. (2008) documented that young people communicated with the farmer or relevant member of staff about their lives and thus felt that they were being listened to. This type of social interaction is vital to the social development of the young people attending care farms (Hine et al., 2008). Experiences with nature, with the farmer, staff and animals can help young people to grow and develop in many additional ways, which include social skills, having greater respect for themselves and others, and gaining the confidence to participate in new activities (Wells & Yang, 2008).

The majority of care farm research with young people has been undertaken outside of the UK. However, current evidence in the UK suggests the day-to-day structure and calmness of a farm environment offers young people a consistent routine and safety (Furnivall, 2013). These are essential elements needed for the positive development of individuals and to promote effective behavioural regulation (Platform, 2010). However, the care farm would not offer a positive experience or outcomes for individuals who are adverse to the farm environment for any reason

(e.g. a fear of animals, an allergy to animals or the dislike of dirt as a symptom of an obsessive compulsive disorder or similar).

Hassink (2011; Elings, 2012) undertook a study on the effects and benefits of care farms for troubled young people between the ages of 16 and 20. In that study, most young people had poor parental contact, no daytime activities in the form of attending school or going to work and no hobbies or leisure interests. Many had behavioural problems, used illegal substances and were frequently in trouble with the police. Of the 100 young people who participated in the programme in 2009, 69 completed it as planned. Questionnaire results revealed that the farm programme reduced behavioural problems and increased self-respect, which was evident at the 12 months after completing the programme. However, the effect on the young people's coping strategies was minor. The programme led to an improvement in young people's social contact with their families, their self-esteem and their well-being. Many of the young people also re-engaged with school and/or showed an improvement in their school performance.

Another study (Wells, 2000) explored the relationship between nature and the prevention of ADHD in children. Children from 7 to 12 years old who had increased contact with a green environment as part of a programme displayed fewer ADHD symptoms. In a similar study, a group of children and young people were asked to complete a 20 minute accompanied walk in three different environments: a natural environment (e.g. city park) and two urban environments (e.g. inner-city and residential area). After each walk, an attention test was conducted. The children and young people who had exposure to a green environment were able to remember more numbers (Faber, Taylor & Kuo, 2008). However, these ADHD studies all had methodological inconsistencies, so results have to be viewed with some caution. The 'Nature as a therapy for ADHD' study by Van den Berg & Clusters (2011) found that the natural environment was especially good for performing 'difficult' cognitive tasks.

Thus, nature-based interventions are associated with children having increased social skills and having a greater respect for themselves and others (Wells, 2000) and may provide them with the confidence to participate in activities they normally would not seek to engage in (Schuler, 2008). There is further evidence for the positive impact that nature can have on mental and physical health, for the role of green spaces to promote social activity and to reduce social isolation and crime, and that the natural environment can help learning and employment prospects for young people (Marmot, 2010). These findings indicate that care farms, as one part of the green environment, can have a positive effect on some aspects of young people's behavioural, emotional and social difficulties, along with their ability to re-engage with or remain in education (Wells, 2000; Faber et al., 2008 Schuler, 2008; Marmot, 2010).

2.8 Summary of current research and consideration to its influence on the study design

It is the primary aim of the study to understand the effectiveness of a care farm model as an intervention for pre-NEET young people with BESDs. Effectiveness will be measured through the impact the care farm model has on the behaviour and emotional regulation and social

learning of the young people attending one care farm. The self-perceived experiences of the young people participating in the programme will be critical to evaluating the intervention.

Evidence, typically from outside the UK, demonstrates that care farms can provide a flexible learning experience in a natural, outdoor environment (Elings, 2012; Ellingsen-Dalskau, et al., 2016). Allowing young people with BESDs to learn in a socially supportive environment outside of the classroom setting may increase their ability to learn effectively, as compared to education at school. The evidence presented in this chapter confirms that this PhD study needs to capture data which will determine what components of a care farm environment help young people to better manage their behavioural and learning disabilities. Qualitative data will best capture if the care farm in this study offers a unique opportunity for young people to encounter opportunities that develop a range of transferrable vocational and social skills (e.g. nursing animals, driving a tractor), which may increase their confidence to remain in education or move onto employment or training. This will provide evidence to demonstrate the potential positive effects of combining care and educational programmes in an agricultural environment on young people's social, emotional and behavioural development. However, for this PhD study to gain a broader understanding of young people's experiences of attending a care farm and to evaluate impact on their behavioural, emotional and social difficulties both subjective and objective measures through the use of quantitative and qualitative methods should be utilised.

Care farming could be a sustainable option to add to traditional forms of educational and social care for pre-NEET young people with BESDs. However, evidence presented confirms there are currently no UK studies that take a longitudinal look into the outcomes and any associated changes for this specific group. A systematic review undertaken in 2014 (Bragg, Egginton-Metters, Elsey & Wood, 2014) identified that health, social care and education commissioning services are calling for better quality evaluations on the outcomes and effectiveness of care farming, specific to individual care farms and client groups. The care farm sector recognises that there is an underdeveloped evidence-base that is lacking scientific rigour (Sempik & Bragg, 2013) and future studies should use standardised, validated measures of client outcomes to demonstrate the effectiveness of care farming. In response to this call for specific types of evidence, this study will capture longitudinal data over a nine month period to better understand any associated changes specific to a care farm providing services for pre-NEET young people with BESDs. To strengthen the scientific rigour of evidence for care farms quantitative data will be collected to objectively investigate through the use of psychometric properties if the care farm intervention improves the physical, psychological and the social health of the young people.

In summary, this PhD thesis will seek to evaluate the impact of a care farm to better understand the underlying mechanisms that can enhance young people's chances of remaining in education or employment. Any changes in the young people's behavioural and emotional regulation or social outcomes captured through both quantitative and qualitative measures will be used to determine the success of the farm.

2.9 Theoretical framework

Evidence supports the idea that participation in education for disadvantaged young people in the UK remains disproportionately greater (Barnardo's, 2010). Statistics from April-June 2016, show 62,000 young people aged 16-17 years old were NEET, which has increased since the previous quarter and year (Mirza, Davies & Brown, 2016). This suggests that current interventions for pre-NEET and NEET young people are failing to deliver the intended outcome of re-engaging young people with education or employment.

Managing young people's behaviour to encourage them back into education requires motivation, but this is an inherently difficult task, because it requires multiple behavioural changes in a controlling environment (Hart, Blincow & Thomas, 2007; Kaplan, 2010). Research shows that behavioural change for young people referred to the care farm is particularly difficult given the complex disadvantages they experience (e.g. lack of parental attachment, poverty, disengagement with school) in their lives (Hart et al., 2007; Kelly & Barker, 2016). Such experiences for some individuals can cause a lack of persistence, proactive engagement, and thwarts positive tendencies needed for optimum functioning in the social environment (although others have the ability to persist (Ryan & Deci, 2000). However, nurturing self-determination can empower young people to achieve goals, to be autonomous and to feel socially connected despite these challenges (Deci & Ryan, 2002). Using theoretical frameworks to guide treatment plans for this group of young people could be a critical factor in changing the current trends in society, where youth unemployment and poverty remain high and pupils from low economic backgrounds typically have limited academic success. Both SDT and, in particular, Basic Needs Theory (Ryan, 1995) argue that if a person's basic psychological needs are not met, they will struggle to thrive and their life-long psychological growth and well-being will be adversely affected.

Very little attention has been given to understanding service users' motivational processes in attending a care farm. SDT, (Ryan & Deci, 2000a) is a theory of human motivation and provides a framework to investigate the motives of why people do what they do. SDT is used, as framework to guide research to explore how different environments can encourage healthy functioning, improve well-being and generate motivation for achieving one's potential (Deci & Ryan, 2008a, 2008b). The foundations of SDT lie in the humanistic psychological theoretical perspective, which proposes that individuals have an inherent need to develop and reach their full potential when conditions are advantageous (Schacter et al., 2012). It focuses on the extent to which an individual's behaviour is self-motivated and self-determined (Ryan and Deci, 2004). They view the concept of self-determination as a resource of personal growth and psychological well-being. SDT therefore provides a framework to investigate the particular conditions of a care farm that strengthen or weaken these positive human abilities (Ryan & Deci, 2000).

Since the introduction of SDT (Ryan & Deci, 1985) research has explored its application in many aspects of human life, including education, employment, sport and health. However, SDT has (until now) had limited application to agricultural contexts such as care farming. Ellingsen-Dalskau (2014) researched the autonomy support and need satisfaction in prevocational

programmes on care farms and in a separate study Ellingsen-Dalskau et al. (2016) demonstrated how care farm programmes can lead to healthier functioning and improved motivation for clients. Hemingway et al., (2016) used components of SDT to describe eudaimonic well-being as an outcome of participants' experiences of attending a care farm, as perceived by care farm staff. There is limited research on SDT's application to care farming, which demonstrates the unique and innovative contribution of this PhD research. Therefore, this study will be guided by the principles of SDT (Deci & Ryan, 2002, 1985a; Ryan & Deci, 2007, 2000) to better understand if the impact of the care farm context can motivate, engage and contribute to the improved human functioning and learning necessary to remain in education and employment for the young people attending the farm.

2.9.1 Nature of motivation: Self-Determination Theory (SDT)

Motivation is at the core of biological, cognitive, and social regulation. The orientation of motivation concerns the underlying attitudes and goals that give rise to action (Ryan & Deci, 2000a). Contemporary research and theory on motivation has shifted away from models that focus on the insufficiency of a desired situation (e.g. needs theories focused on the insufficiency of the psychological/social balance of the individual), and instead looks at how individuals interpret a situation because what motivates one person may not motivate another (Syinicki & Vogler, 2012). SDT's strength is its ability to recognise the impacts of social environments.

SDT (Deci & Ryan, 1985) explains the different self-regulatory styles an individual may have towards participating in an activity. The amount of self-determination reflects the extent to which behaviour is autonomous (e.g, how compatible this is with a person's sense of self) or controlled (e.g. motivated through external outcomes). There are three integral elements to SDT (Deci & Vansteenkiste, 2004; Ryan & Deci, 2000): individuals are inherently proactive to achieve their potential, which propels them to master their inner forces (e.g. emotions) and external forces (e.g. environment). According to SDT, individuals have an inherent predisposition for positive personal development and integrated functioning, but it is not an automatic process. To achieve one's full potential; individuals need a nurturing social environment. Thus, SDT suggests an individual's natural growth drives them to seek out positive motivational experiences; but if they are unable to, their basic needs will not be satisfied.

SDT suggests that individuals have three fundamental and co-existing psychological needs to develop and progress: to feel related, competent and autonomous (Deci, 1980; Deci & Ryan, 2000a; Deci, 1995). These needs are claimed to be universal and innate according to research carried out in a range of countries (Sheldon et al., 2002; Ryan et al., 2005). Relatedness is the need for human connection, which is 'to love and to care, and to be loved and cared for' (Ryan & Deci, 2000, p. 231), and encompasses 'tenderness, warmth, emotional responsiveness and acceptance' (Anderson, Chen & Carter, 2000, p. 270). Competence in SDT was developed from the work of White (1959), who suggested competence should be interpreted in a broad biological sense as an organism's ability to interact successfully with its environment. White (1959) claimed competence is developed through learning and acts to satisfy the intrinsic need

to deal with the environment. It is claimed competence is a motivational concept, because it can be directed, selective and persistent. Autonomy is defined as the universal inclination of the individual to be a causal agent of their own life with a sense of choice and to operate in harmony with their integrated self. However, this does not mean that individuals are independent of others (Deci & Vansteenkiste, 2004; Ryan & Deci, 2000a).

Traditional theories regard motivation as a unitary concept, but SDT argues that these theories of intentional behaviour are too simplistic to provide a complete picture of human motivation (Deci & Ryan, 1985). SDT comprises of six sub-theories: Cognitive Evaluation Theory (CET; Deci, 1975; Deci & Ryan, 1985b & 1980); Organismic Orientation Theory (OIT; Deci & Ryan, 1985b; Ryan & Connell, 1989); Basic Need Theory (BNT; Deci & Ryan, 2000); Causality Orientation Theory (COT; Deci & Ryan, 1985b).; Goals Content Theory and Relationship Motivation Theory (RMT), and distinguishes between types of motivation by considering what motivates a person at any given time and the consequences of that.

2.9.2 Cognitive Evaluation Theory (CET)

Intrinsic motivation is one type of motivation and is the natural, inherent drive to pursue challenges and new opportunities that SDT links with cognitive and social development. CET details the effects of intrinsic motivation on behaviours and how social contexts affect motivation (Deci & Ryan, 1985). This is framed in terms of the social and environmental factors that support or undermine a person's intrinsic motivation. CET focuses on the needs for competence and autonomy. The social context of events, such as positive feedback for a task or a reward that is mastery oriented or have intrinsic values can create feelings of competence and self-determination thus enhancing intrinsic motivation. However, CET claims that if an individual is rewarded for a task they engage in anyway, the reward can have a negative effect on the individual's performance and the subsequent motivation to complete the activity, once the extrinsic reward has been received (Ryan & Deci, 2000).

Although CET does not claim the use of rewards should be avoided, it does propose two different meanings to rewards. Rewards that are perceived to be controlling are likely to undermine intrinsic motivation, whilst a reward that provides information and supports feelings of competence may enhance intrinsic motivation (Ryan & Deci, 2000a). Self-determined behaviour develops when there is instant contextual environmental support for an individual's quest to satisfy their basic needs and strengthen their inner resources (Reeve, 1996). CET and intrinsic motivation is also linked to relatedness based on the belief that intrinsic motivation improves when associated with a sense of safety and relatedness. However, the concept of intrinsic motivation is only relevant to behaviours or tasks that are of natural interest to the person (Ryan & Deci, 2000a). Therefore, for young people, such as those participants in this study, who have not developed interest in their environment, understanding how to facilitate re-engagement is essential to their long-term well-being. There is still a lack of scientific and theory driven evidence on how adverse social and educational experiences affecting these young people's motivation can be attenuated or ideally reversed.

Therefore, this PhD study will provide evidence to demonstrate what components of the care farm model can motivate these young people to re-engage with learning and their environment. In summary, CETs primary focus is the effects of specific social contexts on motivation, self-regulation, behaviour, and experience.

2.9.3 Organismic Integration Theory (OIT)

Deci and Ryan (1985) developed OIT, as a sub-theory of SDT, to explain the different ways extrinsically motivated behaviour is regulated. OIT aims to explore how values and motives are integrated within the self and their influence on self-regulation. Depending on the perceived locus of causality of an action (e.g. external, impersonal and internal) the theory identifies six forms of regulation as shown in Figure 2. Each regulation varies in the extent to which the regulation is autonomous (Deci & Ryan, 1985). OIT describes the four different types of extrinsic motivation, which differ in the degree to which they represent autonomy.

Figure 2: The Self-Determination continuum, showing types of motivation with their regulatory styles, loci of causality, and corresponding processes (Ryan & Deci, 2000: p. 72).
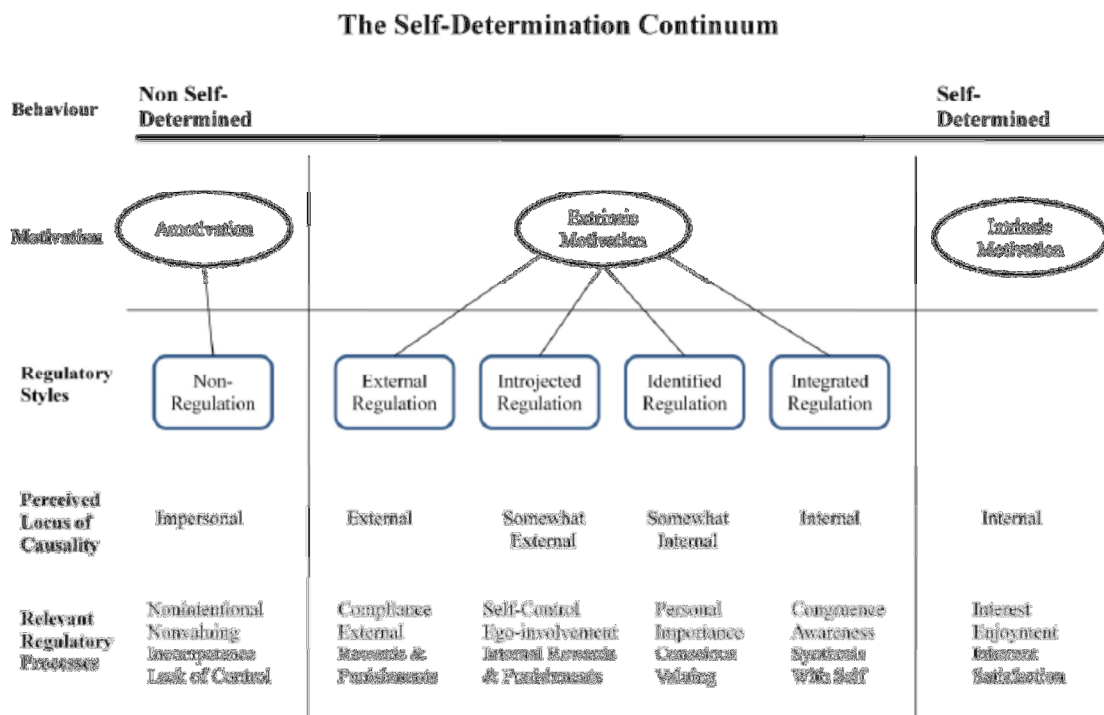
External Regulation is described as the least autonomous form of motivation, because it is performed on external demand or reward (Deci & Ryan, 1985). For example, a young person may attend the care farm in order to legitimately avoid school. Directly next to external regulation on the continuum is 'Introjected Regulation', which describes behaviour as relatively controlled form of regulation, and the individual does not fully accept and/or endorse reasons for self-regulation as their own. Introjected Regulation is internally driven, but has an external

perceived locus of causality and because the causality of the behaviour is perceived as external, the behaviour is considered only partially self-determined. Behaviours are typically performed to avoid shame or guilt or enhance feelings of self-worth and self-esteem (Ryan & Deci, 2000). A young person who is placed on the Introjected Regulation continuum in the context of this research would participate in the care farm activities because they are being told to do so, but they do not identifiy with its values. For example, at the start of the intervention, the participants liked working with the animals, but they did not really love completing all the tasks until they started to become more responsible for the animals' welfare.

A more autonomous or self-determined form of extrinsic motivation is 'Identified Regulation', which occurs when the value of a behavioural goal is recognised and accepted as personally important, but it is not fully internalised (Ryan & Deci, 1985). A young person who shows identified regulatory style may not particularly enjoy the essential daily tasks of farm work (e.g. mucking the cows out), but values the opportunity to be outside, in nature, learning skills and interacting with staff and farm animals. The may also take pride in caring for the animals to their best abilities. The most autonomous form of extrinsic motivation is Integrated Regulation. When regulations for engagement become more internalised and accepted, behaviour is assumed to become integrated (Deci & Ryan, 1985). This regulatory style exists in activities that are consistent with a young person's identity and values. The young person who identifies themselves as an important part of the care farm family, and considers participation harmonious with his or her self-beliefs and values would be acknowledged as showing integrated self-regulation. In accordance with SDT (Deci & Ryan, 1985), current literature supports the propositions that greater self-determination is associated with positive outcomes such as functionality, motivation and well-being (Ellingsen-Dalskau et al., 2014; Ellingsen-Dalskau et al., 2016).

SDT does not regard the relative autonomy continuum as a developmental one (e.g. the individual moves directly from one to another) but regards the continuum as the experience the individual can have at a specific point in time (Deci & Ryan, 1991). This means that individuals' self-regulatory stages depend on the context of their environment at a specific point in time. In summary, the OIT focus is on how individuals internalise extrinsically motivated behaviours in response to social influences that impact on the internalisation process.

Ryan and Deci (2002) state that autonomy support is critical to the internalisation process to promote self-determination and autonomous self-regulation. The outcome can result in perceived competence and vitality within the individual. Previous research suggests that providing individuals with choices, encouraging initiative and responsibility, being non-judgemental and not being controlling can enhance an individual's autonomous self-regulation (e.g., Williams & Deci, 1996; Williams, Freedman, & Deci, 1998). Autonomous self-regulation can be attributed to enhanced feelings of competence (e.g. Williams & Deci, 1996).

In summary, autonomy support has been shown across a wide range of settings, such as education and health care to increase autonomous motivation, performance, and well-being (Deci & Ryan, 2008).

2.9.4 Basic Needs Theory (BNT)

BNT aims to show how the environment nurtures or hinders autonomous motivation. Needs are defined at a psychological level as 'innate psychological nutriments that are essential for on-going psychological growth, integrity, and well-being' (Deci and Ryan, 2000a, p. 229). BNT suggests that, in parallel with biological needs such as hunger, individuals have a universal need to seek and have experiences of autonomy, competence, and relatedness (Ryan & Deci, 2000a). These essential and innate psychological needs form the basis of intrinsic motivation and self-regulated behaviour.

Autonomy embraces the notion of self-determination, which refers to the individual's need to experience being an initiator and regulator of their own actions. Thus, autonomy refers to volition, which is the organismic need to self-organise experiences and behaviours and to pursue activities that is in agreement with an integrated sense of self (DeCharms, 1968; Sheldon & Elliot, 1999; Deci & Ryan, 2008). Competence is the need to know how to be able to produce behavioural outcomes (e.g. a drive to have an effect on the environment and to achieve valued outcomes; White, 1959). Giving individuals unexpected positive feedback on a task increases their intrinsic motivation to repeat a task because the feedback fulfils the individual's need for competence (Deci, 1971; Ryan & Deci, 2000b). However, the feeling of competence does not enhance intrinsic motivation unless the competence is perceived as being caused internally (Vallerand & Reid, 1984). Thus, if the locus of causality is perceived internally the behavioural outcomes are seen as being autonomous. This need for autonomy is satisfied by free choice. Studies confirm that having choice and self-direction enhances autonomy and therefore intrinsic motivation (Ryan & Deci, 2000b). Relatedness refers to an individual's desire to feel connected to others which provides strengths and support if there is a need for it (Baumeister & Leary, 1995).

The three needs (autonomy, competence, relatedness) are regarded as organismic necessities rather than acquired motives. Like drive theorists claim, these needs are innate rather than learned (and therefore provide motivational aspects to life) and their definition is regarded in organismic and functional terms. The theory accepts a fundamental human path to vitality, integration, and health. Thus, these three human needs are thought to be the compulsory condition for psychological health and well-being and their satisfaction is associated with the optimal human functioning (Deci & Ryan, 2000).

BNT will be used in this PhD thesis to contextualise participants' experiences and explore if the environment of the care farm nurtures or thwarts participants' autonomous motivation. Needs are regarded as innate psychological elements, critical for psychological growth, integrity, and well-being (Deci & Ryan, 2000). Thus, if participants' needs are being met at the care farm there

should be a positive change in their psychological growth and well-being captured by the quantitative and qualitative data yielded in this study.

In summary, SDT claims that all three needs are equally important, and negative functioning of the individual will occur if anyone of the needs is neglected (Deci & Ryan, 2000).

2.9.5 Causality Orientations Theory (COT)

COT (Deci & Ryan, 1985) is the least explored and empirically supported of the six theories in SDT. The theory assumes an individual's overall functioning (including motivation, behaviour, and self-regulation) is dependent upon the social context and the person's inner resources or regulatory style. If an individual regards themselves as the 'origin' of their behaviour, they are said to have an 'internal locus of control'. Whereas, an individual who regards themselves as a 'pawn' of their behaviour, they are said to have an 'external locus of control' (DeCharms, 1968). This is referred to as an individual having an internal or external locus of causality (DeCharms, 1968). COT provides a descriptive account of an individual's inner resources (Ryan & Deci, 2002). COT distinguishes among three broad classes of behaviour and motivationally relevant psychological orientations towards the social world: autonomous, controlling, and impersonal (Deci & Ryan, 1985b). However, the motivational orientations represents subtle differences in an individual's motivational orientation towards the social world are not mutually exclusive, thus each can overlap to some extent.

Autonomous orientation is the regulation of behaviour guided by interests and choices based on an awareness of one's needs and integrated goals (Ryan & Deci, 2002). Individuals, who behave autonomously, pursue choice and to experience their behaviour as self-initiated. Autonomous orientation acts to guide an individual's tendencies towards intrinsic motivation and well-integrated extrinsic motivation (Ryan & Deci, 2006). This means their preferred self-regulatory style reflects their interests in pursuing activities of their choice and those that are most congruent with their self-actualisation path.

Controlling orientation is a behavioural tendency that is instigated and regulated by responding to controlling events in the environment, which include reward structures or by internally controlling rules specifying how one 'should' or 'must' behave. Controlling orientation is related to external and introjected regulation (Ryan & Deci, 2006) and can invoke and facilitate perceptions of competence and relatedness needs, but not of autonomy. It is associated with regulation through internal and external incidents, which result in inflexible functioning and a poorer well-being. Individuals who are oriented toward control look for controls and interpret their environment as controlling. They also seek out such experiences, as it takes away some of the decision making stress that they often report to encounter. Impersonal orientation focuses on a lack of intentional behaviour (Ryan & Deci, 2006). Individuals with an impersonal orientation believe they are unable to control their behaviour and as a result cannot achieve desired outcomes. Impersonal orientation relates to amotivation and a lack of intentional action, which results from failing to fulfil all three needs. According to SDT, individuals' have a certain amount of each of the orientations, which can be used to make predictions as to their mental

health (e.g. Strauss & Ryan, 1987) interpersonal (e.g. Hodgins, Liebeskind, & Schwartz, 1996), and behavioural outcomes (Neighbors, Vietor, & Knee, 2002).

COT focuses on stable, individual differences that reflect how an individual's interpretation of a situation influences the initiation, maintenance, and regulation of their behaviour (Vansteenkiste, Niemiec, & Soenens, 2010). However, COT acknowledges that two individuals can see the same situation as controlling or autonomous, depending on their self-regulatory style. Deci and Ryan (1985b) found that autonomy was the most adaptive form of orientation compared to the controlled and impersonal orientations. It is suggested that the concept of causality orientations has higher-order relatedness to autonomous and controlled motivation. Autonomy orientation has been positively related to self-actualisation and well-being and individuals in studies showed greater similarity between their personality and behaviours (e.g. Koestner, Bernieri & Zuckerman, 1992; Williams et al., 1996).

In summary, individuals with an autonomous orientation are expected to benefit more in health behaviour interventions than individuals who have controlled or interpersonal orientations.

Life goals are pursued as a function of the degree to which a person's basic psychological needs for autonomy, competence, and relatedness have been satisfied over time. Life goals divide into two categories: intrinsic aspirations and extrinsic aspirations (Kasser & Ryan, 1996). An emphasis on intrinsic life goals, as opposed to extrinsic life goals, has been associated with greater health, well-being, performance, and purpose (Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004).

COT will be used in this PhD thesis to understand if the care farm intervention can meet participants' three basic psychological needs for autonomy, competence, and relatedness, which if satisfied would enhance their autonomous orientation. It is anticipated participants with an autonomous orientation will be more successful at positively changing their behaviour during the intervention compared to participants with controlled or interpersonal orientations. Participants with autonomy orientation who demonstrate mastery-oriented are more likely to display resilient behaviours and will persist to perform even after failure. Thus, those with a more autonomous orientation will be able to cope with difficulties and setbacks both in the context of the intervention and in participants wider lives (e.g. home and school) (Grolnick, Ryan, & Deci, 1991).

To conclude, SDT is an empirically tested framework for motivation and self-regulation that explains human behaviours in the social context of their environment at macro- and micro-levels (Deci & Ryan, 2008).

2.9.6 Goal Content Theory (GCT)

GCT (Vansteenkiste, Lens, & Deci, 2006; Niemiec, Ryan, & Deci, 2009) separates intrinsic goals, for example, personal development and forming close relationships from extrinsic goals, such as pursuing money and ideal appearance. Goals according to GCT have an impact on motivation and wellness (Ryan, Sheldon, Kasser & Deci, 1996). Intrinsic goals support the

perception of a task as being satisfying compared to extrinsic goals, which are regarded as a chore and means to an end. The nature of goals set by the person can lead to different basic need satisfaction and are thus differentially associated with well-being. However, an individual can pursue both intrinsic and extrinsic goals for either autonomous or controlled reasons. Intrinsic goal setting has been proven to support learning, well-being and satisfaction (Deci & Ryan, 2012; Kasser & Ahuvia, 2002; Williams, Niemiec, Patrick, Ryan & Deci, 2009).

2.9.7 Relationship Motivation Theory (RMT)

According to the SDT (Ryan & Deci, 2000), individuals have a fundamental psychological need to experience relatedness through feeling personally accepted by others, to feel cared for by others and to care about them (Deci & Ryan, 2000; Lavigne, Vallerand, & Crevier-Braud, 2011). Thus, relatedness is the development and maintenance of personal relationships as well as belonging to groups. RMT suggests that a relationship with others is both desirable and essential for individual well-being (Deci & Ryan, 2012). While satisfaction of the need for relatedness determines an individual's relationship satisfaction, relatedness need satisfaction is not enough to determine high-quality relationships. Successful relationships need individuals who also experience satisfaction of the need for autonomy and competence (as part of the relationship) (La Guardia, Ryan, Couchman, & Deci, 2000). Research confirms that relationships increase satisfaction for relatedness, autonomy and competence need (Deci & Ryan, 2014). Thus, quality relationships are based on a mutual two-way support of the autonomy, competence, and relatedness needs between individuals.

2.9.8 Summary

Overall, SDT has been extensively tested on diverse aspects of human experience using a variety of methodologies, and the core motivational processes have been found to be the same. SDT research indicates that having an autonomous style of self-regulation (i.e. being more self-determined) is associated with a host of positive behavioural outcomes and improved psychological well-being (Deci & Ryan, 2008).

In summary, the purpose of this PhD study was not to test SDT, but to use the theory (e.g. BNT and COT) to contextualise the current research's findings and explore the mechanism and the impact of the care farm as an intervention for pre-NEET young people. The findings will determine if the care farm intervention through its design satisfies participants' basic psychological needs for autonomy, competence, and relatedness. The SDT framework will be used to determine an examination of whether the structure of the intervention embeds effective mechanisms for the care farm staff and farmer to offer autonomy support to participants, thus satisfying participants' basic psychological needs and having positive effects on their behavioural, social and emotional difficulties.

2.9.9 A self-determination approach and the impact of a care farm

Human behaviour continues to be the biggest discrepancy in health and well-being related outcomes (Ryan, 2009). However, many of the behaviours can be managed by the individual. SDT recommends that more attention is given to participants' experiences and motivations because long-term maintenance of behaviours needs the individual to internalise the values and develop the skills required for change in order to experience self-determination. Thus, by using a theory to determine how optimally enhance participants' opportunities to pursue a life path that can lead to experiences of feeling autonomous, competent, and related through the care farm intervention setting, can lead to significant changes of practice for young people at risk of NEET. If the care farm intervention found to foster and satisfy participants' basic needs in this study, it will provide evidence that adjustment of health-related behaviours (e.g. being outside in nature, doing physical activity in a green space, working on the farm) is effective to induce and maintain behaviour change (Williams, Deci, & Ryan, 1998).

Over the past 25 years a growing body of evidence has been developed using SDT in health-related behaviour change (Patrick, Williams, Fortier et al., 2007; Ryan & Deci, 2007; Williams et al., 1998). However, there is limited application of SDT to understanding care farm intervention outcomes. One study by Ellingsen-Dalskau et al (2014) explored green work on care farms as a prevocational training programme for people with mental health problems. The authors concluded that the SDT framework provided a better understanding of the conditions and underlying mechanisms that facilitate autonomous motivation and well-being. These conditions were regarded as important for the return to work process for the participants who indicated a high degree of autonomy support and need-satisfaction within the care farm context. Furthermore, participants' experiences of newfound motivation towards working and improved functioning supported the notion that the farm context facilitates autonomous motivation. There was evidence of enhanced well-being and a stronger internalisation of the value of work in that study.

The second study (Ellingsen-Dalskau et al, 2016) explored the use of SDT to gain an understanding of how prevocational training programmes can lead to healthy functioning and motivation for clients aged between 20-42 years old with mental health problems. The study concluded that giving participants the opportunity to engage in interesting and challenging activities, where they became a member of a social community, led by an autonomy-supportive farmer. They were given an opportunity to develop reciprocal relationship with other clients, and contributed to a need–supportive context of the farm. These elements were regarded as promoting healthy human functioning, motivation and well-being, which benefited participants in a challenging transition back to work.

Despite the positive findings of these two studies, little attention has been given to care farm interventions as a means of satisfying participants' basic needs for autonomy, competence, and relatedness (Williams, Deci, & Ryan, 1998). Previous research findings identified important elements of the care farm context that are conducive for satisfying participants' basic needs

(e.g. group belonging, structure and flexibility, positive feedback), but there is currently no systematic knowledge about how such intervention are contributing to the positive development of participants with a pre-NEET status. The overall aim of this study was to gain a better understanding of the physical, mental, and social impact of attending the care farm intervention on the well-being of the participants. Two components from SDT are particularly relevant to this study: investigating the impact of socio-contextual factors on participants that leads to satisfying their basic psychological needs (e.g. autonomy, competence, and relatedness); and the socio-contextual factors that support the self-determined regulation of behaviour (e.g. processes of identification, internalisation, and integration). Thus, SDT helps to answer the 'how' or 'why' questions.

At a macro level, SDT is a humanistic, organismic theory providing a detailed description of human functioning parallel with the processes that shape cognitive, emotional, and behavioural self-regulation and development (Nevill, 2014). At a micro level, SDT acknowledges the individual and their socio-contextual factors along with the conditions needed to achieve optimal growth, development, and functioning. Applying the principles of SDT to this study, the care farm intervention can be defined as an evidence-based activity designed to satisfy the basic psychological needs of individuals for autonomy, competence, and relatedness in order to positively change the thoughts, emotions, and behaviours of participants, and thus improve their respective levels of happiness and well-being. SDT can therefore help this study to understand:

- Which basic psychological needs of participants are being targeted by the intervention: autonomy, competence, relatedness, or a combination?
- What socio-contextual and environmental factors (e.g. building a care farm family, one-to-one mentoring, unconditional acceptance of the person who are referred into the care farm intervention) influence the identification, internalisation, and integration processes of acquiring and maintaining new behaviours?
- What socio-contextual and environmental factors (e.g. sources of experiences of relatedness, competence, and autonomy) facilitate the development of more intrinsically motivated behaviours in participants? Exploration of what experiences participants find enjoyable, satisfying, interesting, which then can be identified as self-reinforcing for participants.
- What socio-contextual and environmental factors within the care farm intervention lead to the satisfaction of participants' needs for autonomy, competence, and relatedness to establish and maintain an autonomous self-regulation?

2.10 Research questions and objectives

The aim of this study was to evaluate the ways the mechanisms of a care farm model influence the health and subjective well-being of young people with behavioural, emotional and social difficulties.

RQ1: What does attending a care farm mean to pre-NEET young people with behavioural, emotional and social difficulties?

RQ2: How does this care farm model have an impact on the physical, mental and social development of pre-NEET young people with behavioural, emotional and social difficulties?

RQ3: How does the natural environment have an impact on the care farm experience of pre-NEET young people with behavioural, emotional and social difficulties?

The objectives of the research are:

OB1: Longitudinally explore pre-NEET young people with BESDs' experiences engaged with the care farm.

OB2: To evaluate the impact of the care farm model on the health and well-being of pre-NEET young people with BESDs

OB3: To understand how the natural environment impacts pre-NEET young people whilst being on the care farm.

OB4. To explore the views of care farm staff about the impact of their work on the pre-NEET young people's experiences of the care farm.

2.11 Statement of purpose

Care farming is one part of green care that is becoming a key feature of the UK's care provision (State of Play, 2015). Current evidence demonstrates that care farming can offer valuable support to some of the most vulnerable individuals, which includes pre-NEET young people with BESDs. Care farming demonstrates the important contribution that connecting people with farming and the natural environment has on improving health and well-being. With supported expansion, care farming has the potential to provide a cost-effective addition to current social and health care provision in the UK (Leck, 2013; State of Play, 2015).

Evidence shows that care farming is an established care provision in Europe (State of Play, 2015) which could be duplicated in the UK. With support and recognition from policy makers, health commissioners and the farming sector, it is estimated that care farming could increase its value to nearly £90m and provide half a million sessions for service users per year in health, social and educational care over the next five years (State of Play, 2015). However, funding remains a problematic challenge to care farming services, in addition to securing contracts and recognition of the value of care farms and care farming services. Commissioners have requested further empirical and longitudinal evidence on health and well-being outcomes and of the cost-benefits from care farming, which has a specific focus on generic evidence of the effectiveness of care farming and evidence specific to individual care farms (Bragg et al., 2014; Bragg, Egginton-Metters, Leck, & Wood, 2015).

No previous UK studies have measured the impact of care farms for pre-NEET young people with BESDs, and no studies have been identified that consider its effectiveness as an alternative intervention to mainstream education for pupils disengaged with school. Utilising nature and animal assisted therapy is recognised as useful in interventions promoting public health, but further evidence is needed to understand the appropriate use of these resources in achieving effective outcomes. It is evident that a variety of factors contribute to improving the physical, mental and social health, and well-being of disadvantaged individuals. The natural environment is one potential factor; however this study will provide an enhanced understanding of how the various aspects provided by a care farm setting interrelate and what impact this has on the value of attending a care farm for pre-NEET young people with BESDs.

It is the primary aim of the study to understand the effectiveness of a care farm model as an intervention for pre-NEET young people with BESDs. Effectiveness will be identified through the impact the care farm model has on the behaviour and emotional regulation and social learning of these young people attending one care farm. The experiences of the young people participating in the programmes will be critical in evaluating the intervention.

Evidence is needed to validate the care farm model as an effective intervention, to improve service delivery and to secure future funding. The findings of this PhD study will inform a larger study proposal to extend this pilot study to assist the national development of care farming services and intervention for young people in the UK.

The DEFRA (2011) White Paper 'The Natural Choice: securing the value of nature', The Public Services (Social Value) Act (2013), and The Natural Connections Demonstration Project (2016) all support the need to provide young people with access to nature in order to turn the outdoors into a classroom to provide a variety of positive impacts on young people's health and well-being. These include behavioural regulation, social skills and engagement with learning. The government's recognition of the benefits the natural environment can bring demonstrates the timely nature of this study, which will provide essential evidence to support attendance to an outdoor intervention that has a beneficial effect on reducing the BESDs of pre-NEET young people, re-engaging them with learning.

Chapter 3: Care farm model

3.1 Discussion of the care farm model

The care farm delivers sessions which have a person centred focus with every session being planned on the resilient therapy Resilience Model (Hart, 2007) to provide stability and direction. The resilience Model was pioneered by a group of academics and developed with the help of children/young people, parents/carers, practitioners and service users who have benefited from focusing on using resilience in their lives and/or in their work. The academics (Hart et al, 2007) developed the Resilience Model because they wanted to better understand why some young people coping with similar difficulties and on-going social disadvantage did better than others. The key findings from the research, adjoined with their own practice experience formed the Resilience Model. The care farm chose the Resilience Model to guide sessions because it provides a variety of remedies which staff can select, or change, appropriate to the individual young person's needs helping them to 'bounce back' in tough times.

Chapter 3 will discuss the Resilience Model, referred to in this PhD as the care farm model, which is used to strategically and practically help young people with BESDs to enhance their well-being, resilience, and progression. The model has five components: 'Basics', 'Belonging', 'Learning, 'Coping' and 'Core-self' (Hart et al., 2007) and each component has a number of subcategories. The five components of the model will be discussed in detail later in this chapter. The history of the care farm's development and the farm's physical layout are discussed first because both are relevant to gaining a better understanding of why this model is used and how it is implemented as a framework for the intervention.

Figure 3: The Resilience Model referred to as the care farm model

BASICS	BELONGING	LEARNING	COPING	CORE SELF
Good enough housing	Find somewhere for the child/YP to belong	Make school/college life work as well as possible	Understanding boundaries and keeping within them	Instil a sense of hope
	Help child/YP understand their place in the world			
Enough money to live	Tap into good influences	Engage mentors for children/YP	Being brave	Support the child/YP to understand other people's feelings
Being safe	Keep relationships going		Solving problems	
	The more healthy relationships the better	Map out career or life plan	Putting on rose-tinted glasses	Help the child/YP to know her/himself
Access & transport	Take what you can from relationships where there is some hope		Fostering their interests	
Healthy diet	Get together people the child/YP can count on	Help the child/YP to organise her/himself	Calming down & self-soothing	Help the child/YP take responsibility for her/himself
	Responsibilities & obligations			
Exercise and fresh air	Focus on good times and places	Highlight achievements	Remember tomorrow is another day	Foster their talents
Enough sleep	Make sense of where child/YP has come from		Lean on others when necessary	
Play & leisure	Predict a good experience of someone or something new	Develop life skills		There are tried and tested treatments for specific problems, use them
Being free from prejudice & discrimination	Make friends and mix with other children/YPs		Have a laugh	

The care farm model helped guide and inform the literature review and the research design of this study. The RE-AIM evaluation framework (Glasgow, Vogt, & Boles 1999) steered the evaluation design for this PhD thesis and considered the five components of this model to ascertain if the 'claims' of the farm are valid and to test whether there is evidence from the holistic data to support the claims.

3.2 Theories on provision for behavioural emotional and social difficulties

Provision for young people with BESDs can be explained through three leading models: the Behaviourist Model, (Skinner, 1998) the Psychodynamic Model (Freud & Breuer, 1895; Adler, 1927; Erikson, 1964; Jung, 1964) and the Personal Construct Model (Butler & Green, 1998). These models were selected because they give an overview of three distinct concepts which recommends treatment for BESDs based on thinking, feeling or learned behaviour, aspects which are used in the care farm model with the young people and therefore relevant to this study. Thus, it provides the opportunity when describing the care farm model to consider the interaction between aspects of personality and a young person's ability to combine their feelings, beliefs and behaviour, a vital skill which either constrains or permits the young person's engagement with the care farm intervention.

The Behaviourist Model (Skinner, 1998) suggests that the majority of behaviour is learnt and consequently it is possible for a young person to 'unlearn' unacceptable or undesirable behaviour and to learn new types of behaviours. This approach claims that learning occurs if behaviour (e.g. thought, feelings or actions) changes. It suggests practised conditioning, where reinforcement and reward of positive behaviour and the selective ignoring of unacceptable behaviour can create successful behavioural correction (Skinner, 1988).

The Psychodynamic Model's (Freud & Breuer, 1895; Adler, 1927; Erikson, 1964; Jung, 1964) primary focus is that 'treatment' is based on feelings. This model acknowledges theories of attachment and suggests that understanding the young person's perception of their environment as a consequence of their disadvantages is an important part of the process to support them with a therapeutic treatment programme. Behaviour in this theory is regarded as a symptom of the individual's psychology; the young person's 'internal world' and their unconscious responses (Winnicott, 1991).

The Personal Construct Model is based on the work of George Kelly (Butler & Green, 1998) who suggested the way an individual behaves and feels is the result of the individual's construct system. A construct is the individuals' way of looking at and perceiving/interpreting their experiences and is developed as experienced similarities and differences. This model is similar to the Psychodynamic Model because it involves unpicking projections. For example, a young person with BESDs might believe that 'all teachers hate me'. The young person then projects this belief onto every teacher and it begins to predetermine how the young person behaves when interacting with a new teacher, thus perpetuating this belief further. However, unlike the

Psychodynamic Model, this model does not consider past experiences, and instead claims that establishing safe and supportive experiences in the present, which challenge the negative beliefs, will allow the young person to re-construct their beliefs.

To better understand the impact of the care farm as an intervention to tackle problem behaviour, improve emotional regulation and social difficulties experienced by the young people, it is important to investigate how the young person's behaviour and emotional self-regulation is managed through evidencing the care farm model supported by both the mentors and peers. The mentors' (key to the intervention's success) tolerance and understanding towards the young person can determine how effective the care farm intervention is for these young people. The care farm model in this study draws upon aspects from all of the three models discussed above because it takes into consideration the behaviour, the beliefs, the feelings and expressions (both verbal and non-verbal) of the young people who attend the care farm and will be discussed in detail later in this chapter.

3.3 History of the care farm's development

The care farm is a 30-acre working beef farm of pedigree Simmental cows located in a market town in rural southern England. The farm is also home to other livestock (e.g. goats, sheep, pigs, donkeys, chickens, ducks and rabbits). In 2008 the farm became a care farm. It provides animal assisted therapy, horticulture, building skills, craft and other farm related activities (e.g. fencing, tractor driving) for young people who are at risk of permanent exclusion from the education system (pre-NEET) and adults with poor mental health, learning disabilities, or limiting long term illnesses.

The farm is run by a female farmer who, at the time of this study, was supported by three full-time members of staff known as 'Life and Learning Mentors' (one female, two males; here after referred to as the 'mentors') and a number of volunteers. The farmer's dog 'Boss', a rough coated Jack Russell, is an integral part of the farm and inadvertently works in supporting the staff to engage with the young people. The farm is registered with Ofsted as a provider of childcare on non-domestic premises and received a Learning Outside the Classroom Quality Badge. The care farm was awarded the Bayer Crop Science/Farming & Countryside Education (FACE) 'Access' award, the 'Careers on the Farm' award and 'The Very Best in Farming Education' award.

The farmer grew up on a dairy farm, but became a social worker with a specific interest in community mental health and young people's services. In 2007, inspired by her own positive experiences of farming, her knowledge from social work, and a belief that the young people she was working with would benefit from time learning new skills in a natural working environment, she purchased the farm and ran a pilot project for disadvantaged young people. In 2008, driven by the success of the project, the farm officially became a care farm.

The farm is registered as a social enterprise limited by guarantee (not for profit). The farm provides people with the opportunity to engage with the natural environment to enhance their well-being, resilience and progression and to reach their potential. While the farm is based on the ethos of 'care farming' (the therapeutic use of farming practices to provide health, social or educational care services for a wide range of people, Care Farming UK, 2016), the farmer implemented a unique care farm model. The focus is 'person-centred', which promotes acceptance of every individual and aims to build trust between the farmers/mentors and the service users. The model is used to structure practical activities that are flexible to individual needs, while being effective in ensuring progression. Each programme is designed to engage people who are the hardest to reach with the activities that take place on the care farm (e.g. pre-NEET).

The farm runs a range of programmes for all ages and caters for a range of groups which include adults with poor mental, physical health and/or learning difficulties and older people dealing with rural isolation and lifelong conditions such as dementia. The main service users are the 'hardest to reach' young people who have BESDs (some with additional learning or physical needs). The young people are referred to the care farm because they have complex challenges which make having a positive experience in school difficult. All of the young people have been excluded from school on a temporary or permanent basis; the exclusions are typically because the young person finds it difficult to cope and manage their behaviour in school because of their BESDs. In addition to being excluded and having BESDs some of the young people experience anxiety or conditions such as dyslexia which makes attending school problematic.

Many of the young people who attend the farm live in rural areas and face significant barriers in securing the provision of a broad and balanced education when excluded from school. In rural areas of the UK one in five households, which includes 700,000 children live below the official poverty line and nearly a quarter of 16 year olds in rural areas attain no GCSEs above grade D and one in twenty do not pass any GCSEs (Social Mobility Commission: State of the Nation 2016, 2016). Furthermore, there is a significant lack of alternative provision for excluded pupils in rural areas because of travel distances and the associated cost.

This lack of sufficiently resourced and regular provision of public transport and safe routes to school/college currently prevents many pupils from disadvantaged backgrounds from taking part in high quality alternative provision (ALT The Education Union, 2016). The lack of alternative education for these young people, suggests that if the impact of the care farm in this study is successful in bringing about positive educational, skill and personal progress then care farms that operate using the same philosophy and approach would be able to provide a viable alternative with long-term benefits of turning around the lives of these young people.

3.4 Description of the care farm programme

The intervention for young people who attend the farm focuses on a vocational training course for 13-21 year olds who find academic learning in a school environment challenging. Based on a City & Guilds award in Land-based Operations, the training course provides all the basics for

a career in agriculture, horticulture or animal care. The programme provides outdoor education and enrichment (e.g. practical hands-on) activities based on the seasonal demands of farming life. The intervention aims to supplement formal schooling and to encourage greater engagement in learning to gain an accredited qualification. The young people build employability skills through both the formal and informal programme of the care farm (e.g. teamwork, communication, problem solving and planning) and life skills (e.g. healthy living and nutrition) by feeding and caring for livestock, cleaning and maintaining the farm, and tending and harvesting fruits and vegetables. The intervention involves one-to-one and small group sessions aimed at building trust and giving space for individuals to explore and express what they have learnt. While having good GCSE qualifications reduces a young person's chances of becoming or remaining NEET, this non-formal programme provides engagement with the workings of the farm that can then lead to further opportunities, skills or the desire to gain accredited qualifications.

3.5 Special qualities of the care farm

3.5.1 Staff

The role of the farmer and the mentors is to engage the young person, which is generally achieved through group programmes that build resilience, in turn, developing personal responsibility and employability qualities, skills and accreditations. The programme involves the use of a farming and rural environment in its widest sense with the inclusion of animals. Individual programmes are designed within the context of the model with the aim to engage the young person and lead to positive change either within a small group or initially on a one-to-one basis. The care farm promotes that everyone should work as part of a team to maintain a stable, happy and caring environment.

Mentors are 'Level 3' qualified in different aspects of care learning or therapeutic interventions; they are accredited by The Countryside Educational Visits Accreditation Scheme (CEVAS) and have extensive experience of working with young people who have poor social, emotional and behavioural traits. Every interview to become a mentor at the farm is managed by the farmer. The farmer ensures the mentors have the right personal qualities to work with the young people, including patience and sympathy/empathy towards young people's difficulties and circumstances. The mentors have to be accepting of young people regardless of how they might behave. Through this careful and selective recruitment of mentors and the specific approach to care itself, the farmer ensures that the philosophy of the care farm is reinforced in the farm structure. The care approach requires mentors to work with young people to identify their needs and from this, develop a plan to engage them. This will give mentors the best chance of enabling young people to make improvements in areas of their lives, such as their manual skillset or interpersonal relations. Overall, the programmes are the vehicles where these individual needs are managed and met through the interactions with the care farm mentors, and is tailored to the young person's needs.

3.6 Design of the care farm

According to ecopsychology (which will be discussed later in this chapter) contact with natural settings seems to produce a variety of positive feelings to the point where therapy and support professionals should consider enquiring about their clients' connectedness to nature and how enhancing their relationship with nature could help to promote emotional or physical dis-ease and psychological healing (Hegarty, 2010). Based on this philosophy, certain aspects of the care farm's design have been developed to deliver and enhance the idea that the environmental connection between humans and nature is healing.

Figure 3 is a map which represents the physical layout of the farm. A reference key has been added to the map, and detailed below the map is a description to explain why specific aspects of the farm have been adapted.

Figure 3: Layout of the farm

Key:

1: Halter trained animals   2: Greenhouses   3: Wooden huts   4: Thinking hill
5: Pond and sensory balls   6: Donkeys   7: Tractor   8: Classroom/kitchen
9: Non-slip pathways   10: Boss the farmer's dog

A description of each item is described below:

Key reference 1: halter trained animals

Picture 1: halter trained animals – Betty the horse wearing a halter and the two of the cows who are halter trained

The cows, sheep, donkeys, goats and the horse have been halter-trained so that the young people can work directly with them. The halter is typically a basic piece of equipment that is placed on the animal's head and used to tie the animal, lead the animal and convey basic commands to the animal. Halter-breaking makes animals easier to manage when tasks such as moving them need to be completed. If farm animals have not been halter-trained they are typically more difficult to handle or examine (for example, being able to check their hooves). Physical activities include feeding the animals, providing them with fresh water, moving them from the barn to the field and cleaning out the animal's living space. These activities act to give young people a sense of responsibility and awareness of others' needs (e.g. both animal and human). It also provides the opportunity to learn new skills, improve their communication required to work as a team member and share experiences.

The young people can also simply spend time with the animals or an individual animal if they wish to. This is a key factor in helping them to build trust and disperse anxieties. During the spring season, the young people are allowed to help feed any new-born animal who is unable to feed from its mother (whether this is due to the mother rejecting the baby, being unable to feed the baby or the baby is unable to suckle). This allows the young person to connect to the environment and the animals whilst learning to experience nurturing and being able to care for the animals, which many of the young people will have never experienced before (both caring for animals and experiencing being nurtured themselves).

Animal-assisted therapy (AAT) is a type of therapy that involves animals as a form of treatment to improve an individual's social, emotional and/or cognitive functioning. Animals used in therapy include domesticated pets, farm animals and marine mammals (e.g. dolphins). However, there is limited literature to support the benefits of animals because of concerns about the poor quality of medical/social/psychological evidence for animal assisted therapy (Chur-Hansen, Stern & Winefield, 2010). Wilson's (1984) Biophilia Hypothesis (which will be discussed later in this chapter) suggests that individuals' attachment to animals occurs because part of human survival was dependent on signals from animals in the environment that would signify safety or a threat. The Biophilia Hypothesis claims that if we see animals in a relaxed state it will provide an individual with a feeling of safety and well-being that will eventually cause healing and personal change (e.g. behavioural, emotional or social; Schaefer, 2002).

The use of animals as 'therapy' was first promoted by Boris Levinson, a Lithuanian Psychotherapist, for helping disadvantaged young people with emotional difficulties (Kahn & Kellert, 2002). His work involved psychotherapy with a severely autistic child who was withdrawn. The accidental introduction of his dog 'Jingles' to the session with the child resulted in the child developing confidence and trust in the dog. Jingles was a channel for communication before trust and confidence transferred to the therapist. Levinson went on to develop theories relating to the impact of animals in schools and promoted the use of animals in educational settings with specific use for pupils with BESDs. Research in ATT continues with recent studies focusing on the benefits of horses to facilitate learning with young offenders (Hemingway, Meek & Ellis-Hill, 2015) and trauma survivors (Mims & Waddell, 2016).

Key reference 2: greenhouses

Picture 2: greenhouses

The greenhouses provide an opportunity for horticultural activities that allow young people to learn about how food is produced, and to experience what it is like to nurture something. Young people have the chance to eat the crops they have grown, which provides them with a sense of achievement and reward. Connecting young people to food's origins aims to build their conceptual understanding of food sources, while also providing an opportunity to form healthy eating habits and learn about the environmental implications of growing organically or transporting food long distances. The outside space of the farm lends itself to being able to

support greenhouses and to provide the required elements such as soil to enable the young people the opportunity to be involved in growing horticultural activities.

Key reference 3: wooden huts

Picture 3: wooden huts

The wooden huts are purposely built for group activities. This can include visitor sessions (for example, the local owl sanctuary brings owls to the farm to educate the young people about the birds and allows them to be handled), group discussions and craft or musical activities (a selection of musical instruments are kept in the hut). The huts are circular and bench type seating runs around the perimeter of each hut. A circular shape for both the designs of the hut and the seating was chosen because research suggests that sitting in a circular formation is more likely to encourage people to share, collaborate, communicate and engage with each other (Zhu & Argo, 2013). To help service users (specifically those with autism) who may find direct eye contact difficult, each hut has a fire pit and a chimney located in the middle. The fire pit/chimney acts as a prop to break up direct eye contact and provides a natural source of heat on cold days.

Key reference 4: thinking hill

Picture 4: thinking hill and the view from the thinking hill

When the farmer was an adolescent she would often run up to the top of a big hill near her parent's farm to sit and think in times of emotional upset or conflict. The physical exertion of running up the hill and the experience of having physical and emotional 'space' to think through the situation that caused the distress, resulted in her discovering that her problem either no longer seemed so bad, or she felt better able to deal with the situation. Overlooking a sprawling landscape made the significance of the problem shrink. The farmer created the 'thinking hill' at the care farm based on her own experiences. It is a small hill overlooking the farm land and surrounding fields. If a young person displays severe emotional stress or behavioural disturbances, they are offered the opportunity to go to the 'thinking hill' to experience the 'space' they may need at that specific time. At the top of the hill a big rock has been placed for the young person to sit on. The piece of rock has been chiselled into the shape of a heart, which is symbolic of the farm caring about the young people. The expanse of the farmland available allows for this unique element to have been created, which would not be available in built-up areas or spaces.

Key reference 5: pond and silver sensory reflective balls

Picture 5: pond with silver sensory reflective balls and sensory area

The shallow pond has been created to accommodate the ducks on the farm, but has the dual purpose of providing a positive sensory experience for young people with sensory integration difficulties. The pond water and the silver reflective mirrored sphere balls (which range in size) have been added to provide sensory exploration in a fun and engaging way that can help relaxation and calming. Opposite the pond there is a large patch of grass which offers additional sensory experiences, such as a wooden archway which contains light reflective plastic and a set of plastic ribbed pipes of various sizes. Each pipe makes a different sound if touched or tapped.

Key reference 6: the donkeys

Picture 6: the donkeys

The donkeys are a family consisting of mother, father and son. The farmer decided to keep the donkey family together because the mother rejected the son at birth which created a range of difficulties for the baby donkey, but the mother and son now reside together in harmony. The farmer and the mentors use the story of the donkey family's difficulties as a discussion point with the young people, especially those who have experienced poor attachments or loss, or those who are currently going through relationship difficulties. The farm provides the land space and the required environmental elements (e.g. fields with grass) to enable the donkeys and the other farm animals to be kept on-site, unlike many other interventions.

Key reference 7: tractor

Picture 7: tractor

The young people are allowed to drive the tractor while supervised. This encourages young people to develop a sense of responsibility, enhances their skills and requires good verbal communication at all times. Driving the tractor is an incentive for the young people to concentrate, work hard and to try their best.

Key reference 8: classroom/kitchen space

Picture 8: classroom/kitchen space
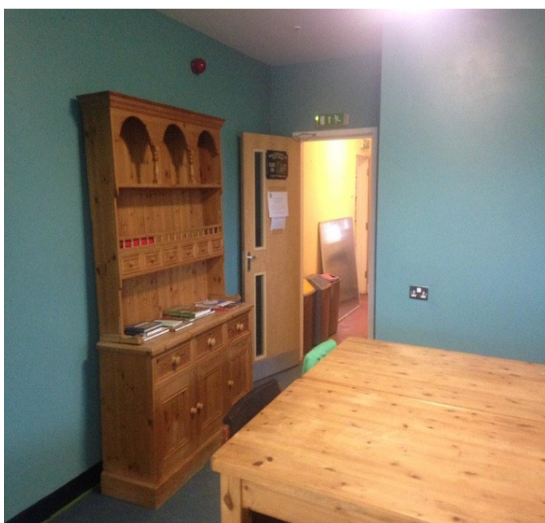
The classroom space is used for the young people to complete any written work. However, the space is extremely informal and is designed around a kitchen to encourage socialising. The kitchen space is the first place where young people go to when they arrive for each session, and everyone typically has a drink and a chat. The space provides the opportunity for the young people to make and consume drinks and food. While most young people bring their own food to the farm there is extra food available. For some of the young people the food they receive at the farm is the only substantial meal they will consume all week. Everyone is encouraged to eat well whilst at the farm to ensure they have enough energy for helping with the physical tasks around the farm. The food offered could be a bowl of soup or cooked eggs, freshly laid by the farm chickens. The kitchen style classroom was designed to provide a comfortable social space for the young people to encourage social inclusion, communication, sharing, eating healthily and a sense of belonging.

Key reference 9: wooden, non-slip pathways

Picture 9: wooden, non-slip pathways

Easily accessible non-slip wooden pathways have been installed in areas of the farm, which were previously inaccessible to those with poor mobility or who need mobility assistance. This

ensures that the farm can meet the needs of everyone who wants to attend and reinforces their commitment to promoting inclusion.

Key reference 10: the farmer's dog

Picture 10: the farmer's dog – top dog and boss of the farm

The farm's dog has been given the name 'Boss' by the mentors and the young people, because he is the (self-perceived) 'boss of the farm'. Boss has been at the care farm since it was established ten years ago. He is rarely seen without being by the side of the farmer, and their partnership is viewed by many of the young people to represent a strong relationship bond based on love, trust and a sense of belonging. When Boss was a puppy, he managed to get outside of the farm gates and was kicked and hurt by a man walking past. Boss has never forgotten this incident and as a consequence is intimidated by people outside the farm gates.

If these people approach the farm gate Boss will bark at them because of his lack of trust, fear of people he does not know and as a coping mechanism to try to protect himself. However, if the person enters the farm and Boss has the opportunity to get to know the stranger, he relaxes and can even become their friend. Boss' story is used to demonstrate to the young people that despite bad experiences in their lives which can lead to negative behaviours or emotions there are ways to help them cope and to overcome any negative associations.

Boss 'writes' an online blog via the care farm's website which is narrated from his perspective about events that occur in his daily life, but there is usually an underlying message to help any young person who might be reading the blog and who is struggling with issues of behavioural, emotional and social difficulties.

3.7 Description of the care farm model

The foundation of the work being undertaken by the farm is the concept that the green space of the farm, as a therapeutic service, can help the young people to feel accepted as they are which

helps them to feel a sense of inclusion. This, in turn, builds their resilience that can lead to personal responsibility and employability. The care farm model supports the delivery of the two formal programmes for young people using the unique elements of the farm's physical layout (as described above) and the natural farm environment. The model is based on a pre-established framework to help young people build ways of managing their life resiliently.

3.7.1 The construct of the care farm model

The care farm model is based on the concept of Resilient Therapy (RT) and resilience-based research (Hart, Blincow & Thomas, 2008) to help meet the needs of young people who are facing disadvantages, including those with special needs and disabilities routinely unsupported. The model acts as an analytical tool to help carers and practitioners to develop relationships based on trust with young people experiencing difficulties. RT emerged in response to social work, psychiatric and family therapy related situations with parents, carers and professionals (Hart et al, 2007). RT is an outcome focused strategic approach to meet the needs of young people who remain in a state of 'crisis' because their problems are viewed as too challenging to allow them to engage in therapy. RT methodology strategically uses therapeutic principles and evidence-based mechanisms to help young people to "bounce up" when life is challenging (Hart et al., 2008). The objective of the model is to help young people to become more resilient, but to also encourage mentors to learn to coach resilience in them. RT is designed to improve young people's general functioning and to be used in different contexts, reflecting its pragmatic and adaptive qualities.

The five components of the model ('Basics', 'Belonging', 'Learning', 'Coping' and 'Core Self') are used to select and train the mentors, as well as encouraging mentors to think strategically and practically about how to adjust and reflect on their practice to achieve outcomes for improved well-being of young people. There are further dimensions within each main component which provide guidance to help achieve the desired outcomes.

One of the biggest challenges faced by staff is to determine the start of change in the young person. The individual one-to-one recognition of where the young person is at the start of the farm intervention is crucial for achieving its outcomes. The young people are typically the 'hardest to reach' and many of whom may find facing their difficulties too overwhelming, particularly at the beginning of their journey at the farm. The historical reason why the young person is experiencing difficulties is not always known. On arrival at the farm young people may not wish to disclose the reason(s) or even be aware of their problem(s) and the cause(s). Each individual disadvantage experienced by the young person is likely to interrelate with other disadvantages to generate new patterns of disadvantage, each with varying consequences. Research findings confirm that children living in families that experience multiple problems (e.g. unemployment, health inequalities, poverty) are more likely to experience poor outcomes relating to their own health, education and future employment (Cabinet Office: Social Exclusion Task Force, 2012). Research commissioned for The Department for Education and Skills, (Policy review of Children and Young People 2007) drew on evidence from two longitudinal

studies, which showed that young people living in a family with five or more disadvantages are 36 times more likely to be excluded from school than young people from a family with no problems

The starting point of the care farm intervention in this PhD study was at the beginning of the six-week intervention (no components of the model are introduced through the intervention until after this process has been completed). In their first session every young person gets a mentor assigned to them who is responsible for their time spent at the farm. Having one mentor, who cares for the young person, provides behavioural consistency and who can set clear boundaries and rules that aim to help the young person develop trust in the farm and staff. During the six weeks it is hoped the young person will develop some level of trust in the farm and mentors, and their own mentor will have identified some of the young person's needs (e.g. social difficulties, behavioural regulation problems), to provide a clearer idea of what components within the care farm model need to be utilised to help the young person to progress. However, if during this six-week period the young person failed to establish a sense of trust with their mentor, or it was felt their needs had not been identified, the farm will look at other options for the young person such as working one-to-one with the farmer or focusing on specific farm tasks that they enjoy rather than working on a variety of farm tasks.

The care farm model is designed to be inclusive. This is so every young person can engage with some aspect of the care farm intervention and progress in some capacity, whether that may be learning personal or life skills through interacting with others or taking responsibility for their actions. The farmer believes that the use of the care farm model combined with the farm's natural environment and the animal care can provide the necessary ingredients for an effective intervention for young people with BESDs disengaged from school.

Each of the five care farm model components will now be discussed:

3.7.2 Basics needs component of attending the care farm

The 'basics' component of the care farm model is regarded as the foundation needed for young people who attend the farm. Emphasis is placed on giving them positive and accepting experiences whilst at the farm. The core components of the care farm model are recognised as having acceptable support (e.g. transport to and from the farm) to access the care farm, play and leisure opportunities (e.g. free time to run in the field or spend time with the animals), being physically safe and feeling emotionally safe in the farm environment, and having access to food and drink so no young person is feeling hungry or thirsty. Without these tangible foundations in place it is believed that the young people would struggle to engage and make any progress in the other four components of the care farm model that will be described in the proceeding sections.

To understand if the young person's 'basic' needs are being met by the care farm model, it is necessary for this PhD thesis to investigate: if they are being given opportunities to play and have fun; the impact of the care farm intervention on their behaviour and emotions, including

their physical health through their level of physical activity and perceived energy levels and if they are receiving an opportunity to consume adequate food and fluid while at the farm; how safe physically and emotionally the young person feels in the farm environment; how connected they are to nature and natural settings and why?

3.7.3 Belonging component of the care farm model

The importance of a sense of belonging for young people

'Belonging' is described as 'the psychological need for people to form and maintain at least a minimum quantity of lasting, positive and significant interpersonal relationships' (Baumeister & Leary, 1995, p 497). A positive sense of belonging is developed in the family environment, in friendship groups, in school, in communities. The framework of relationships is affected by wider constructs such as living conditions through to access to the natural environment (Huitt & Dawson, 2011). It is suggested that to live a life with some amount of predictability young people need to experience consistent and secure relationships (Baumeister & Leary, 1995). Secure relationships enable the development of stable attachments and the positive self-development of confidence, esteem and independence, which typically leads to a strong sense of belonging and positive long term outcomes in education and well-being (Happer, McCreadie & Aldgatte, 2006; Siebelt, Morrison & Cruickshank, 2008; Ryan, 2012). The main aim of the care farm is to establish a sense of belonging which in turn helps to establish trusting secure relationships with care farm staff, lasting beyond the cease of the intervention.

If a young person is unsupported by their family, and other people in the wider context of their lives, they will typically lack a sense of belonging in the world. This can lead to feelings of not being in control of their lives, and negative emotions (e.g. anxiety) that can lead to a lack of developmental growth (Singer, Cosner-Berzin & Hokanson, 2013). Long-term implications might mean that the young person struggles with learning and being able to display appropriate behaviour, which causes further rejection. This can cause them to form relationships that are negative rather than supportive and can lead to poor behavioural conduct and emotional problems (e.g. gang involvement) (Baumeister & Leary,1995; Public Health England, 2016). 'Belonging' as an outcome of the care farm model is closely associated to Attachment Theory (Bowlby, 1969, 1973, 1980). This states that a child's attachment patterns are predominantly shaped by their primary carers during infancy and this relationship experience affects their understanding of relationships and their future relationship experiences (Bowlby, 1969) as they develop or grow up. Bowlby's student and collaborator Mary Ainsworth is regarded as a co-founder of attachment styles (a component of attachment theory). Ainsworth contributed to Bowlby's work by differentiating the various types of 'maternal deprivation' (Bowlby & Ainsworth, 1965).

Four different attachment classifications have been identified between infant and parent: secure; insecure-avoidant; insecure-resistant; and insecure-disorganised. Disorganised attachment is typically associated with significant emotional and behavioural problems, and poor social and emotional outcomes in the majority of children who have a disorganised

attachment with their parent or primary caregiver. Secure attachment suggests that, if a child is securely bonded to their caregiver, the child will freely explore while the caregiver is present and uses the caregiver as a 'safe-base' from which to explore and return to. The child will interact with a stranger when the caregiver is present but will become upset if the caregiver leaves them, and will express happiness to see the caregiver when they return (Sroufe & Waters, 1977; Benson, Collin, Grand, Lazvan & Weeks, 2012). A child with the insecure-avoidant attachment style will avoid or ignore the caregiver and will fail to demonstrate any range of emotion when the caregiver leaves or returns. The child explores very little of their environment regardless of who is present. Ainsworth and Bell (1970), suggested the lack of emotionally responsive behaviour of an avoidant infant is masking distress symptoms, which was later evidenced through studies of the heart-rates of avoidant infants (Sroufe & Waters, 1977). A child with the insecure-resistant attachment will demonstrate signs of distress before being separated from their caregiver, and is typically clingy and difficult to comfort when the caregiver returns. Signs of resentment are displayed in response to the caregivers absence (C1 subtype), or signs of helpless passivity (C2 subtype; Carlson, Cicchetti, Barnett & Braunwald, 1989). A child with insecure-disorganised attachment appears unable to cope with the absence of the primary caregiver and can display mixed behaviours which include strong proximity seeking followed by strong avoidance when their caregiver returns (Hertsgaard, Gunnar, Erickson, Martha & Nachmias (1995). The children in the first three categories displayed a standard path of reaction when coping with the stress of separation and reunion from their caregivers. However, the children in the insecure/disorganised category produced higher cortisol concentrations in saliva compared to their peers in the three other types of classifications. These results reflected a model of stress reactivity that confirms how the classification of behaviours can be significant in affecting physiological stress responses (Hertsgaard et al, 1995).

Thus children with insecure-disorganised attachment are more likely to experience stress (Splanger & Grossmann, 1993; Hertsgaard, Gunnar, Erickson & Nachmias, 1995) and problems with behavioural regulation that includes difficulties controlling their negative emotions (van IJzendoorn, Schuengel, Bakermans-Kranenburg, 1999). Their behaviour can often be hostile and/or aggressive (Solomon, George & De Jong, 1995; Lyons-Ruth & Block, 1996; Greenberg, Speltz & DeKlyen, 1993; Lyons-Ruth, Easterbrooks & Cibelli, 1997). Disorganised attachment is typical in children who are maltreated by their parents/guardians (Cicchetti & Barnett, 1991; Lyons-Ruth, Repacholi, McLeod & Silva, 1991; Lyons-Ruth, Connell, Zoll & Stahl, 1987). Furthermore, poor, peer interaction and social and behavioural difficulties in the classroom are typical (Moss, Rousseau, Parent, St-Laurent & Saintonge, 1998; Jacobvitz & Hazan, 1999; Goldwyn, Stanley, Smith, & Green, 2000). Issues with school are associated with low self-esteem and low self-confidence (Green & Goldwyn, 2002).

Historical data at the farm reveals that young people with attachment disorders who attend the care farm typically experience difficulty connecting to adults and peers and struggle to manage their emotions. This often leads to a lack of trust in others because they feel that they could not depend on other people, and as a consequence experience poor self-worth. In this PhD

evaluation of the care farm model, it will be examined how the care farm attempts to make the young person establish a sense of belonging. It is hoped that eventually the young person will be able to accept love and support from people in the wider context of their lives such as at school or from their peers. The mentors help the young person to establish a sense of belonging and safety by establishing clear expectations of behaviour and by responding consistently to the young person's behaviour so they know what to expect when he or she acts a certain way. Most importantly though, the mentors ensure they are accepting of the young person, regardless of what happens.

The problems associated with not having a sense of belonging for the young people attending the care farm

Ideally, every young person needs to feel that they belong in a family unit and have a secure place to call home (Scottish Government: Feeling Safe and Nurtured in a Home Setting, 2007; Winter, 2015). However, for many of the young people who attend the care farm they do not have a sense of belonging with family members/guardians or anyone outside of the family unit (e.g. teachers or peers). Young people who attend the care farm typically have poor family relationships. In addition, young people who experience BESDs can often find themselves driven towards engaging and seeking out disruptive and negative relationships in order to find a sense of belonging (Department for Health: Mental health and behaviour in schools: departmental advice for school staff, 2016). The Social Exchange Theory (Homans, 1958) suggests that what an individual expects from current relationships is based on the history of their previous relationships. For young people who have experienced disappointment in the relationship with their parents there is a low level of expectation from other relationships. Research findings confirm that if young people can detach themselves from disruptive and negative relationships their chances of positive long-term life outcomes are increased (Brodsky, 1996; Winter, 2015).

The care farms intervention strategy to help young people establish a sense of belonging

The care farm model focuses on the concept of 'belonging' by looking at the significance of attachment. The aims of establishing positive relationships with other people at the farm is to help the young person to develop social capital, which can provide individuals with the informal support they need to get through difficult situations and successfully progress to a state of happiness (Tayler et al., 2003). Further research findings confirm that if a young person maintains just one positive relationship in a difficult period of their lives, this can change their life outcomes for the better (Quinton & Rutter, 1998). Positive relationships do not have to be with other people, but can extend to animals and the environment. The care farm model promotes contact with the animals in the hope that an attachment will be formed and the young person will develop a desire to care for the animal(s). This can be useful if the young person is struggling with human attachment (Parish-Plass, 2008; Dietz, Rosa & York, 2012). Previous farm data shows young people often establish their first sense of connection with one or more of

the animals at the farm, before establishing a sense of connection with the farm mentor(s)/peer(s). This is because they perceive the animals as being non-judgemental.

A young person typically spends one academic year at the farm, but their time can be extended if the young person's needs require them to do so and funding permits. Mentors are assigned to individual young people and will remain as their mentor throughout the young person's placement at the farm. Developing a long-term relationship with the young person helps the mentor to understand their needs better and establish a caring relationship. The mentors provide the young people with continuous support and acceptance regardless of what the young person has done, but mentors are encouraged to be mindful to promote healthy relationship boundaries and rules.

The care farm model focuses on creating good influences in the young person's life to enhance the 'compensatory' effect (O'Doughrty, Wright & Masten, 2005), which suggests that healthy relationships can begin to influence the negative ones. It is at this 'tipping point' of influence that the mentors should notice a positive transition in the young person's life. Although the farm may be unable to completely stop a young person from continuing with negative relationships (e.g. abusive parents) or behaving in a destructive manner, the individual mentors can help to stabilise the young person's relationship experiences long-term by unconditionally accepting them as people in their own right. This system of care demonstrates to the young person that they have people in their lives who are constant and non-judgemental, which in the long term aims to help to improve the young person's relationships with others (Taylor, 2006). Therefore, this PhD study will evaluate how the relationship between mentors and a young person is established and if there are any behavioural changes for the young person as a result of this interaction.

Young people are encouraged to share stories about their lives with mentors. Storytelling specifically in a 'family style' environment is a process that allows a young person to combine moments of their life experiences into a narrative. This aims to help the young person and their mentor to gain a clearer sense of the young person's beliefs and values, who they are and where they feel they belong (Fiese & Wamboldt, 2003; McCubbin & McCubbin, 2005). The mentor encourages the young person to share their stories through everyday conversational questions and prompts. The mentor encourages the young people to talk about times when they successfully coped with adversity in their lives. Being able to talk about emotionally complex events in a coherent manner has been attributed to helping a young person regulate both their emotional and behavioural state (Oppenhein, Emde & Warren, 1997). Therefore, this PhD study will also evaluate if the processes used by mentors to establish and maintain a relationship with a young person has an impact on their emotional regulation.

Anthropologists stress the importance of rituals for building and maintaining relationships (Leon & Jacobvitz, 2003). These can include social rituals, such as being punctual when meeting someone and behaving in a socially acceptable way. The farm ensures that every young person receives a cake on their birthday and is made to feel extra special. This confirms to the young

person that they matter as a person to celebrate their special occasion in a social circle and thus helping them to feel good about themselves.

Establishing a sense of belonging through a connection to nature

The environmental context of the care farm provides young people with the opportunity to experience and learn about the natural world which helps establish a sense of belonging to their local environment. This social contact with their mentors and their peers enables them to feel part of a group and provides a sense of social inclusion (Bragg & Atkins, 2016). Experiencing a sense of belonging to the natural surroundings of the farm and the people within it can enhance young people's sense of calmness and feelings of safety while reducing stress by providing psychological restoration (Bragg & Atkins, 2016, Natural England, 2016). This PhD study will evaluate young people's nature relatedness to the care farm and the impact any change has on their behavioural and emotional regulation.

Responsibility and obligation of the young person in the process of establishing belonging

A sense of belonging includes the concept of mutuality which acknowledges the other person in the relationship and results in compliance to rules ordering social relations. For example, family members may expect loyalty and a commitment of resources from the rest of the family to help each other in times of need. While friendship groups may expect participation in organised activities, an acceptance of common goals, and a sufficient contribution of time spent together. Responsibilities and obligations are also part of the mutuality process and are firmly embedded in developing a sense of belonging. Where appropriate roles and responsibilities are clear and therefore the young person is more likely to develop or improve their self-esteem and self-efficacy. However, a careful balance of responsibilities and obligations is needed so as to not over burden a young person with adult-like responsibilities (Byng-Hall, 2008). The mentors aim to set responsibilities for a young person that are developmentally appropriate and matched to their current state of being, which is assessed at the beginning of every session at the farm to help progress their current skill level. Responsibilities can range from participating in group activities/working one-to-one to help another young person, to help care for the animals (feeding, providing clean water etc.) or encouraging the young people to celebrate each other's achievements. Therefore, this PhD study will evaluate the young person's sense of responsibility and their interaction with farm staff, peers and the animals to understand if their pro-social behaviour increases and if it attributes towards a sense of belonging with the farm.

Summary of how a sense of belonging is practiced at the care farm

The component of belonging builds it's foundations on the ideas of attachment theory. However, the care farm model develops the notion of belonging beyond primary carers (typically proposed by attachment theory) and recognises the farm (as part of the wider community) as being able to offer young people a place to belong. The sense of belonging is not exclusive towards human beings and can extend to the farm animals and the natural environment. By focusing on

belonging, rather than attachment, allows the farm to use a wider range of 'tools' to help the young people to cope with the difficulties they experience.

To understand if the young person feels a sense of 'belonging', this study has chosen to measure their emotional symptoms: their conduct and any associated problems such as hyperactivity/inattention; their level of peer relationships and the quality of these relationships; their pro-social behaviour; and their satisfaction with their family and school life. The Strengths and Difficulties Questionnaire (SDQ; Goodman, 2007) and the Measurement of Life Satisfaction, Brief Multidimensional Student's Life Satisfaction Scale (BMSLSS-PTPB; Bickman et al., 2010) will measure young people's pro-social behaviour, their conduct towards others and their satisfaction with specific relationships. Qualitative observations and interview data will confirm if any of these factors are present in the care farm sessions and if any changes occur during the intervention. The methods for this study will be discussed in Chapter 4.

This PhD thesis aims to provide evidence to understand if the young person feels they have people in their life who care about them; if they are interested in other people; if they feel close to other people; and if they feel loved. These components will be explored in this PhD study through the qualitative methods. The thesis will attempt to conceptualise belonging in relation to the model and to show how these concepts act as mechanisms for helping to improve the lives and the behavioural outcomes for the young people involved.

3.7.4 Learning component of the care farm model

Effective learning

Learning (e.g. personal, life and work skills) for any child or young person is critical to their development and future success. Research findings confirm that disadvantaged young people (e.g. children with special educational need or those from low socio-economic backgrounds) continue to do less well in formal education than their peers (Coe, Alosi, Higgins & Major, 2014). Reasons are cited as: young people (including their parents/teachers) having low expectations of their ability to achieve comparable formal educational results to their peers. They also experience higher rates of stress that can cause distractions from their ability to learn (Elias, Parker, Kash, Weissberg & O'Brien, 2005). The care farm model recognises the role positive learning experiences can have on helping young people to acquire essential personal, life and work skills, to build positive relationships and to plan for their future (Public Health England, 2014). Disadvantaged young people who achieve better-than-expected learning outcomes typically increase their chances of work and personal related success across their life's course (Mitchell, 2010).

The problems associated with effective learning for the young people attending the care farm

The problems (and the reasons) associated with academic learning for the young people attending the farm were discussed in Chapter 2. 'Non-academic learners' are typically encouraged to pursue vocational education/qualifications (Wolf, 2011). Vocational education is

regarded as learning that prepares individuals to work in a trade/craft or in a support role in professions such as engineering or nursing and is based on manual or practical activities. It is traditionally non-academic, but related to a specific trade or occupation. However, the topic of vocational education for young people needs to be improved so the talents of non-academic pupils are not wasted according to Ofsted chief Sir Michael Wilshaw (BBC News, 2016). He warned that vocational training needs to move away from a 'one-size fits all' model in England and that vocational training should not be used as a 'dumping ground for the disaffected' (BBC News, 2016). According to Ofsted, the education system is not providing enough opportunities for young people who have lower grades or poor GCSEs. The career guidance in school is also very weak, but improved vocational training would help to reduce youth unemployment (BBC News, 2016). According to Wilshaw, European countries, such as Germany and Switzerland, have lower youth unemployment rates because of a better training system for their young people. This statement is confirmed by a recent survey undertaken by City and Guilds which reported that the most developed vocational systems are linked to higher rates of youth employment (Schleicher, 2015).

In addition to the young people's disengagement with education, the farm believe part of the reason why young people's struggle with managing their behaviour in the classroom can be attributed to the learning styles used within the classroom environment. A learning style is commonly defined as 'the characteristic cognitive, affective, social, and physiological behaviours that serve as relatively stable indicators of how learners perceive, interact with, and respond to the learning environment' (MacKeracher, 2004:71). However, it is argued the three most popular learning styles are visual, auditory, and kinaesthetic (Gilakjani et al., 2012). Individuals typically use all of their senses to process information, but most have a natural preference to learn effectively. Teachers should use as many of the preferred learning styles in curriculum based activities as possible (Cuaresma, 2008). However, the national curriculum currently favours audio learning, with many of the other styles of learning being used less frequently. Some cognitive psychologists argue there is no such concept as 'learning styles'. A review of literature on learning styles concluded that although numerous studies have claimed to show different types of learners (e.g. auditory learners and visual learners) the studies did not use the type of randomised designs to scientifically validate their findings (Pashler, McDaniel, Rohrer & Bjork, 2008). Despite no rigorous evidence being found to support the use of learning styles as a valid way of classifying learners, they are still acknowledged as relevant to teachers delivering the National Curriculum (Wilson, 2014).

After the initial six weeks at the farm, young people complete the Brainboxx Learning Style Questionnaire (Fewings, 2016). This seeks to determine the young person's preferred learning style and help mentors use appropriate learning strategies for each young person to deliver the intervention. The questionnaire was administered and managed by the mentors. The questionnaire is not part of this PhD study but the results provided a deeper insight into the types of management strategies for learning used by the mentors to engage the young people in this study. Seventy young people at the care farm completed the learning style questionnaire. The results indicated that 2 were primarily audio learners with a secondary preference for visual

learning (both of whom were female), 5 were visual learners with a secondary preference for kinaesthetic learning (all of whom have a diagnosis of autism (medium level) and the remaining 63 were primarily kinaesthetic learners. All of the care farm participants in the current study were identified as kinaesthetic learners, who typically struggle with staying focused on a task and become naturally unfocused. Kinaesthetic learners tend to prefer an active, hands-on approach which accommodates interaction with the physical world (Gilakjani, Ismail & Gilakjani, 2012). This learning style lends itself well to the physical environment and the task-orientated nature of the farm.

Learning is an important component of the model because not only can it provide young people with academic knowledge, it can also nurture essential life skills and the building of positive relationships between peers and between peers and teacher/mentor (Public Health England, 2014). Positive learning experiences can help to foster long term personal development and a sense of achievement, reduce risky behaviour, increase positive self-esteem and enhance social and emotional skills (Zhao, 2012; Public Health England, 2014). Disadvantaged young people who achieve better-than-expected outcomes through learning skills (e.g. personal, social, life and work) increase their chances of success across their life's course (Mitchell, 2010). Learning in the context of the care farm can be defined as the acquiring of new skills, knowledge, and values.

The care farms intervention strategy to help young people re-engage with learning

The mentors are generally selected on their experiences of being able to help young people to learn in a non-academic setting. They are trained at the care farm to help young people develop specific social, personal, life and work skills through the human and animal interaction and tasks undertaken at the farm. They work as closely as is possible with the school that refers pupils to the farm to ensure there is a two-way communication process about the young person's attendance, behaviour, well-being and progress at the farm and at school. The value of school collaboration is a vital component to help mentors and teachers monitor any progression or set-backs the young person is experiencing. Mentors work hard to encourage all young people placed in their care to attend school and to engage with learning by showing them the value of learning/education for future opportunities. Therefore this PhD thesis will identify elements of the care farm that are used to encourage learning through observational data. To evaluate the young people's engagement with learning at the care farm this PhD study will use observations and interviews to identify if the young people engage with learning at the care farm, if they enjoy learning at the care farm and any subsequent outcomes if engagement with learning is identified.

The care farm model promotes a future-orientated approach that encourages young people to create a vision of their self in the future with a specific focus on career aspiration to encourage learning of new skills. Establishing the young person's long-term vision enables the mentors to set goals that help the young person work towards this. Goal-Setting Theory (Locke & Latham, 1990) predicts that if a young person channels their effort towards accomplishing their goals this

will, in turn, affect performance. In order to achieve their goals the young person will be required to engage with learning at the farm. It is beneficial to young people when mentors teach them mastery goals as opposed to performance goals. Mastery goals encourage a young person to want to further their abilities, attain competence and be successful in overcoming the challenges they face (Dweck, 1986; McCombs, Daniels & Perry, 2008; O'Donnell, 2013). Practising mastery goals within the context of the care farm shows the young people the importance of learning and self-improvement and developing a sense of competence (Dweck, 1986; McCombs et al., 2008; O'Donnell, 2013). Many of the young people have felt threatened by challenges at school due to the BESDs which has contributed to their withdrawal and avoidance of school and academic learning (Ames, 1992; Beilock & Willingham, 2014; Deci, Koestelr & Ryan, 1999; Dweck, 1986; Wigfield & Eccles, 2000). The mentors are tasked to help the young person to change this strategy of avoiding learning. Young people who successfully master their personal challenges will develop an adaptive motivational pattern and expect to become successful in learning new tasks at the farm. The mentors use the interests of a young person and incorporate these into the sessions in order to facilitate effective learning. This PhD study will identify through observational data and interviews with the farmer and the young people any effective learning strategies used by the mentors to evaluate if the young people experience any changes in their motivational patterns and if they are able to set goals and experience a sense of hope for their future.

Mentors at the care farm are taught to encourage young people to be leaders in their own lives which can enhance emotional intelligence and overall development (Fuller, Belhouse & Johnston, 2002). Many young people with BESDs struggle to display leadership because of the negative experiences in their lives and at school. If a young person does exercise any authority it is often expressed in a negative way (for example, disrupting a lesson which affects every person in the classroom). Mentors at the care farm help young people to develop a sense of self-regulated learning by showing them they have autonomy and they can be in control of situations, which if utilised will allow them to employ effective coping strategies to appropriately deal with the day-to-day challenges of academic tasks at school. Although the young person may not always be able to self-manage their behaviour or emotions or be able to draw on positive coping strategies, being able to recognise that they have a choice in a situation is seen as an important leaving point in the model.

Mentors are taught to highlight and praise achievements accomplished by the young people during their time at the farm and outside of the farm. Highlighting achievements has a strong link to social and emotional learning, which can enhance a person's autonomy, competence and confidence (White, 1959; Deci & Vansteenkiste, 2004). Praising of achievements can improve the young person's self-regulation because they start to believe that their own efforts can make a difference and it provides them with the confidence to take responsibility and to contribute to decisions, which affect their life (Gilligan, 2000; McNeil, Reeder & Rich, 2012). Ultimately, it is the young person who will need to decrease their negative risk-taking behaviours and focus on more positive behavioural drivers.

Specific 'tools' known as life skills are fundamental for young people to progress into adulthood (McNeil et al., 2012). Young people have internal and external assets that regulate their current make-up (Hart, Blincow & Thomas, 2007). Internal assets include existing life skills, abilities and personal characteristics, which demonstrate that every young person has capabilities that provide foundations to be built upon. External assets include significant others and environmental factors in their life. However, intrinsic motivational processes (as theorised by SDT) in the development of life skills determines subsequent outcomes (Deci and Ryan, 2000). This can include improved behaviour and social engagement, coping, learning and well-being (Scales, Benson, Leffert & Blyth, 2000; Gould & Carson, 2008). The mentors are asked to focus on developing young people's life skills through opportunities that allow them to have an appropriate level of responsibility.

Summary of how learning is encouraged at the care farm.

There is strong evidence to suggest that learning social, personal, life and work skills is critical for the long-term success of the young people who attend the care farm. The farm and the mentors provide a stable environment for young people to learn. The outcome emphasises learning as a broader term that incorporates education in conjunction with learning life skills and personal development (e.g. self-management and self-efficacy), nurturing talents to broaden their interests and to encourage decision making and planning for the future. The wider aim of this component is to help reduce risk taking behaviour and improve social engagement, coping and well-being.

To understand if the young person is 'learning' at the farm, this PhD thesis will aim to capture the mechanisms of learning new skills: what type of skills (if any); the young person's preferences of learning (e.g. helping plants to grow or tending to the animals); and their ability to set and accomplish goals. Educational attainment is also significant to understand if there is a transference effect from attending the farm to behaviour and attendance at school. This PhD study will capture the mechanisms of teaching young people new skills and the types of skills learnt through the use of qualitative interviews and observations. The SDQ (Goodman, 1997) pro-social behaviour and conduct problem sub-scales, the Measurement of Coping: Adolescent Coping Scale II (ACS II, short version, Frydenberg & Lewis, 1993) and the BMSLSS-PTPB (Bickman et al., 2010) satisfaction with school sub-scale will provide data to evaluate any transference effect from attending the farm as described above.

3.7.5 Coping component of the care farm model

Coping is defined as the 'constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person' (Lazarus & Folkman, 1984, p. 141). The coping component of the model focuses on helping the young people to deal with the external and/or internal demands of their lives by helping them to develop self-regulation. Self-regulation helps young people manage situations in their everyday lives that are perceived to be stressful or having a negative effect on their well-being (Compas, Connor-Smith, Saltzman, Thomsen, & Wadswort 2001).

Learning effective coping skills provides young people with strategies to manage their reactions to adverse events in their environment and which can reduce and contain stress associated with the home environment, school and the wider context of their lives. When the young person has a repertoire of effective coping skills, they are better placed to manage their lives and social relationships, which can significantly improve their personal effectiveness (Moreland, Felton, Hanson, Jackson & Dumas, 2016). While individuals are considered as being responsible for what happens in their lives, young people who have BESDs have additional adverse events to cope with (Miles, 2000). If a young person has good self-regulatory skills it will provide them with a better chance of effectively coping with such stressor(s) (Miles, 2000; Moreland et al., 2016). Thus the care farm model focuses on helping young people to learn to self-regulate and acquire effective coping skills.

Problems associated with lack of effective coping skills

Setting boundaries allows children to feel safe, but as they become young adults, these boundaries naturally shift and change (Hart et al., 2007). Understanding boundaries and keeping within the boundaries can stop young people experiencing unnecessary stress in their lives (Hart et al., 2007). The young people who attend the farm have typically struggled to keep within the boundaries at school and the home environment. For example, a young person may become frustrated at school because they are struggling to learn and not being able to self-regulate their emotions and cope with the issue, they behave aggressively towards parents and/or siblings when they return home after school. Thus young people struggle to generate effective solutions to problems through the use of productive coping skills, which can create further adversity in their lives and reduces feelings of self-efficacy. Cognitive reappraisal is constructing a negatively emotional situation in a way that changes its meaning and emotional impact to a more positive outcome (Lazarus & Alfert, 1964; Gross & John, 2003). If the young people at the care farm are able to reduce the impact of negative experiences on their lives they are likely to cope better long term (Dufour, Nadeau & Bertrand, 2000).

The care farms intervention strategy to help young people establish coping strategies

To help keep boundaries clear for the young people while on site, the care farm only has three rules: be kind to the animals; be kind to each other; and accept each other. Keeping the farm rules simple but specific is perceived to help the young person acquire effective coping skills and gain more self-regulatory skills (Hart et al., 2007). If the young person breaks the farm rules, they are held responsible for doing so and are responsible for those behaviours. At the farm, young people are given the support and guidance they need to try new things. Positive new experiences can bring about self-development and progression, as previously un-realised skills and abilities may be uncovered, leading to rewarding feelings that encourage behavioural change (Hart et al., 2007). Once the young person displays a level of confidence towards trying or doing new things, the mentor encourages him/her to extend this to his/her life outside of the farm. For example, if a young person volunteers to help a mentor and successfully completes

the task, the mentor will encourage the young person to volunteer at school or in other areas of their lives.

Mentors are also taught to help young people to solve problems by thinking more flexibly so they are capable of generating a number of solutions. Being able to think of more than one solution gives the young person choices, and the ultimate goal is for the young person to select the most positive option to solve the problem (Iwaniec, 2006). Using 'rose-tinted' glasses is not advocated by the care farm model for all situations the young person has experienced, because the purpose is not for young people to be in denial about their circumstances. However, the 'rose-tinted' glasses approach can be useful to help young people cope with overcoming the hurdle of negatively framed past experiences, from which they are unable to positively move forward (Hart et al., 2007). This PhD study will provide qualitative data through observations and interviews with the participants to identify their ability to cope with trying new activities at the farm, and any changes in their behavioural and emotional conduct and problem solving skills as an outcome. These data will be supported by pro-social and conduct sub-scales in the SDQ and the ACS II (short version).

Many of the young people who attend the care farm need to learn effective strategies to cope with emotional self-regulation in difficult situations. Mentors work hard with the young people to identify what is the cause of their difficulties and to understand how this manifests and affects their behaviour. There are various techniques available at the farm that the mentors use to help the young people to emotionally self-regulate. These can range from spending time with a particular animal, running in the fields, having time-out sitting on the thinking hill, restoration through human-nature interaction or transferring their negative energy into positive energy by carrying out a task that is for the benefit of someone or something else (e.g. feeding the animals). It can also include behavioural techniques such as breathing deeply to encourage a sense of calm or relaxation. This PhD study will collect qualitative data through observations to evaluate the techniques used by mentors to encourage young people to self-regulate their emotions. The data will be supported by the emotional symptoms sub-scale of the SDQ and the ACS II (short version,) to evaluate any changes in emotions and coping at baseline and post-intervention.

The availability of all these resources and support from the mentors are used in conjunction to improve the emotional, social, physical, and 'natural connection' well-being of the young person (Acton & Carter, 2016). Helping the young people to realise that 'tomorrow is another day' is a simple coping strategy used to help them to see beyond immediate stressors (which may have occurred during their day on the farm or outside of the farm in the previous 7 days), and to think what might be beneficial to avoid similar situations in the future. The ability to plan ahead demonstrates a competence to self-regulate (Ryan & Deci, 2000). This coping strategy allows young people to move forward from the situation and not waste energy on a negative experience.

The mentors work closely with the young people to provide social support through which they develop mutual respect and trust. While this has been covered in the 'belonging' section of this chapter, the ability for a young person to 'lean' on their mentors and peers during difficult situations in their life is an important part of learning to cope in general. The care farm helps young people to cope with their difficulties by giving them time in their week to simply have fun, interact with the animals, be physically active in the green space provided by the farm and have positive interaction with their mentors/peers.

Summary of how coping is practiced at the care farm

The care farm model aims to help young people improve their ability to cope by developing a self-awareness of their interactions with others, to take responsibility for the part they play in situations and to develop self-regulatory skills to gain control of their own behaviours. Although some of the strategies in helping the young people to cope appear simple, each systematically works to help the young person develop a consistent long-term ability to build an effective coping repertoire.

To understand if the young person is 'coping' with their life, the PhD study aims to capture young people's feelings whilst at the farm; their ability to deal with/solve problems; their ability to make up their own mind; their ability to adapt and change; their ability to remain calm when faced with difficulties and whether they feel confident dealing with unexpected situations through the use of specific qualitative and quantitative methods of data collection as discussed during this section.

3.7.6 Core-self component of the care farm model

Core-self is defined as 'fundamental premises that individuals hold about themselves and their functioning in the world' (Judge, Erez, & Bono, 1998, p. 168). This is a dispositional foundation for life satisfaction and is associated with outcomes of subjective well-being (Judge, Erez, Bobo & Thoresen, 2002). Core-self is affected by four lower order personality characteristics namely: self-esteem, self-efficacy, emotional stability and locus of control (Judge et al., 2002; Judge & Hurst, 2007). Evidence suggests that core-self is reflective of a basic orientation towards one's self and one's environment (Judge & Hurst, 2007), which prepares and determines how well an individual can manage experiences in their life. This is more commonly described as causality orientations, motivational orientations that describe the way individuals adapt to a specific environment and how they regulate their behaviour accordingly or the extent to which they are self-determined (Deci & Ryan, 1985).

The care farm's intervention strategy to help young people develop their core-self

To help young people develop a stronger sense of hope in their lives and thus improve self-regulatory skills, the mentors work towards reinforcing positive aspects of attendee's behaviours, and challenge less adaptive ones. They aim to focus on positive personal development, which enhance positive core self-belief. The mentors aim to help young people to develop a better self-awareness of themselves by working with the farm animals and

undertaking work on the farm to strengthen their self-efficacy, self-awareness, and self-regulation. Having a stronger sense of self, young people are more likely to behave in a manner that will maintain positive relationships with others and reduces their behavioural, emotional and social difficulties. Mentors give constructive feedback to the young person, which is expected to help him/her to reflect on their behaviours at the farm.

The care farm model encourages young people to take responsibility for their own behaviour and their behaviours towards others to understand the outcomes of the choices they made. Mentors aim to raise young people's awareness of others in similar ways. They are taught to control their behaviour, which helps them to improve their self-awareness of what works and what does not in relation to a relationship problem. Young people are expected to develop an understanding of what they should do or how they should behave if a similar situation arises. To evaluate core-self beliefs, the aspects of trust building in the care farm model are a key facilitator between the young person and the mentor. This makes it more likely that they will practice personal reflections and take on-board any behavioural improvements suggested by the mentors. Mentors are also required to have regular discussions with young people about their behaviours and the outcomes as a consequence of their behavioural choices, including the emotional consequences to themselves and other people. Therefore, action points are agreed with the young person to help them become more aware of and have a better understanding of their responsibilities and when it is appropriate to voice their point or opinion and when it is better to 'let it go'.

Mentors help the young people to learn how to prioritise their focus on the successful behavioural responses and not to dwell on negative ones. Mentors help them to acknowledge what went wrong in their lives, but also show a more effective way of handling a situation or a person, which will include learning to monitor and choose the most productive behavioural and emotional choices.

Summary of how building a stronger core-self is addressed by the care farm model

Changing core self-beliefs is difficult because many beliefs are experienced since early childhood (McNall & Michel, 2016). Any developmental process young people go through during the intervention means that positive behavioural/psychological changes will take months rather than weeks, especially core-self perceptions (Harvard Health Publications, 2016). Changes in core-self do not take place in a linear fashion (Hayes, Laurenceau, Feldman, Strauss, & Cardaciotto, L. (2007). There will be times when the young person will appear to regress rather than to progress, which is a natural cycle of self-perceptions. The care farm model proposes that developing a young person's core-self will only begin to work if other components of the model are working too (e.g. having a sense of belonging, acceptance of themselves, feeling supported and being able to trust others). Some young people may not be developmentally ready for this change. None-the-less, the model provides this as an essential part of their core self-development and so to 'plant the seeds' for stronger self-awareness and self-belief. Core-self includes the young person's self-esteem e.g. appraisal of their own worth and linked to self-

confidence; emotional well-being (e.g. linked to mental health and any depressive emotions, worries and other stress related feelings) and life satisfaction.

To understand the strength of the young person's 'core-self', this PhD thesis aims to identify (as best as possible) the levels of personal satisfaction in their life (e.g. satisfaction with school and family life); how successfully they can regulate their behaviour and emotions; how they manage their relationship difficulties; how useful they feel and if they have developed any interest in new things. This PhD study will use observational data to evaluate any changes in young people's behaviour and emotional regulation and how they interact with mentors and peers. Interviews with young people will be used to elicit any change in their personal satisfaction and the development of any new interests. All five sub-scales in the SDQ, will be used to quantitatively measure any changes between pre- and post-intervention in young people's emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems and pro-social behaviour. The six sub-scales (family life, friendships, school experience, yourself, where you live, life overall) from the BMSLSS-PTPB will measure any changes in personal satisfaction between pre- and post-intervention.

3.8 The role of the green environment in delivering the care farm model

The natural environment of the care farm has a unique and integral role in the implementation of the care farm model and its contribution to the mental health and well-being of the young people in three ways: the restorative effect of nature; the opportunity to experience positive social contact and the chance to participate in physical activity (Ward-Thompson, Roe, Aspinall, Mitchell, Clowd & Miller, 2012). There is now substantial evidence that supports that individuals have an inherent desire to have contact with the non-human environment (Kellert, 2012), and as discussed in Chapter 2, nature can have a positive effect on the well-being and social value of the young people. An overview of ecopsychology and the Biophillia Hypothesis, the Attention Restoration Theory and the Psycho-Evolutionary Stress Reduction Theory will be discussed to better understand the connection between the natural environment and human well-being.

3.8.1 Ecopsychotherapy

Ecopsychology is a phenomenon which began to develop in the 1970s as a response to contemporary industrial cultures. In recent decades there has been increased focus on bringing together the various schools of western psychology and psychological healing as a response to growing environmental concerns (e.g. unsustainable economic and social systems) which can cause physical damage to the environment and diminish the well-being of human beings. The aim of ecopsychology is to 'awaken the inherent sense of environmental reciprocity that lies within the ecological unconscious' (Roszac, 1992, p 320-321). Ecopsychology promotes that there is a unified multiple effect between the planet and an individual's well-being (Roszac, 1992). Roszak (1992), claims the increasing separation of humanity from nature is the primary cause of increasing mental sickness of individuals and societies. Thus there is a need for therapeutic techniques to resolve this separation and to support natural experiences and the subsequent sense of belonging (Roszac, 1992).

The recognition of ecopsychology has grown in recent decades with decreasing opportunities for people to connect with nature (Moss, 2012). Ecopsychology can help to understand individuals' identity in relation to their connection with nature. It is suggested a relationship with plants, animals and the natural environment is crucial to healthy human development (Louv, 2006; Nabhan & Trimble, 1994). Traditional therapeutic models tend to focus on individuals, family and the social dimensions of human personality. However, ecopsychology suggests there is a relationship between planetary health and mental health (Roszak, 2001). Human emotion and well-being are dependent on being able to live a life that is in-balance with nature (Roszak, 2001). Ecopsychology utilises the 'Biophilia Hypothesis' as a theoretical framework to explain the relationship between the natural environment and human health, well-being and how a natural environment can foster social inclusion (Bowler et al., 2010). The philosophy and the components of the care farm model support the foundations of ecopsychology. The care farm model promotes individual's well-being and development through contact with the natural world and animals.

3.8.2 The Biophilia Hypothesis, as a sub-theory of ecopsychology

The Biophilia Hypothesis was developed by Edward Wilson and is focused around the evolution of humans. It is claimed humans have a genetic and predisposed interdependency with nature and other species due to an evolutionary connection to the natural world (Wilson, 1984). The theory suggests that nature creates a complexity of negative and positive emotions (Wilson, 1984). Exposure to a level of negative emotions (e.g. a sense of frustration if a young person cannot catch one of the animals or is unable to lift a wheelbarrow), at the care farm can help young people develop their psychological functioning. Mentors can help them to learn how to make appropriate judgments and decision-making, which are important skills for them to learn (Kahneman & Tversky, 1984; Peeters & Czapinski, 1990). Artificial man-made components such as industrial landscapes like a school building are more likely to promote negative behaviour (Ulrich, 1993) due to the confinement of infra-structures (Hunter, 2007).

Modern environments and lifestyles tend to satisfy physical requirements (e.g. access to gyms and swimming pools), but the equivalent provision for mental health and well-being is becoming increasingly separate (Gullone, 2000). Many of the young people who attend the care farm do not access open natural landscapes. According to the Biophilia Hypothesis this will be contributing to the behavioural and emotional difficulties they experience. The care farm is a unique natural environment because it can provide provisions for both physical (e.g. the green space provides access to fields to run around in and feelings of vastness), mental health (e.g. exposure to fresh air and to the farm animals) and is therefore anticipated to enhance the well-being of the young people attending the care farm. The theory has received increased support from academics and professionals over the last two decades interested in the benefits nature can have on behavioural, emotional, social and ecological factors (White & Heerwagen, 1998; Gullone, 2000; Fawcett & Gullone, 2001; Grinde & Patil, 2009; Windhager, Atzwangera, Booksteina & Schaefera, 2011).

The Biophilia Hypothesis can help to explain why engagement with the care farm's natural environment may benefit the attending young people (Wilson, 1984). However, while it will not be possible to directly measure the effect of the care farm setting on any positive changes in the well-being of the young people, it is a useful conceptual framework to help understand the relationship between the young people's behaviour, emotional and social changes and the elements of the care farm that contribute towards this change which will be used to contextualise the findings in the discussion chapter (Chapter 7) of this PhD thesis.

3.8.3 Attention Restoration Theory (ART)

According to an Ofsted report, learning outside the classroom has led to 'improved outcomes for pupils including better achievement, standards, motivation, personal development and behaviour' (Ofsted, 2008, p 4). The care farm model predicts that the natural environment of the farm will encourage 'involuntary' attention in young people and that their 'directed' attention will be restored, placing them in a better position to engage with the five components ('Basics', 'Belonging', 'Learning', 'Coping', 'Core-self') of the care farm model.

Attention Restoration Theory (ART; Kaplan & Kaplan, 1989) claims that exposure to nature improves mental functioning and restores 'directed' attention which is the conscious attention required for cognitive tasks. Modern living frequently requires sustained concentration, which can cause tiredness and a reduction in higher cognitive function (Van den Berg, Hartig & Staats, 2007). Exposure to the natural environment requires a different type of cognitive functioning known as 'involuntary' attention, which does not require cognitive effort to support personal restoration (Sempik, Aldridge & Becker, 2003). Specific factors must be present for attention and restoration to occur which include being away from daily routines, access to nature and to explore the natural environment. Engagement with nature and the natural environment creates a fascination with plants, animals and views (Keniger, Gaston, Irvine & Fuller, 2013), which leads to a restoration of attention and improved feelings of well-being. The outcomes from 'involuntary' attention show that symptoms associated with BESDs, such as a lack of attention or hyperactivity are reduced when young people have regular contact with a natural environment (Taylor, Kuo & Sullivan, 2001). The theory suggests regular exposure to the green environment will incite a reduction in negative behavioural conduct in the young people attending the care farm.

Based on this evidence, it would appear that ART successfully explains how nature can help to improve the cognitive performance of the young people from their exposure to the natural elements of the green environment. However, it fails to fully explain how exposure to the natural elements of the care farm environment can help to reduce stress and improve low moods.

3.8.4 Psycho-Evolutionary Stress Reduction Theory (PET)

Similar to ART, Psycho-Evolutionary Theory (PET; Ulrich, 1981) claims that being in nature provides restorative qualities which reduce stress. A reduction in stress leads to associated physiological and emotional changes, which include feelings of calmness and relaxation (Ulrich,

1984). If characteristics of the natural environment are non-threatening, the human response is one of positive emotional reactions rather than a cognition reaction (Ulrich, 1981). Stress is the body's ability to react to situations which demand physical, mental, and/or emotional responses and these can be challenging for the body and mind to manage. Natural environments do not require humans to deal with processing disproportionate levels of information, which helps to decrease stress levels (Ulrich et al., 1991).

PET draws on the Biophilia Hypothesis idea that the human connection to the natural environment initiates an instant biological response prior to the environment being evaluated cognitively. PET suggests that natural settings produce emotional states of well-being in humans that can be identified through psychological and neurophysiological measures (Ulrich, 1986). The care farm model that this PhD study is evaluating presumes that the natural environment of the farm will offer young people with BESDs a non-threatening environment, which may help to reduce stress levels and associated negative psychological changes in young people. Neuropsychological measures will not be included in this thesis.

Both ART and the PET advocate that the natural environment is more restorative than urban environments. ART claims it is mental fatigue and PET suggests it is physiological stress, which drives individuals to need restoration. However, it has been identified that the young people attending the care farm are in need of restoration from mental fatigue and physiological repair because of the environments in which they live and the difficulties they experience in their lives. Despite ART and PET having fundamental differences, the theories can supplement each other and as a conjoined approach would help to explain how engaging with the care farm model may therefore offer the young people a restorative and well-being inductive stay.

3.8.5 Summary of the role of the green environment

Ecopsychology promotes there is a unified multiple effect between nature and an individual's well-being (Roszac, 1992). It suggests that there is a need for a therapeutic place such as the care farm to help restore the separation between individuals and nature. Human relationships with plants, animals and the natural environment are crucial to their healthy development (Louv, 2005; Nabhan & Trimble, 1994). Ecopsychology draws upon Biophilia Hypothesis, which will be used to help explain the relationship between the natural environment and the young people's health and well-being and how the natural environment would foster an increase in the young people's social inclusion (Bowler, Buyung, Knight & Pullin, 2010) in the discussion (Chapter 7) of this PhD study.

3.9 Summary of the care farm model

The evidence presented in Chapter 3 describes the aims and objectives of the care farm model. This PhD thesis will systematically address and evaluate the claims of this model. It will provide empirical and qualitative evidence for its effectiveness or otherwise. It will create a much-needed scientific evaluation of whether the care farm model can provide green interactions with nature, which are regarded as beneficial: looking at nature, being active in nature, shaping

nature and interacting with animals (Haubenhofer et al., 2010). The factors which are used by the care farm model to support the care farm programme for young people will be evaluated and appraised.

The care farm model has five components (basics, belonging, learning, coping and core-self). All five components of the care farm model will also be evaluated using mixed methods. The RE-AIM evaluation model highlights that within each component distinct constructs exist, which also need to be understood separately, but which are closely related and used in combination over the period of the intervention for young people (Diener, Suh, Lucas & Smith,1999).

Any changes observed through the evaluation of the model will be documented and contextualised. The review of the care farm model and its five components have guided the choice of research instruments (both qualitative and quantitative), and the scales of measurement used in this PhD study. The following chapter will detail how each component of the model is going to be evaluated using mixed methods.

Chapter 4: Methods

4.1 Introduction to method

This chapter describes the research methods used to meet the aims of this study. In this chapter the mixed methods approach that formed the framework for the conduct of this study is discussed. The pragmatism framework was therefore deemed applicable to this study. The chapter begins by defining and highlighting the principles of the pragmatic approach and considers its benefits for conducting this research. Following this, the development of the methodological position and the subsequent mixed methods design is discussed, with describing and detailing the quantitative and the qualitative techniques used. The RE-AIM framework, which was used to evaluate the intervention will be described, including its relevance to the methodological approach. The chapter concludes by discussing the data analyses process and the ethical considerations taken into account to conduct this research.

As described in Chapter 2, this research was undertaken at a therapeutic green care farm in the UK. It was a longitudinal pilot study to evaluate the care farm model intervention aims to help pre-NEET young people to turn their life around. The mixed method techniques (questionnaire pack, interviews, observations and documents) selected and their implementation in this study are discussed before considering the ethical and procedural aspects of how the evaluation was conducted.

The RE-AIM (Reach, Effectiveness, Adoption, Implementation, and Maintenance) evaluation framework was used to contextualise these findings and guide the evaluation process.

4.2 Theoretic framework

The theoretical framework adopted for this research is a pragmatic approach because it represents the most appropriate structure for a mixed methods study (Johnson, Onwuegbuzie & Turner 2007; Morgan 2007; Tashakkori & Tedlie, 2010). In recent years there has been a significant shift toward practical, pragmatic implementation research that can be transformed into functional health related policies, practices or interventions (Glasgow, 2013). Pragmatic research assesses an intervention under normal conditions and/or to answer the pragmatic question of effectiveness under normal or differing conditions (Schwartz & Lellouch, 2009).

Pragmatism's fundamental contribution to this study was the freedom to use research approaches which best answer the research questions and thus provided the most valuable insight (O'Cathain, Murphy & Nicholl, 2007), drawing upon empirical and practical value to assess the merit and worth of uniting methods. This approach allows the researcher to situate their self within the research (O'Cathian, 2009) and to be aware of their own potential influence on the research, and through reflexivity seek to identify any inaccurate assumptions, attitudes or beliefs. Pragmatism provided a flexible needs-based approach to selecting the appropriate methods for this study (Johnson & Onwuegbuzie, 2004), while acknowledging that every method has its limitations. Modifications to the research methods used could therefore have

been made to this study if the original methods were unsuitable for the participants, or if there was a need for further exploration.

An inductive and a deductive approach to understanding the participants' experiences of attending the farm fit the philosophical belief system of pragmatism (Morgan, 2007). Due to the complex nature of the participants' lives it was important to use a range of methods to ensure that a more detailed and accurate account of their experiences was obtained.

4.3 Evaluation Framework

4.3.1 Operationalising the RE-AIM framework

The importance of pragmatic research has been confirmed by the development of evaluation tools that aim to increase the clarity of the research/results, while allowing policy makers to consider how applicable findings are to a local setting (Schulz, Altman & Moher, 2010). The RE-AIM framework is a robust evaluation model (Glasgow et al., 1999) and was used in this study to enhance the contribution of scientific based evidence for care farming: to better understand the potential health impacts for young people participating in a care farm intervention, and the translation of these findings to other care farms or green care settings (Robinson-O'Brien et al, 2009). The specific aim of using the RE-AIM framework is to systematically examine the care farm intervention in this study to:

- Quantitatively determine the effectiveness (e.g. any changes in psychological health with a specific focus on behavioural, emotional and social outcomes) of the care farm intervention
- Qualitatively explore RE-AIM dimensions through interviews with past and present care farm service users and the farmer.

Although the RE-AIM model has not previously been used to evaluate a care farm intervention, the framework has been used in real world settings and interventions that focus on outdoor space (King, Glasgow & Leeman-Castillo, 2010). The previous studies incorporated the use of a mixed methods approach to evaluate the built environment, which is defined as 'any aspect of the constructed environment, including modification of natural environments, which subconsciously or consciously relates to an individual and their behaviour' (Tully, Kee, Foster, Cardwell, Weightman & Cupples 2013, p 2). The care farm in this study can be considered a 'built environment' based on the above description.

Two previous studies were identified which used RE-AIM to evaluate an intervention using the natural environment. The first study evaluated a farmer's market as a public health initiative to reduce obesity in deprived areas (King et al., 2010) and the second study evaluated the public health impact of community gardens in a health disparate region (Zanko, 2012). Key findings from the two studies discussed definitions, challenges, and the appropriate use of measures when applying the RE-AIM framework to evaluation modified natural environments and recommended adapting the framework to suit the context of the research. The findings

summarised that the RE-AIM framework could be extended to interventions which use the built environment and the land for agricultural processes. Similar to the previous studies, the RE-AIM framework for this study needed to be modified to fit the unique elements of care farming and the service users (King et al., 2010). Applying RE-AIM to evaluate built environment changes is not straightforward for several reasons. Each RE-AIM dimension was conceptually the same as defined by Glasgow et al., (2009) but each required assessment indicators to be made relevant to the evaluation of this care farm intervention. For example, 'reach' (e.g. absolute number, percentage, and representativeness of those affected by the environmental change) would prove difficult to calculate potential users (as defined by Glasgow et al., 2009) of the intervention because there was no data available to determine the number of age specific (13-21 years old) young people at risk of being NEET with BESDs. Therefore, this study will draw on any available data to identify the interventions reach, but will acknowledge the limitations of this dimension in this PhD study.

4.3.2 RE-AIM and mixed methods

Due to the care farm model having a number of components, and the complex nature of the service users, a mixed method longitudinal pilot study approach was chosen. This enabled the researcher to study and gain a more holistic understanding of the mechanisms of the care farm effect on pre-NEET young people. It also provided a more comprehensive and useful strategy for identifying best practices for future implementation because it allowed for the triangulation of data (Greene et al., 2001). A longitudinal approach was chosen so any impact or changed experienced by the care farm participants could be monitored over time. To the researcher's knowledge, there are no studies to-date undertaken with pre-NEET young people with BESDs attending a care farm in the UK, hence this PhD work is treated as pilot study. It is hoped that the techniques of data collection and analysis used in this study will help to inform and refine the methodology of a larger study beyond the scope of this PhD thesis (discussed further in Chapter 8).

The RE-AIM framework has traditionally been applied to research using quantitative methods. However, the founders of the RE-AIM framework (Glasgow & Emmons, 2007) now cite several mixed methods studies as credible (e.g. WISEWOMAN - Well Integrated Screening and Evaluation for Women across the Nation project; Besculides, Zaveri, Farris & Will, 2006) making its use suitable for this mixed methods study.

In this study, collecting qualitative and quantitative data within the RE-AIM framework increased the validity and reliability of the data and provided a more comprehensive assessment of participants' experiences and perspectives.

4.4 Research design

Methodological position

This mixed methods study explored the experiences and perceptions of the young people attending a care farm. Data were longitudinally captured by using a validated questionnaire pack (quantitative) and semi-structured interviews (qualitative) at baseline, 6 months and 9 months, and triangulated with observational fieldwork and records. A mixed methods approach is often employed in research that has an evaluative focus because of the pragmatic interest in the summative evaluation (e.g. has the intervention worked?) and the formative evaluation (e.g. how or why has the intervention been successful or failed?) (Teddlie & Tashakkori, 2011). Using mixed methods to populate the RE-AIM framework enhanced the richness and contextual relevance of the overall evaluation (Kessler et al., 2012).

Mixed methods research is defined as 'investigations involving integrating quantitative and qualitative data collection and analysis in a single study or programme of inquiry' (Cresswell, Fetters & Ivankova, 2004, p.7). Epistemological disputes emerge from the differing stances traditionally applied in quantitative and qualitative research: a positivist/post-positivist stance is linked to quantitative research and a constructivist approach to qualitative research (Creswell, 2013). However, the apparent division and the positions of the two approaches are less distinct and within each there is heterogeneity, providing the opportunity for mixed methods research to progress past the perceived hurdles (Bergman, 2008).

Mixed methods research is now recognised as the 'third research paradigm' (Tashakkori & Teddlie, 2010), providing strengths that counteract the weaknesses of both quantitative and qualitative research. The strengths of mixed methods are commonly acknowledged as: comprehensiveness, complexity, and confirmation. This study can be regarded as 'comprehensive' because the dual methods provided a broader depiction of the research topic, which involved complex issues and a unique environment (Moffatt et al 2006); which is typical of studies that focus on social care and/or health services (O'Cathain et al., 2007).

The ability to explore whether the outcomes of the dual methods agree or disagree through the use of triangulation enhanced this study's comprehensiveness further (Sandelowski, 1995). Although the study was potentially more demanding in resources, finances and time it met the needs of the study (Tashakkori & Teddie, 2010). For example, the different factors considered important in behavioural, emotional or social changes (i.e. belonging, coping and core-self) and attending the farm can be evaluated in parallel through the use of different research methods.

4.4.1 Mixed methods typology

Bryman (2006b) created a detailed framework of 16 reasons to help researchers guide their work and to justify using mixed methods. Unlike other classifications (Greene, Caracelli & Graham, 1989) which suggest fewer and more general reasons, Bryman's (2006) approach provided multiple choices and the flexibility to incorporate the emergence of new insights as the study progresses.

Using mixed methods substantially improved the validity of this research because it allowed for the integration of a variety of different, but complimentary data on the same subject to improve interpretation of the research findings (Morse, 1991). There are different types of triangulation that exist, which include those that use different data sources: methods; data types; data collected by different researchers; and different theoretical starting points (Bauwens, 2010). This PhD thesis used all of the triangulation types except the last two to generate a variety of data.

'Completeness', a secondary benefit, is the attempt to capture a more comprehensive, holistic, and contextual depiction (Jick, 1979) of the different service users' experiences and opinions. Therefore, the complexity of human-centred research with vulnerable groups means that potential barriers such as learning difficulties, literacy or language problems and generational differences (e.g. the meaning of words) can be better overcome using a range of methods (Researcher Development Initiative, 2014). The inclusion of a range of techniques in this study ensured that young people had the ability to participate through the most appropriate research techniques that allowed them to reflect as accurately as possible on their experiences and opinions of attending the care farm. It was anticipated that some of the young people in this study would have low literacy and concentration for engaging with specific research methods such as a questionnaire with complex words and lots of questions.

'Process', is acknowledged as another secondary benefit. It provides an explanation for the regular and repetitive aspects of the service users' interactions and behaviour at the farm, which was captured by quantitative techniques using standardised questionnaires, while qualitative techniques (e.g. semi-structured interviews and observations) yielded data on the process of experiencing the care farm intervention. Therefore, if the conclusions of this study are reinforced by both methods, the convergence between the two methods 'enhances our belief that the results are valid and not a methodological artefact' (Bouchard, 1976, p. 268). Thus, using a mixed methods approach enhanced the 'credibility' of the study findings. An additional reason why a mixed methods approach was deemed appropriate for this study is 'utility'. Combining the two approaches improved the usefulness of the findings by making it functional to both academics and practitioners.

In this study, a concurrent mixed methods design was used. This allowed for the parallel collection, analysis and interpretation of both numerical and narrative data, which provided a rich and complementary data source (Creswell & Plano Clark, 2007). Each strand was kept independent during analysis, however, once the initial analysis had taken place, subsequent analysis of the data was used to check one source against another to reduce the possibility of deception in the data sources (Mosley, 2013). The results were 'mixed' during the interpretation stage of this study (Creswell & Plano Clark, 2011). The findings were compared and contrasted to gain a broader view and understanding of young peoples' experiences of the intervention so that any underlying systems or processes would not be missed by a single source of data collection. Using a mixed methods research design in this study means the rich data obtained

from the semi-structured interviews and the observations, confirmed (or disproved) the data from the questionnaire pack.

In published evidence of care farming, mixed methods were employed in 6 other UK care farm studies (Bragg, 2014; Hegarty, 2010; Hine, Pretty & Barton, 2009; Leck, 2013; Maynard, 2013). However, none of the populations in these studies included pre-NEET young people with BESDs, and the care farm model intervention which is unique in this study. The main target population in the studies were individuals with mental illness and those predominantly 18 years old and above. The care farm sector recognises there is an underdeveloped UK evidence-base that is lacking scientific rigour (Sempik & Bragg, 2013) and recommends future studies should use standardised validated measures of client outcomes to demonstrate the effectiveness of care farming (Bragg et al., 2014) with support from the qualitative narratives (Bragg, 2014). Due to the complexity and multiple components within the care farm model, a mixed method approach was chosen to facilitate greater validity of inferences and more comprehensive and insightful evaluation (Greene et al., 2001) of any objective changes in the participants and their subjective opinion of the value of these changes.

4.4.2 Challenges of a mixed methods design

It is argued that the most challenging validity issues encountered by mixed methods research are representation, legitimation, and integration (Collins, Onwuegbuzie & Jiao, 2007; Onwuegbuzie & Johnson, 2006). Representation is the challenge of capturing 'lived' experience through numbers and text (Katsirikou & Skadas, 2014); legitimation is a continuous, interactive process that denotes the trustworthiness and transferability of conclusions (Onwuegbuzie & Johnson, 2006; Johnson & Christensen, 2014) and integration are the multiple risks from combining the methods (De Lisle, 2011). To produce high quality research and to avoid fundamental weakness, it is essential not to combine and enhance the threats to validity within the individual methodological approaches.

Representation was addressed in this study by being mindful of the sample size, even though it was not necessary to use power analysis to determine the sample size for the quantitative strand in this pilot study (Cohen, 1988; Onwuegbuzie & Leech, 2007). Pilot study guidelines were followed to ensure a large enough sample was obtained to make inferences about the young people. For the qualitative strand, code saturation and meaning saturation (e.g. no new data codes or new meaning materialised during the interviews) determined when sampling ended (Auerback, 2007).

Legitimation was addressed in this study through inference quality, which stems from design quality and interpretive rigour, and is regarded as the core of the quality issue (Tashakkori & Teddlie, 2003). Seven of the nine legitimations were addressed as part of this research to acknowledge design quality and interpretive rigour (sequential legitimation and conversion legitimation were not applicable to this study) and are as follows:

'Sample integration legitimation' is the degree to which the quantitative and qualitative sampling designs produce quality meta-inferences (Onwuegbuzie & Johnson, 2006). To ensure quality meta-inferences the same individuals participated in the quantitative and qualitative sections of the study. This allowed meta-inferences to be constructed based on the inferences from both the quantitative and qualitative process. The meta-inferences were strengthened by obtaining a representative sample.

'Inside-outside legitimation' is how the researcher presents and appropriately uses participants' perspective and the observer's view description and explanation (Onwuegbuzie & Johnson, 2006). To ensure inside-outside legitimation a well informed and balanced perspective was gained through the process of collecting, analysing and interpreting all of the data sources.

'Weakness minimization legitimation' is how the potential weakness from one approach is compensated by the strengths from the other approach (Onwuegbuzie & Johnson, 2006). The research was planned, designed and implemented so the different techniques yielded different kinds of knowledge which were subsequently integrated to check their validity.

'Conversion legitimation' is ensuring 'quantising' or 'qualisizing' produces quality meta-inferences (Onwuegbuzie & Johnson, 2006). To convey trustworthy findings, misleading counting was avoided. For example, in this discussion chapter (Chapter 8) by not using vague terms in verbal counting (numbers as expressions e.g. 'few', 'some' etc.), but instead specifying what is really meant in the research context.

'Commensurability legitimation' is the extent to which the conclusions from the study reflect a mixed worldview based on the cognitive process of integration (Onwuegbuzie & Johnson, 2006). The researcher's previous experience of conducting real world research, combined with guidance from supervisors addressed this issue.

'Multiple validities' legitimation is addressing legitimation of the quantitative and qualitative data from the use of quantitative, qualitative, and mixed validity types, to produce high quality meta-inferences (Onwuegbuzie & Johnson, 2006). Specific attention was given to the internal and external validity of the quantitative data and to the contextual validity, generalisability and transferability of the qualitative data. A mixed method validity criterion which integrated these parts was then utilised.

'Political legitimation' is how much the researcher(s) of mixed methods research value the meta-inferences from both the quantitative and qualitative strands of the study (Onwuegbuzie & Johnson, 2006). This research addressed the experiences and the opinions of all the young people in this research process; the young people were regarded as a disadvantaged group and many may have felt they have minimal power and/or voice. Potential conflict was not relevant because the data was collected and analysed by one researcher with previous experience of using mixed methods, and not a group of researchers. Adhering to Bournemouth University Ethical Guidelines ensured the study was conducted in an appropriate manner.

Integration refers to the complementary strengths and non-overlapping weaknesses of quantitative and qualitative research, but acknowledges assessing the validity of the findings can be complex (Onwuegbuzie & Johnson, 2006). Integration of the data was reviewed using triangulation to consolidate quantitative findings and inferences from the sample with qualitative data from a smaller purposive sample.

4.4.3 Summary for using a mixed method approach

A mixed method approach was chosen to facilitate greater validity of inferences, a more in-depth interpretation and understanding of participants' experiences of attending the farm and a comprehensive and insightful evaluation (Greene et al., 2001). The research process is characterised by a combination of both inductive and deductive methods of data collection/analysis and strength was gained from the use of a variety of approaches rather than one.

This PhD thesis presents a pragmatic view of the world that embraces the idea of multiple realities by reporting the different perspectives of participants' experiences, derived by using different research techniques. The collection of quantitative and qualitative data is regarded as the most effective approach to embrace the idea of multiple realities (pragmatic view) because different perspectives of the participants can be obtained. This allowed the researcher to better understand the complexity of the intervention's environment and thus provide an effective evaluation of the research (O'Cathain, 2009).

It is anticipated that this thesis will show that using both quantitative and qualitative approaches to the research improved the findings of this study because it has provided a better understanding of young peoples' experiences of the care farm intervention.

4.5 'REACH' of the care farm intervention

The 'reach' element of the RE-AIM framework attempts to evaluate the absolute number, proportion, and representativeness of individuals who are willing to participate in an intervention (Glasgow et al., 1999). The intervention caters for young people between 13-21 years old. The young people are at risk of permanent exclusion (or have been permanently excluded) from the education system (pre-NEET) due to behavioural, emotional and social difficulties (BESDs). Some participants have additional special educational needs (SEN) which can include Attention Deficit Hyperactivity Disorder (ADHD), learning difficulties and/or Autism Spectrum Disorder (ASD). Young people who attend this care farm are typically White British which is reflective of the demographic population of the rural county the farm is located in. The majority of young people are from low socioeconomic backgrounds. The specific reach for the cohort of young people who participated in this study will be discussed in more detail in the findings chapters (Chapter 5 and 6) and the discussion chapter (Chapter 7).

4.5.1 Sampling in a mixed method study

A complete sample will be applied to all service users who fit the following criteria:

- A young person who had been referred to the farm because they have complex challenges (behavioural and/or anger problems) that make having a positive experience at school difficult.
- A young person who, as a consequence of their difficulties at school, was either permanently excluded from school, temporarily excluded from school, or who had low attendance at school.
- A young person who was attending the care farm intervention programme.
- A young person aged between 13 and 21 years old.

The researcher had no choice but to use a complete sample for the quantitative strand of the study because it was given as per the farm intervention rules that everyone must be included (if they consented to do so). Interview participants were selected through a purposive non-probability sample because the interviews were not designed to generate a statistically representative sample, to elicit statistical conclusions or offer generalisations (Wilmot, 2005). Instead, the aim was to obtain an in-depth understanding of young peoples' experiences (Brewer, 2000). In essence, a subsample of the quantitative participants was asked to volunteer for the qualitative component. The basis of selection for this sample was the individual's characteristics in order to mirror the diversity and range of the sample population (Wilmot, 2005 p. 3) and thus the quality of information obtained, rather than the selection being focused on the number of people (Sandleowski, 1995). The sample was purposive because individual participants were selected based on their ability to communicate information that informed the research questions and yielded relevant data (Silverman, 2011). The primary focus of purposive sampling is to obtain information about the experiences of young people who attended the care farm during the timeframe of this study.

4.5.2 Sample sizes

Mixed methods research faces unique challenges to ensure appropriate sample sizes are obtained. In quantitative research, it is critical to use a sample size that is large enough to be able to identify statistically significant differences (if they exist), or relationships which can be generalised to the wider population (Schmidt, 1996; Onwuegbuzie, Jiao, & Bostick, 2004).

Saturation is a guiding factor to establish sample sizes in qualitative research (Onwuegbuzie et al., 2004). This is the point in data collection when no extra issues or insights appear from data and all conceptual categories have been identified, investigated and fatigued. This should involve code-saturation and meaning-saturation (Hennink, Kaiser & Marconi, 2016). Research suggests that code-saturation (the range of common thematic issues identified and the codebook has become stable) is typically reached after nine interviews (Hennink et al., 2016). However, a smaller number of interviews can be sufficient to capture a full range of issues in data, but extra data is typically required to gain a richer understanding of those issues. The

amount of extra data can depend on the purpose of the study, the population, the types of codes, and the complexity of the codebook. Meaning-saturation is the point where an issue is fully understood and no additional insight is found. Meaning saturation is typically reached between 6 and 24 interviews (Hennink et al., 2016) and the variance being that codes found more frequently in data may require fewer interviews to be completed, especially in less diverse populations. Six young people were longitudinally tracked in this study through observations and interviews. The longitudinal data collected over three time points (pre-intervention, 6 months and 9 months) were deemed sufficient to achieve data saturation.

4.5.3 Participants

There were 28 young people who attended the farm who agreed to participate in this study at baseline. There were no issues of non-participation, but there was a drop-out of 3 participants because they were not on-site at the farm at the 6- and 9-month data collection points due to illness and examinations (respectively).

The young people had been referred to the farm because they were facing complex challenges that made having a positive experience at school and/or at home difficult. All of the participants have been temporarily or permanently excluded from school, or have low attendance because of conditions such as dyslexia, ADHD or anxiety, which made attendance difficult for them. All of the participants attended the farm for one academic year. A small number of the participants required one-to-one support (due to the complexity of their needs) from the mentors at the beginning of the intervention, but everyone was eventually encouraged to work in small groups when appropriate for them to do so. All of the participants were referred to the farm by their school or social services. While some of the participants had the support of their families to attend the intervention, for others there was a lack of parental/family support.

4.5.4 Comparison group

A comparator group was included in this study to provide a better understanding of the farm's impact on the participating service users, and to examine whether the impact of the care farm intervention is unique due to specific contributors of the environment and people (e.g. care farm staff). The comparator population were 25 pupils from Year 9 (13-14 years old) from a large secondary school based in the same county as the care farm. The school is located 18 miles from the farm and has previously sent pupils to the farm when assessments by their Special Educational Needs Co-ordinator had identified outside agency support is required. However, due to budget cuts, the school was unable to refer any pupils during the 2015/16 academic year despite knowing that some pupils were eligible.

The school is a 'typical' secondary school within the county which it resides: Students are from mainly white British backgrounds and the proportion of students known to be eligible for free school meals and for whom the school receives additional income (pupil premium) is below average. The specific criteria for selecting this school were: the school was located in the same county as the farm, the school could provide access to males and females within the required

age group, and there were no pupils currently attending the farm (so no conflict of interest for the research study, participants, farm or school). There was a wide range of pupils with a variety of behavioural, emotional and social needs to represent the wider population (confirmed by the schools own data). The validated questionnaire pack was completed by the comparator population at baseline, 6 months and 9 months of the study. Interviews were not conducted with this group due to the time and resource limitations of PhD study.

4.6 EFFECTIVENESS of the care farm intervention

The 'effectiveness' dimension of the RE-AIM framework is the impact of the intervention on important outcomes, including potential negative effects, quality of life, and economic outcomes (Glasgow et al., 1999). The following section (data collection methods) will discuss how this PhD study intended to measure the impact of the study and appropriate outcomes identified.

4.6.1 Quantitative scale selection

The primary aim of the quantitative data collection was to objectively investigate if a 9-month (one academic year) care farm intervention for pre-NEET young people with BESDs improves the impact on physical, psychological and social health with a specific focus on behavioural, emotional and social outcomes. The instruments were selected based on the care farm model and the SDT theoretical framework. Quantitative scales were selected to measure the following: environmental attitudes (e.g. nature relatedness), social factors (e.g. family, peers), intrapersonal factors (e.g. emotions and progression) and interpersonal factors (e.g. behaviour and beliefs) because they map to the specified elements of the care farm model intervention in this study (Chapter 3). The aim of this section is to discuss the selection of standardised questionnaires that were used in this study. The questionnaires were designed to measure the impact of the care farm on young people.

Prior research confirms that due to developmental capabilities, children of 11 years and older can answer questions in standardised surveys (Scott, 2008). This research method was therefore deemed appropriate for the participants in this study who were between 13-16 years old. However, to ensure the quality of the data was not compromised, there were specific considerations for choosing appropriate scales, while ensuring the scales fitted the purpose (e.g. to understand the impact of the care farm on young people's experiences) and measured the key constructs (e.g. behaviour, social development, emotional health, coping, life satisfaction and connection to nature) of the study.

Young peoples' cognitive, social and communication skills are not yet fully developed and they are typically 1.5 times slower than adults to process information and respond to questions (de Leeuw, 2011). It was therefore important to ensure the language used in the questionnaire and the response format was suitable for the reading age of the respondents (e.g. taking into account some of the respondents were likely to have learning difficulties including SEN; Scott, 2008). The willingness of young people to answer the questions can affect the quality of the data (Scott, 2008) and they are twice as likely to select the first response item if presented with

a long list of questions (Fuchs, 2005). It was therefore decided that psychometric scales designed for young people, and shorter versions of longer scales (where available), would be used. Questionnaires were only considered for use in this study if the reliability and validity of the measures had been extensively tested on adolescents and if there was good predictive validity available.

4.6.2 Procedure

The questionnaire pack was designed to allow for self-completion. However, if participants required support from the researcher to record their responses this request would be fulfilled. In this study the researcher read out each question to some participants then they selected and marked their responses without any input/influence from the researcher. Questionnaire packs were completed on a one-to-one basis with only the researcher present to reduce any peer or staff influence. While the offer of assistance to participants to complete the questionnaire pack with the researchers help can bring the validity of responses under scrutiny, it allowed all eligible and consenting participants to contribute towards the study who may have otherwise struggled because of literacy issues. Having spent time with participants in an attempt to establish some foundational level of trust before asking them to volunteer to complete the first questionnaire pack, it was expected that the researcher's role would have minimal effect on participants' response validity. The questionnaire pack was administered to the participants in the comparison group at the same time points. The comparison group participants read and completed their own questionnaire packs. Assistance was provided by the researcher to several participants who did not understand specific words (e.g. these individuals were identified as having SEN), or in one instance at baseline, where English was not the first language of the participant. This group of participants were seated with enough distance from their peers to limit peer distraction/influence.

The following section will detail the instruments in the questionnaire pack with specific detail to the psychometric properties and the predictive validity of the scales. The complete questionnaire pack is attached in Appendix 1.

4.6.3 Questionnaire Pack

The identification of psychosocial problems is important in pre-NEET young people because helping them back into education, employment or training requires a complex intervention. At the care farm, young people must be able to cope with new daily routines, responsibilities, types of authority and challenges from their peers that can make their behavioural and emotional problems more noticeable and harder to manage (Berk, 2000). It was decided that using validated tools was appropriate for this study because it allowed the researcher to monitor any changes in young people before and after the care farm intervention.

4.6.3.1 Measurements of behavioural change: Strengths and Difficulties Questionnaire (SDQ)

The early detection and treatment of BESDs in childhood can result in significant benefits regarding child development, well-being, and physical and mental health (Licence, 2004). As previously discussed (Chapter 2), BESDs are defined as behavioural problems (external e.g. aggressive and restless), emotional problems (internal e.g. introverted and worry) and social problems (e.g. making friends). The Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) measures these underlying problems and is therefore deemed an appropriate tool of measurement for this study. The constructs were regarded as an indicator of the Belonging, Learning, Coping and Core-Self components of the care farm model.

The SDQ is a relatively short 25 item questionnaire that is used to identify behavioural and emotional problems in children and adolescents aged between 3-16 years old (Goodman, 1999; Goodman, Meltzer & Bailey, 1998; Goodman & Scott, 1999). It has 5 subscales: conduct problems (e.g. often lies and cheats), emotional symptoms (e.g. many fears, easily scared), hyperactivity (e.g., restless, overactive, cannot stay still for long), peer problems (e.g. picked on or bullied by other children) and pro-social behaviour (e.g. considerate of other people's feelings). These five subscales have been internationally validated and have been found to have good psychometric properties (Goodman, 2001; Rotherberger & Woerner, 2004; Woerner et al., 2004; Muris et al., 2003; Palmieri and Smith, 2007). Internalizing and externalizing scales were relatively 'uncontaminated' by one another and the reliability of the scale was generally satisfactory, internal consistency (Cronbach's alpha α=.80) (Goodman, 2002).

The questionnaire has 3 response categories from 0 to 2 ('not true', 'somewhat true', and 'certainly true'). There are 15 negatively phrased items and 10 positively phrased items of behavioural traits. The sum of the first four subscales (conduct problems, emotional symptoms, hyperactivity and peer problems) provide a total difficulties score alongside the individual scores; a high score is deemed less positive because it indicates a higher tendency of behavioural problems. The pro-social scale indicates protective factors of the young person; a low score is less positive. The scale places each sub-scale score into a category of 'normal', 'borderline' and 'abnormal'. Each subscale has a separate cut-off point. Scores considered to be in the normal range are conduct problems 0-3, emotional symptoms 0-5, hyperactivity 0-5, peer problems 0-3, pro-social behaviour 6-10 and total difficulties 0-15. Scores above these ranges indicate the degree of the problem from borderline to abnormal.

There are similar versions of the SDQ available in self-reported (11-17 years old and 18 years old and over) and informant-reported (parents and teachers of 2-4 and 4-17 years old and informant report over 18 years old) formats. The version used in this study was the SDQ, follow-up questions and impact supplement for self-completion by 11-17 year olds. The SDQ is used by a range of professions to explore strengths and difficulties and for various purposes, which have included clinical assessment, research, screening and evaluating intervention outcomes.

The SDQ is regarded as a satisfactory tool to measure emotional and behavioural problems in secondary school aged pupils (Stone, Otten, Engels, Vermulst & Janssens, 2010).

In addition to the SDQ there are only a small number of questionnaires which assess a wide range of children and young people's psychosocial/mental health issues: The Rutter questionnaire pack and the Achenbach questionnaires; the Child Behaviour Check List (CBCL); the Teacher Report Form (TRF) and the Youth Self Report (YSR). While each questionnaire had positive aspects, each also presents noticeable disadvantages and methodological considerations. Therefore, these were not considered for use in this study as described below:

The Rutter questionnaire (McGee et al., 1985) has no self-completion version for adolescents and only includes negative traits (Goodman, 1997). Areas of interest to this study such as concentration, having friends and acting pro-socially are poorly covered or not at all covered in the Rutter questionnaires. The questionnaire pack for this study was designed for self-completion by participants because of the limited, or no access, to parents/guardians/teachers so the Rutter questionnaires were deemed unsuitable on this basis.

In this study the Achenbach questionnaires (Achenbach 1991a; 1991b; 1991c) were regarded as less useful for screening or research purposes because the excessive length of the questionnaires may have caused non-completion due to participants becoming bored or losing concentration. The extensive nature and time to calculate the scores of this questionnaire also made it an inappropriate choice for this study.

While there are few questionnaires available which focus on a broad range of behavioural and emotional screening measures, there are multiple questionnaires that focus on specific and singular elements of mental health such as ADHD (the Conners Rating Scales Revised, Conners 2001; Hudziak, Derks, Althoff, Copeland & Boomsma, 2005), depression (the Children's Depression Inventory, Kovacs, 1980) and anxiety (the Revised Children's Manifest Anxiety Scale, Reynolds & Richmond 1978). However, a specific measure was not appropriate for this study because the participants did not all have the same singular element(s) of mental health or psychological problems.

In summary, it was decided the SDQ was the most appropriate outcome measure for behavioural change for the evaluation of the care farm model of this study. It has a good internal consistency and is recognised as providing robust baseline information in studies that use a mixed methods approach and so fits with the design of this study (Vostanis, 2006). The SDQ allows for self-completion and is short in length, which is relevant to this study because it is one part of a larger questionnaire pack. If measures were too long this may have affected participants' concentration leading to missed answers and low completion rates. The SDQ recognises positive behavioural traits, which mirror the farm's belief that every young person has inherent positive behavioural and emotional strengths and the ability to progress. It was thus deemed important to identify the young person's strengths as well as their weaknesses in this study.

4.6.3.2 Measurement of emotional change: Depression, Anxiety and Stress Scale (DASS-21)

Evidence concludes that, compared to their peers, pre-NEET (and NEET) young people are contending with significant mental health and psychological problems, including depression, anxiety, stress and behavioural difficulties such as aggression control (Goldman-Mellor et al., 2015). Teaching young people coping strategies as part of an intervention programme is regarded as one approach which can have a positive effect on the negative outcomes of distress in adolescence (Livheim et al., 2014). It was therefore regarded as important to measure participants' levels of depression, anxiety and stress and to determine if the intervention had any effect on mental health outcomes of participants. The scores were regarded as an indicator of the core-self component of the care farm model.

The short form of the Depression Anxiety Stress Scale (DASS-21; Lovibond & Lovibond, 1995) was selected. It is a self-reported tool designed to measure levels of depression, anxiety and stress. Its application can be used in a clinical or non-clinical setting. The depression scale measures dysphoria and sadness. The anxiety scale focuses on physiological arousal and fear, and the stress scale examines states of tension and stress (Sinclair, Siefert, Slavin-Mulford, Stein, Renna & Blais, 2012). Seven questions are asked in each category and individual questions are based on symptoms experienced over the last seven days and measured on a four-point scale.

The DASS-21 questions are illustrative of the full scale but, to determine the outcome for each category, the scores for each are totalled and multiplied by 2 to allow an accurate interpretation of the measures (Lovibond & Lovibond, 1995). Scores considered to be in the normal range are 0-9 for depression, 0-7 for anxiety and 0-14 for stress. Scores above these ranges indicate the degree of the problem from mild to extreme. Numerous studies have shown the DASS-21 to be internally consistent with Cronbach's alpha at $\alpha=.80$ for each of the three scales as well as the scale in total (Osman, Wong, Bagge, Freedenthal, Gutierrez & Lozano, 2012). When compared to other validated measures of depression and anxiety, the DASS-21 is highly correlated, indicating high convergent validity (Lovibond & Lovibond, 1995; Musa, Ramli, Abdullah & Sarkarsi, 2011).

The DASS-21 has typically been compared against the Beck's Depression Inventory (Beck et al., 1961; Beck & Steer, 1987) which measures the frequency of depressive symptoms and the Beck Anxiety Inventory (Beck & Steer, 1990) which measures the severity of anxiety over the previous 7 days. However, it was recognised as important to measure stress because it has clear affinities with anxiety (Lovibond, & Lovibond, 1995). Existing scales measure depression and anxiety but fail to remove any item overlap and do not measure stress. The DASS-21 was regarded as an appropriate tool for this study because it is suitable for the use in research studies, it is a shortened version which fits well with the design of the questionnaire pack and it can be administered in groups or individually. Furthermore, the DASS-21 can discriminate

between the related states of depression, anxiety and stress because stress is linked to understanding individual's ability to cope, which was also of interest to this study.

4.6.3.3 Measurement of Coping: Adolescent Coping Scale II (short version)

Coping is the way an individual manages perceived stressors in their daily lives and the way in which different coping strategies are used (Weinten & Lloyd, 2008). A pre-NEET young person with BESDs ability to cope is significant to their well-being because they will typically experience frequent challenges in their lives and this will determine coping patterns for adulthood (Department for Children, Schools and Families, 2010). Productive coping strategies typically lead to functional behaviour and positive results, while non-productive coping strategies cause dysfunctional behaviour and negative outcomes. The young person's ability to cope is relevant to the study because it is a core component of the care farm model and thus important to understand the coping skills of the participants to determine if the intervention impacts these skills.

There are numerous scales available to assess coping strategies in young people, however the Adolescent Coping Scale II short version (ACS II; Frydenberg & Lewis, 1993) was selected for this study. The ACS II is commonly used in educational psychology research and as a quick way of evaluating an intervention in a research context (Frydenberg & Lewis, 2009b; Tanner, Hasking & Martin, 2014). Within the scale, coping strategies are grouped in factors (productive coping strategies; non-productive coping strategies; other coping strategies) and was designed and tested for young people between 12-18 years of age (Sveinbjornsdottir & Thorsteinsson, 2008). The scale consists of 20 items which represent a specific coping strategy, with responses indicated on a 5-point Likert scale. A higher score for the productive coping subscale is better (indicates the use of productive coping strategies) while a lower score for the non-productive coping subscale is better (indicates less use of non-productive coping strategies). The ACS II short version is often referred to as an 18 item scale because the 'other coping strategies' are not included. The Cronbach's alpha for the productive coping strategies was α=.71 for productive coping strategies and α=.68 for non-productive coping strategies (Frydenberg & Lewis, 2009b).

Several other scales suitable for young people were considered (Adolescent Coping Scale II, (full version) Frydenberg & Lewis, 2009a; Adolescent Coping Orientation for Problem Experiences, Patterson & McCubbin, 1987; Modified Ways of Coping Checklist, Halstead, Johnson & Cunningham, 1993) but all were deemed as having too many items which was unsuitable for measuring the outcomes of the care farm model (item numbers range from 54-80 items). The Adolescent Coping Orientation for Problem Experiences is also considered to have poor reliability.

The ACS II was therefore selected because of the shortness of the scale, and its previous use in multiple studies with young people that examined the relationship between coping strategies and stress in the school context, well-being and risk taking of young people (Cogan & Schwannauer, 2011; Frydenberg, Care, Freeman, & Chan, 2009; Barron, Castilla, Casullo, &

Verdu, 2002). The participants of this study are similar in nature to these above cited cohorts. All these studies concluded that productive coping strategies are linked to functional behaviour and positive life choices, while non-productive coping strategies leads to dysfunctional behaviour and negative life choices.

4.6.3.4 Measurement of Life Satisfaction: Brief Multidimensional Student's Life Satisfaction Scale (BMSLSS-PTPB)

Life satisfaction is a component of subjective well-being, identified as an important component of the care farm model which deals with 'basic needs' and 'core-self'. Life satisfaction is linked to physical and mental health and broader measures of well-being which include school engagement and academic achievement (Proctor et al., 2009). There are numerous life satisfaction questionnaires that are suitable for young people (Gilman & Hueber, 2000). However, there are scales that assess life satisfaction globally (e.g. 'I have a good life'; Hueber, 2004) or multidimensional by focusing on specific life domains (e.g. school, home, Hueber, 2004). It was important in this study that a multidimensional approach was used to understand how satisfied participants were with specific domains of their lives and if satisfaction in general changed as a result of the intervention.

The Brief Multidimensional Student's Life Satisfaction Scale (BMSLSS; Bickman et al., 2010) is a multidimensional approach that measures various life domains of young people. It helps to identify the presence of young people's mental health symptoms and their confidence in progressing towards their goals (Cathey, Kelley, & Dew-Reeves, 2012). However, the Peabody Treatment Progress Battery version (BMSLSS-PTPB; Bickman et al., 2010) was selected for this study because Item Response Theory Analysis suggested that the 7-point Likert scale that was used in the BMSLSS was not sufficient and recommended the use of a 5-point Likert scale instead (Bickman et al., 2010). The BMSLSS-PTPB scale consists of 6 items, compared to the BMSLSS which has 40 items and has a 5-point Likert scale response. It is verified as suitable for children and young people aged between 8-18 years old (Bickman et al., 2010). A higher score for each subscale indicates higher levels of life satisfaction.

The BMSLSS-PTPB is intended for frequent use to measure the current status and any changes in life satisfaction. Based on previous research, it has satisfactory internal consistency (α =.77; Bickman et al., 2010). The scale was a suitable measure for this study because it allowed young people to rate their overall life satisfaction in addition to their satisfaction with family, friendships, school experience, self and where they live. Due to having already identified that the participants in the study have difficulties at school, the BMSLSS-PTPB allows a better understanding as to whether this potential dissatisfaction with school transfers to other areas of their lives or if it is possible for the young people to still experience some life satisfaction despite obvious difficulties in one area. It also allows for this study to identify if the intervention has an impact on specific domains of satisfaction in the young person's life. The fact that it measures quality of life of young people in several settings and balances a deficit or symptom-based

approach by focusing on building optimal functioning for these individuals made this instrument a suitable outcome measure for this study (Athay, Kelley & Dew-Reeves, 2012).

Other satisfaction scales (i.e. the Multidimensional Student's Life Satisfaction Scale; Huebner, 1994) were considered but were rejected due to the number of items included and therefore deemed too long for the questionnaire pack for this study. This scale is relevant to the 'basic needs' and the 'core-self' component of the care farm model.

4.6.3.5 Measurement of Nature Relatedness: Nature Relatedness Scale (NRS)

Understanding the environmental attitudes of young people is important to this study because nature relatedness may provide insight into how much (if at all) the intervention has nurtured the intrinsic need to connect with nature (biophilia). Taking into consideration the Biophilia Theory (Chapter 3), it follows that having a positive sense of nature relatedness should predict the individual's psychological well-being, such as happiness (Nisbet & Zelenski, 2013). This is a relevant outcome measure of the 'core-self' component of the care farm model and the concept of experiencing nature as part of the care farm experience. Given the relevance of connection to nature to this intervention, it was regarded important to this study to measure participants' connection to nature to understand if there were any change in young people's experiences of nature at baseline and post-intervention. There are a number of assessment tools that have been developed to measure subjective connectedness with nature (Bragg et al., 2013) (e.g., nature relatedness, connectedness to nature, connectivity with nature, environmental identity) (Clayton & Opotow, 2003; Mayer McPherson & Frantz, 2004; Dutcher et al., 2007; Nisbet, Zelenski & Murphy, 2009; Bruni & Schultz, 2010). However, very few of these measures have been designed to be used with children and young people (Bragg et al., 2013).

The Nature Relatedness Short Scale (NR-6; Nisbet et al., 2009) is a shortened version of the full 21 item scale, consisting of 6 items that illustrate the individual's connectedness with the natural world and the cognitive, affective and physical connection with nature. The 6 item subscale measures 'self' ('My ideal vacation spot would be a remote, wilderness area', 'I take notice of wildlife wherever I am') and 'nature related experiences' ('I always think about how my actions affect the environment', 'My connection to nature and the environment is a part of my spirituality', 'My relationship to nature is an important part of who I am' and 'I feel very connected to all living things and the earth') (Nisbet & Zelenski, 2013). The scale consists of a 5 point Likert-scale response, with a good internal consistency (Cronbach's alpha α=.77) (Bragg et al., 2013). Higher scores for each subscale indicate a better connection to nature.

There are two other measures that have been developed for children, the Connection to Nature Index (CNI, Cheng & Monroe, 2010) and the Nature Connectedness Inventory (NCI; Ernst & Theimer, 2011). However, the CNI is not suited for children over the age of 10 years old and was deemed as too intellectually young for the participants of this study who were 13–16 years old. The NCI is not widely available to use in research studies and thus not a suitable outcome measure for this study.

Despite the shortened NR-6 not measuring as many of the mechanisms of nature relatedness as the full scale, this shorter scale was chosen to be used in this study's questionnaire pack because it is easy to understand and complete by children and young people (Bragg et al., 2013). It is an effective measure widely used in previous research studies where time and/or space is limited because it can be embedded in questionnaire packs with other scales without significantly reducing reliability or validity (Nisbet & Zelenski, 2013). The short form has shown to have the same pattern of relationships with happiness and environmental variables as the 21-item scale which are of relevance to this study.

4.6.3.6 Summary of outcome process with questionnaire pack scale measure

The table (Table 1) below provides a summary of each sub-scale in the questionnaire pack and how it will impact on the outcome process of evaluating the care farm model through the RE-AIM <u>effectiveness</u> and <u>implementation</u> dimensions of the evaluation framework and the research questions for this PhD study.

Table 1: Summary of each sub-scale in the questionnaire pack and how it will contribute towards evaluating the care farm model.

Scale	RE-AIM dimension and RQ	Care farm model component
SDQ: Emotional symptoms	Effectiveness RQ2	Core-self
SDQ: Conduct problems	Implementation RQ1	Core-self
SDQ: Hyperactivity	Effectiveness RQ2	Core-self
SDQ: Peer relationship problems	Effectiveness RQ2	Core-self
SDQ: Pro-social behaviour	Effectiveness RQ2	Core-self
DASS-21: Depression	Effectiveness RQ2	Core-self
DASS-21: Anxiety	Effectiveness RQ2	Core-self
DASS-21: Stress	Effectiveness RQ2	Core-self
ACS II: Productive coping	Effectiveness RQ2	Coping
ACS II: Non-productive coping	Effectiveness RQ2	Coping
Satisfaction: Family life	Effectiveness RQ2	Core-self
Satisfaction: Friendships	Effectiveness RQ2	Core-self
Satisfaction: School experience	Effectiveness RQ2	Learning
Satisfaction: Yourself	Effectiveness RQ2	Core-self
Satisfaction: Where you live	Effectiveness RQ2	Belonging
Satisfaction: Your life overall	Effectiveness RQ2	Core-self
Nature relatedness scale	Implementation RQ3	Core-self

NB. *RQ = research question. **It was acknowledged in Chapter 3 that many of the scales will help to answer more than one of the research questions and to evaluate more than one component of the care farm model. To reduce repetition in this table and the subsequent discussion (Chapter 7) each scale is placed with the component it is regarded to have the most impact on.

4.7 Qualitative techniques

This section will describe the qualitative methods employed in this study, the reasons for their selection and any implications. The primary aim of the qualitative techniques was to gain a deeper and broader understanding of participants' experiences of attending the care farm. The methods utilised were semi-structured interviews, observations and documentary evidence from farm records.

4.7.1 IPA and semi-structured interviews

The qualitative approach adopted for this study was Interpretative Phenomenological Analysis (IPA), which is concerned with the way human beings experience the world within specific contexts at specific times (Willlig, 2001). IPA is popular in health psychology (Carradice, Shankland & Beail, 2002) because it seeks to understand the lived experiences of participants and show their world view (Weed, 2005).

IPA was used in this study because it was necessary to obtain and understand the young people's thoughts and feelings about attending the care farm (Murray & Harrison, 2004). While IPA shares the same qualitative roots as ethnography and symbolic interactionism (Lester, 1999), it has a dual interpretation process (Smith & Eatough, 2006) IPA recognises the interpretative position of the researcher (Chapman & Smith, 2002; Lester, 1999). This process works in sync with the qualitative notion that the social world is complex and dynamic and the researcher's role grants them direct interaction and engagement with participants (Tiddall, 1994). It acknowledges the interpretative role of the researcher in the analysis that is mainly based on the researcher's insights and previous literature review findings (Smith & Osborn, 2007) and that the researcher can never fully understand the participant's world (Weed, 2005) and interpretation can be limited by the researcher's worldview. However, this aspect can be minimised through 'reflexivity' which is a process that documents the researchers own potential biases and assumptions on their interpretation of the data (Creswell & Miller, 2000).

Since there is limited knowledge about the subjective experience of pre-NEET young people attending a care farm, IPA was identified as the appropriate philosophical framework for the qualitative approach for this study. IPA provided a theoretical framework that matched the standpoint of the researcher: it focused on the lived experiences of the participants; it was accessible because it gave a systematic process of analysis and detailed descriptions of the analytic process and it was mindful to the 'integral involvement' of the researcher.

A series of semi-structured interviews were longitudinally (repeated at baseline and post-intervention) completed with 6 participants who were currently attending the care farm, the farmer and four former care farm service users who attended the care farm between 2005-2015. However, it was the interviews with the current care farm service users that were of primary interest to this study. The semi-structured interview schedule was guided by the IPA approach (Smith et al., 2012). The interview schedule (Appendix 2) was used to guide the interviews. The interviews started with broad and general questions that allowed rapport to be

built with participants, led by their interests. This approach was to stop the researcher imposing their understanding of the phenomenon on participants' responses and to help them to feel comfortable (Smith et al., 2012). All subsequent questions were open and expanded (the researcher was careful to avoid assumptions about participants' experiences), which encouraged participants to talk while minimising verbal input from the researcher (Smith et al., 2012). All interview questions in the interview schedule were discussed and reviewed with one of the supervisors to this study who is an IPA trainer, and amendments were made prior to the pilot of the interview schedule.

Several different types of interview styles exist and each is differentiated by the level of structure required by the framework of questions and the subsequent answers. Structured interviews are very rigid and typically have a face-to-face questionnaire style of framework that can limit new areas of conversation, compared to very open unstructured interviews where the framework is typically more conversation-lead and guided by areas or topics of interest to the interviewee (Jamshed, 2014).

The framework of semi-structured interviews draws upon the above two approaches by using a set of questions, but allowing flexibility for the interviewer to probe or the interviewee to explore their views in further detail if desired (Prior & Van Herwegen, 2016). It was decided that semi-structured interviews were the most appropriate for this study because the structure would allow further opportunity for interviewees to talk about topics or issues of interest, whilst ensuring that areas of interest identified in the literature review were discussed. To explore the RE-AIM dimensions through interviews with present and former care farm service users and the farmer some of the semi-structured script questions were adapted from a previously developed RE-AIM planning tool (Belza, Toobert & Glasgow, 2007) which included the 'reflection' and 'vision' probes from the five dimensions of the RE-AIM framework (Appendix 2). While all components of the RE-AIM framework featured in the interview schedule questions, the main components of interest for this study were reach effectiveness and implementation because they were most appropriate for answering the research questions of this study.

There are practical implications of semi-structured interviews because they can require a considerable amount of time to complete (Teddlie & Tashakkori, 2011), to transcribe and analyse the data due to the wealth/complexity of the material produced (Giordano, Cernkovich & Rudolph, 2002). Furthermore, it must be acknowledged that the interviews only captured the views and opinions of the interviewees at that specific time. However, because the care farm participants were interviewed twice with a 9-month gap between their first and second interview there were informal interviews through the observation period which provided opportunities to gain a more in-depth explanation of their experiences (Farrall & Calverley, 2006). This meant that the analyses of these participants' transcripts reflected a long term assessment of their experiences at the care farm. It was not possible to interview all of the care farm participants due the time limitations of this study, however with the researcher's observations any agreement/differences between the opinions expressed in the interviews and the behaviour and practices observed were identified.

It is recommended in evaluation research in general and RE-AIM specifically that different groups of people are interviewed in an attempt to capture a fuller picture of the intervention as is possible (Pawson & Tilley, 1997; Glasgow et al., 1999), because each can provide different insights and information about the research (Matthews & Pitts, 2000). It was for this reason that the farmer and former service users were also interviewed. It was originally intended that a number of interviews would be undertaken with the farm mentors. However, during the research period the mentors were under pressure with increasing numbers of young people per session to care for that it was not possible for mentors to participate in an interview.

4.7.2 Observations

Observations are commonly used in evaluation research (O'Neill & McCarthy, 2014). The purpose of using observations in this study was to gain a better understanding of the operation of the care farm in addition to supporting the qualitative interviews and quantitative analyses. For example, the observations meant that participants' reports of their experiences at the care farm were not the only data and sources available for the purpose of this study. The longitudinal observation period provided an opportunity to monitor if there was an agreement between views and actions of participants (Pearson, McDougall, Kanaan, Bowles & Torgerson, 1992). Observations can provide context to the findings of this PhD study by providing interviewees with an opportunity to elaborate on beliefs and actions (Murphy & Lutze, 2009). It also allows the researcher to make judgements and draw upon scientific literature in relation to memos and observations to confirm or disconfirm or to follow up any issues of clarity as a researcher or with participants.

Subsequently, this form of triangulation increased confidence in the data and allowed the researcher to better understand the on-going processes of the care farm intervention because it enabled the researcher to monitor and watch the processes and situations as they occurred which may otherwise have been missed (Bryman, 1998). Observations also allowed the researcher to gather data based on watching individual behaviours or interactions directly and interpreting the results of behaviours and interaction (Bryman, 1998).

The physical environment of the intervention was critical to the evaluation, and so being physically present at the farm helped to increase the researcher's understanding of the intervention. Observations included the activities undertaken and the situations that occurred during sessions as well as noting if the environment itself appeared to have an impact upon participants. In addition to the quantitative and qualitative data yielded in this PhD study, observational notes and data strengthen the contextualisation of the research findings. Using and combining several data sources were highly beneficial to this thesis.

The researcher was aware that observations could be susceptible to observer bias and to the 'Hawthorn effect' (whereby participants can alter their behaviour when they know they are being observed; Monahan & Fisher, 2010). While indirect observation may decrease this problem it was not possible to indirectly observe the participants in this study, due to its longitudinal nature and ethical issues in doing so. In an attempt to minimise the effect that the researcher may have

had on participants, the researcher spent time at the care farm while those participants were present (in the six weeks prior to the start of the data collection period). This, combined with the frequency and length of time the researcher was present at the farm, appeared to help the participants to view the researcher as another familiar face. This was evidenced through conversations with the researcher that suggested the participants trusted the researcher and a change in participants' behaviour after the first few weeks (e.g. the participants stopped looking towards the researcher when they were carrying out activities in the same way they stopped doing this with the mentors), indicated their awareness of being observed had been reduced.

Observations can also be expensive compared to other data collection methods, which is why it was decided that only one group (once a week, over 9 months) would be observed in this study. However, the longitudinal aspect of the observations allowed the researcher to study the spontaneous behaviour of participants to gain a deeper insight into their experiences and lives and any subsequent impact of the care farm intervention on them over time. Undertaking observations on a weekly basis over a 9-month period (except during school holidays and due to examinations at school) helped the researcher to observe subtle changes in participants' behaviours and to link events from one week to the next, which helped to enhance the validity of the data. Observations were selected over ethnography (where more time would have been spent at the farm) because this study was an evaluation jointly funded by Bournemouth University and the farm in preparation for a potentially larger study. A comprehensive ethnographic approach was beyond the scope of this PhD study.

4.7.3 Secondary documents

Secondary documents relating to the care farm and participants (where ethical clearance permitted) were analysed throughout the fieldwork period of this study. Access to key documents was provided by the farmer and the administration staff. The documents contained information about participants' educational history, behaviour and academic attainment at school, any medical diagnosis, current family/care arrangements (and any issues) and the reason(s) for attending the farm. The knowledge yielded from these documents was often confirmed during the interviews with participants'. Access to the documents provided the researcher with a broader and more objective awareness of a participant's background. The information often helped the researcher to understand the underlying context of why a participant may have been behaving in a certain way or the meaning behind something that they were saying during observations and/or interviews. The documents helped the researcher to better understand the full processes of the farm and how this information is used to support individual participants. The usefulness of access to this documentation in this study meant that making use of both documents and observations allowed the researcher to get a better sense of the intervention site, its processes and the changing nature of participants (Ferlie et al., 2010).

This section has described the methods chosen for this research and discussed the strengths and limitations of each. The following section details how the PhD study was conducted.

4.8 Research procedure

Table 2 displays the three stages of data collection in this research. Firstly, the questionnaire pack was completed by the care farm participants and the participants in the comparison group over the course of a 5-day period at the end of October 2015. Six interviews were conducted with care farm participants during the same time frame. The data collected from this stage formed baseline data which would help to contribute to a greater understanding of any impact of the care farm intervention.

The second stage of data collection was completed over a 5-day period in February 2016. This period was the mid-point of the study/intervention. The questionnaire pack was again completed by the care farm participants and the participants in the comparator group. The primary reason the interviews were not repeated at this stage was because it was decided there would not have been enough time for any process changes to have occurred and also because of the cost and time limitations of this study.

The third and final stage of the data collection was undertaken at the end of May/early June 2016 and completed over a 10-day period. The timeframe of this data collection stage was extended from five days to ten days because many of the young people were off-site due to scheduled examinations. By returning to the site the following week all individuals were able to complete the final questionnaire pack and if relevant, the interview. The interview with the farmer was also completed at stage three. It was important to interview the farmer at the end of the data collection period to gain her view of what had happened in the nine months of the intervention, and any reflections she has on participants' development. The farmer's interview helped the researcher to contextualise her observational data findings about the farm that added valuable insight to understanding the care farm model.

Table 2: Data collection stages

Phase one (Baseline)	Initial care farm participant interviews *6 in total* Questionnaire packs completed by care farm participants *28 in total* Questionnaire packs completed by school pupils *25 in total*
Phase two (6 months)	Questionnaire packs completed by care farm participants *25 in total* Questionnaire packs completed by school pupils *25 in total*
Phase three (9 months)	Care farm farmer interview Follow-up care farm participant interviews *6 in total* Questionnaire packs completed by care farm participants *25 in total* Questionnaire packs completed by school pupils *25 in total*
Throughout the fieldwork	Weekly observations of one group of care farm users *24 observations in total*
Additional	Former care farm service user interviews *4 in total* Six-month post intervention follow up information *Information was obtained on what each of the 25 care farm participants were doing in specific reference to education, employment, training or other 6 months after the intervention*

Observations began at stage one (baseline) of the data collection and finished at stage three (post-intervention). Weekly observations of the same group were undertaken with a total of 24 observations being completed after school holidays/bank holidays and examinations (e.g. reasons for participants not being able to attend a weekly session being taken into consideration). Throughout the data collection timeframe secondary documents were read and any relevant information recorded to support the research and the evaluation of the care farm intervention.

Each stage of the research helped to inform and guide the next stage. For example, the initial interviews and conversations that took place during the observation sessions informed the semi-structured interview questions asked at stage three of the process.

The application and analysis of the quantitative and qualitative data yielded in this study are outlined in the following sections.

4.9 Quantitative data analysis

All three phases of the fieldwork involved the collection and analysis of quantitative sources of data, obtained through the questionnaire pack. The quantitative data was concurrently collected alongside the interviews at stages one and three and the observations at stages one, two and three of the fieldwork (Table 2). The quantitative analysis provided baseline, during and post comparisons on psychometric scales relating to environmental attitudes (e.g. nature relatedness), social factors (e.g. family, peers), intrapersonal factors (e.g. emotions and progression) and interpersonal factors (e.g. behaviour and beliefs). The quantitative data was collected to support the qualitative findings.

To be able to create scientific bases for the effectiveness of the care farm intervention it was important to use a robust evaluation framework (e.g. RE-AIM, effectiveness dimension) to identify whether there were any differences of psychological functioning between the care farm participants and a comparable group of young people who did not receive the intervention. Providing objective data to improve the evidence base for care farming was identified in the literature review (Chapter 2) and would help to broaden the understanding of the impact of the care farm for pre-NEET young people. The results from the questionnaire packs were analysed in three ways. First, the baseline data was analysed to identify any differences between the intervention group and the comparison group. The second stage of analysis compared the baseline/post-intervention data with the data obtained at six months and the third stage compared the data obtained at baseline and post-intervention between and within the two groups. Analysis was conducted using the IBM SPSS statistical software (Version 22, SPSS Inc., Chicago). Two SPSS databases were created. The first database contained the unique identification code for individual participants, demographic data and the component scores (e.g. the individual item response provided by the participant, which measures a specific aspect of the total scores). The second database held the same information but instead of component scores, contained total scores, which were derived from adding up specific individual scores.

Descriptive statistics were obtained for each measure and statistical significance was set at $p <$ .05. Statistical significance is the probability that the observed effect happened by chance. This is usually set at 5%: the outcome is statistically significant if there is a less than 5% probability, showing the outcome happened due to chance factors ($p < .05$; Mayers, 2013). Both data sets were subjected to preliminary analyses to assess normality (e.g. a distribution of scores that assumes the data points are symmetrically distributed around the mean, across groups and over time points) and outliers (e.g. an extreme score, which typically skews the distribution of the remaining scores). The maximum, mean and standard deviation were initially inspected for

each variable. Next the 5% trimmed means were checked, none of which displayed any substantial deviation, so no data points had a significant influence on the mean. The shape of the histogram, the normal Q-Q plot and detrended Q-Q plots, were inspected. The shape of the distribution was examined for the histograms, the Q-Q plots were checked to see if the observed value is in a relatively straight line when plotted against the expected values for the normal distribution and detrended normal Q-Q plots were checked for a clustering of points.

Boxplots were used to check for extreme outliers. SPSS displays outliers which are either 1.5 box-lengths from the edge of the box or extreme points which are more than 3 box-lengths from the edge. No outliers were identified in the dataset and so no data needed to be adjusted or removed from the dataset. Univariate normality was assessed using the Shapiro-Wilk test, which is recommended for a sample size of 50 participants or fewer (Mayers, 2013; Field, 2013). Z-scores for skewness and kurtosis were calculated (z = skew or kurtosis divided by its standard error) to view if a score is within a normal distribution, all were within the acceptable limits (i.e. within plus or minus of 1.96 for a sample of 50 or less; Mayers, 2013). In addition, homogeneity of variance (which is required for the conducting parametric test) was calculated by coefficients of variance and inspecting the Levene statistic and sphericity, which is an important assumption of repeated-measures ANOVA was calculated using Mauchly's test.

Analyses used parametric techniques including a series of:

- A series of independent t-tests were carried out to examine whether any differences arose between the farm and the school cohort data in relation to the outcome measures collected over the three time points: baseline, six and nine months.

- A series of paired t-tests were carried out to examine whether any differences arose between the farm cohort data in relation to the outcome measures collected over the three time points: baseline, six and 9 months.

- A series of one-way repeated measures one-way ANOVA were conducted to examine changes in the outcome measures collected over the three time points: baseline, six and 9 months.

The above tests were selected because the data were normally distributed. After the analysis was reviewed it was decided that the quantitative data collected at time point two (six months) would not be included in the results section of this study. These data reflected that between baseline and six months and between six months and post-intervention there was not enough effect to be observed. All quantitative results from this point will only focus on data collected at baseline and post-intervention. Thus, the quantitative results chapter (chapter 5) will draw directly on the numerical data to investigate if any behavioural, emotional or social changes occurred in the participants between baseline and post-intervention. The data were compared against the comparison group data.

4.10 Qualitative data analysis

Qualitative sources of data were collected at baseline, post-intervention and in-between these two time points. At baseline and post-intervention semi-structured interviews were conducted with six participants at the care farm. During the two time points a series of informal interviews and observations were undertaken and at post-intervention additional interviews with the farmer and former service users were completed. The qualitative analysis was utilised to compliment the data by providing meaning and experience of the participants attending the care farm, and thus the care farms overall impact.

Transcriptions of the interviews were completed by the researcher to enhance familiarisation with the data. These were checked by the researcher against the recordings to ensure accuracy and to listen again to the 'sense' of the comments, made through features such as tone of voice and verbal pauses. Each recording was listened back to at least once and the transcripts read several times after the transcription phase. The field notes, which had been generated from the weekly observations, were written up by the researcher immediately after each session to enhance accuracy and clarity. The results from the interviews and observations were analysed using IPA guidance for data analysis (Smith et al., 2012) with the assistance of the computer software package NVivo (NVivo qualitative data analysis Software; QSR International Pty Ltd. Version 10, 2012). Further details of both will be in the next section, which describes the data analysis of the qualitative data collected. The authenticity of the data was checked and verified by one of the supervisors of this study. The process of a 'mini-audit' was undertaken looking at sections of the interview scripts against the initial codes and themes (Smith et al., 2012). Feedback was provided regarding the clarity of the themes otherwise there were no significant points of disagreement.

The qualitative results chapter (Chapter 6) present the data that supports the identification of the five super-ordinate themes. The themes are presented independently to ensure there is clarification of the nature and the extent of their associated value to this study. The themes are supported by subthemes identified in the data; however, the subthemes and the evidential quotes can be relevant/refer to more than one theme or subtheme. The quotations in the qualitative results chapter were used based on their representativeness. All opinions collected during the observational fieldwork period are presented as they were expressed.

The following section describes how the raw data collected from the semi-structured interviews, observations and reflexive notes of this PhD thesis was analytically processed through specific phases of analysis to transform the data into the final five super-ordinate themes (Table 8, page 108 in Chapter 6) identified and new knowledge to support the aims of this study.

While different approaches to qualitative analysis exist, there are specific factors which all approaches aim to achieve (Miles & Huberman, 1994), and which are relevant to the qualitative data analysis of this PhD thesis. The aim of the qualitative analysis was to understand and explain the ways in which young people manage their day-to-day situations (which includes

their behaviour, emotions and social interactions) at the care farm. The interpretations of the qualitative data in this thesis were guided by internal consistency and the theoretical considerations of IPA (introduced in Chapter 4). The majority of the analysis was based on the words of the participants, the farmer and, the former service users, followed by the reflexive thoughts of the researcher. However, the farmer interview, the observation notes and the documentary analysis were not analysed systematically, thematically or with IPA but are used informally in Chapter 7 to provide additional support to the research findings.

Qualitative data analysis is based on inductive reasoning to interpret structured meanings taken from the data. The analysis is not simply explaining how something occurred, but to also explain why it has occurred. To effectively achieve this level of analysis, specific strategies allow the researcher to progress the raw data to an original and justified representation of the topic being investigated (Thorne, 2000). The various types of analysis considered for this study are briefly outlined below and why they were not suitable, before a more detailed discussion of the analysis used in this PhD thesis is presented.

Comparative analysis is a concept developed within grounded theory (Glaser & Strauss, 1967). It involves one piece of data and then comparing it to similar data to understand potential relations between the data. Comparative analysis was not suitable for this study because no comparable data is available for pre-NEET young people with BESDs attending care farms and no other care farms are using the same care farm model. Ethnographic analysis is usually undertaken over a long period of time and thus produces ideas that arise from fieldwork (typically observations) and are interpreted into a written format (Thorne, 2000). Ethnographic analysis was beyond the limitations of this study in regards to the time and the cost implications involved. Discourse analysis is the critical enquiry into the way language (e.g. speech or text) is used to understand what influences individuals' thoughts and behaviours. Discourse analysis was not suitable for this study because it was important to allow data beyond words (e.g. observing a young person sitting calmly with an animal) to be captured. Finally, a phenomenological approach, was considered because rather than looking for differences and similarities in the data the aim is to uncover the structure and the real meaning of an experience (Thorne, 2000). Thus IPA was used in this study to help understand the way the young person constructs meaning out of their experiences at the care farm, allowing the researcher to progress from a descriptive to an interpretive understanding (Smith et al, 2009).

The IPA framework guided the detailed analysis of narratives to allow themes to emerge from the data, rather than the researcher testing against a hypothesis based on current literature (which is currently minimal for pre-NEET young people with BESDs attending a care farm). IPA also allowed the discussion of the findings to be related to the literature review, which can be viewed as an extension of the analysis and broadening the understanding of the impact of the care farm.

There is no recommended method of data analysis for IPA, but the guidelines detailed by Smith et al. (2009) were used in this PhD study to guide the researcher's analysis of the qualitative

data that was harmonious with the phenomenological approach. The stages of analysis detailed by Smith et al., (2009) were followed and checked by one of the supervisors for this study, while NVivo was used to help organise the sets of data. It was intended that using NVivo would help to enhance the rigour of the qualitative research because the process is more systematic and transparent than analysing qualitative data by hand. NVivo was selected over other qualitative analysis software packages, because as identified, it was the most appropriate software for this project. Furthermore, it allowed qualitative and quantitative research documents (e.g. Word and Excel) to be easily combined for coding.

NVivo provides various functions which were used in this PhD study. Annotations allowed the researcher to make notes about the data (this was always in addition to hand written notes). The notes ranged from linking data to SDT or linking an observation to a quote from an interview. Coding permitted the researcher to code the interviews into relevant themes and sub-themes. The presentation of the codes in NVivo enabled the researcher to be able to glance at the codes if required to do so for prompting purposes or to check if the data fitted into a current code or if a new code needed to be created. Tree nodes allowed the researcher to organise themes and sub-themes, while relationships permitted the researcher to note links between the various themes, which were emerging. Finally, memos were useful for noting anything such as the researcher's thoughts and feelings, any comparisons noticed between participants and any ideas linking data or SDT to the themes. As previously discussed in Chapter 4, interviews were transcribed by the researcher checked for accuracy and any identifying information was removed before the analysis.

Analysing longitudinal data required investigating the qualitative data in two directions. 'Diachronic analysis' (Thomson, 2007) was used to examine the findings between participants and over time. All interview data captured longitudinally across time was considered important to better understand any impact the intervention had on participants. The researcher had to consider the two interviews with each participant as one script, in addition to viewing them separately with the other interviews captured in the same timeframe (e.g. the farmers and the former service users at post-intervention). This provides the researcher with a broader and detailed understanding of participant experiences and any impact from attending the care farm (Thomson & Holland, 2003). All extracts of interviews, observations or reflexive notes, which were identified to have the same or similar coding were viewed together, which helped to understand the story that created each theme (Saldana, 2003). The researcher followed Molloy et al. (2002) recommendation to think about the following questions when looking at the data for any change between the two time points (e.g. baseline and post-intervention): Has any change occurred?/What has changed/How or through what mechanism has change occurred?/Why has change occurred?

The following section describes the steps of IPA analysis set out by Smith et al. (2009). In this section a description of the steps of IPA analysis (Smith et al., 2009) and how they were used to guide the analysis, using examples from the qualitative findings to illustrate will be presented. For the purpose of transparency, the steps undertaken are presented in a linear fashion,

however the process was typically more flexible, with the researcher moving backwards and forwards between the steps as the researchers understanding of the findings improved.

Step 1: Reading and re-reading

The first stage of analysis involved reading and re-reading of the transcripts (Warwick, Joseph, Cordle & Ashworth, 2004). The purpose of step one is for the researcher to become immersed in the transcript to gain a deeper engagement with the data, while attempting to separate their own preconceptions. This process attempts to draw the researcher closer to the lived experience of the participant, while developing an awareness of their own perceptions. This process can raise awareness of any possible bias thus helping to counter act it.

Initially, each interview was listened to before reading the transcript. This process was repeated until the researcher felt fully acquainted with the content of the transcript. The researcher reflected on their own feelings during the interview and any feelings that arose while reading the individual transcripts. These two processes combined formed the 'separation', which allowed the researcher to engage with the transcript in a different way. Below is an example about Cecil (pseudonym, care farm participant) a 15-year-old male with ADHD and learning difficulties (including SEN) who was frequently excluded from school because of behavioural problems:

> 'The first time I met Cecil in the kitchen at the farm I made an assumption
> about the 'type' of person he was based on his behaviour and his lack of
> engagement with his peers and the mentors. Cecil's withdrawn behaviour
> was an attempt to go unnoticed and hide his vulnerability'.

This example was selected because it was one extract where there was a distinction in the way the researcher engaged with the transcript before and after 'separation'. The researcher's opinion of Cecil was influenced by assuming he was a certain type of person, however, after becoming aware of 'influence' the researcher was able to interpret various factors in the transcript, which had not been previously noticed.

Step 2: Initial noting

The transcript was examined and everything of interest was noted to reflect the initial thoughts and observations (Chapman & Smith, 2002). The notes typically comprised of descriptive comments, which is a summary of what had been said:

> 'Having support from the farmer and the mentors helped to reduce my
> initial fear of being in the barn with the cows' (Lillian; pseudonym, care
> farm participant).

Linguistic comments explored the specific use of language:

> 'Arthur (pseudonym) was struggling to communicate difficult feelings
> relating to his step-dad which he found confusing. Use of 'like' and 'you
> know' emphasised his struggle to explain' (Researcher).

Conceptual comments focused on engaging at a more conceptual level:

> 'Participants' appear to be developing a relationship between acceptance
> and participation. They accept their current situation at the care farm can
> lead to positive outcomes on their behaviour and emotions, which benefit
> the wider context of their lives such as school or their home life'
> (Researcher).

This process was assisted by using annotations and memos (for longer notes) in NVivo.

Step 3: Developing emergent themes

This stage involved identifying and labelling important parts of the transcript and making a concise statement to summarise the researcher's notes from Step 2. It was important that the researcher checked the transcript to ensure the themes were linked to participants' account (Warwick et al., 2004). This task was enabling the comments and stories of participants to form the foundations of the emerging themes (Chapman & Smith, 2002). This step was undertaken in NVivo by creating a node for each emerging theme, and then 'coding' each node into a theme, or more than one theme where relevant. To ensure participants' descriptions were not 'lost' their words were used (where applicable) to describe the emerging theme(s): 'benefit from attending the care farm' and 'acceptance of problems at school'.

Step 4: Searching for connections across emergent themes

At this stage, structure was introduced to the coding frame by constructing clusters of themes. This was the second stage of the coding process that allowed links between themes and shared meanings to be identified. Participants' 'accounts' were turned into a visual diagram that allowed important aspects to be more easily identified. This was completed in NVivo by coding sections of the transcript into Tree Nodes, and using memos to explain any complex relationships between different themes. An example of a memo concerning a relationship between themes:

> 'Towards the end of the intervention it was clear that participation in the
> farm affected participants' identity. This has been identified in pervious
> care farm studies and confirmed by participants in this study. It appears
> this is a two-way process. Participation at the care farm can affect the
> participants' sense of identity, while a change in their identity can affect
> their ability and motivation to participate' (Researcher).

Step 5: Moving to the next case

An important aspect of IPA is the researcher's ability to view each participant's transcript individually and to not allow emerging ideas from the previous transcript to influence their initial coding of the next transcript. To comply with this concept, the researcher took at least 24 hour's break from analysing one transcript before moving on to the next transcript. It was intended that this provided space to interact with each transcript in its own right.

Step 6: Identifying patterns across cases

The final stage of the analysis was creating a table of super-ordinate and sub-themes for the purpose of presenting a concise and logical outline of the themes. The researchers own understanding and interpretation of participants' accounts was important to this process because it helped the researcher to decide what to present and how it should be presented and it what order (Smith & Eatough, 2006). This step involved comparing individual cases to find commonalities and where relevant re-labelling some of the themes to reflect the combined factors. It was important to understand patterns over time and between cases (longitudinal analysis), and the tables of themes helped to view and identify these patterns. A number of the original themes were not relevant to the impact of the care farm and the experiences of the participants and these were removed from the final set of themes. Some smaller themes were subsumed within bigger themes e.g. 'plans after leaving the farm' became subsumed within 'hope' (emergent theme) which was categorised in 'personal functioning' (super-ordinate theme).
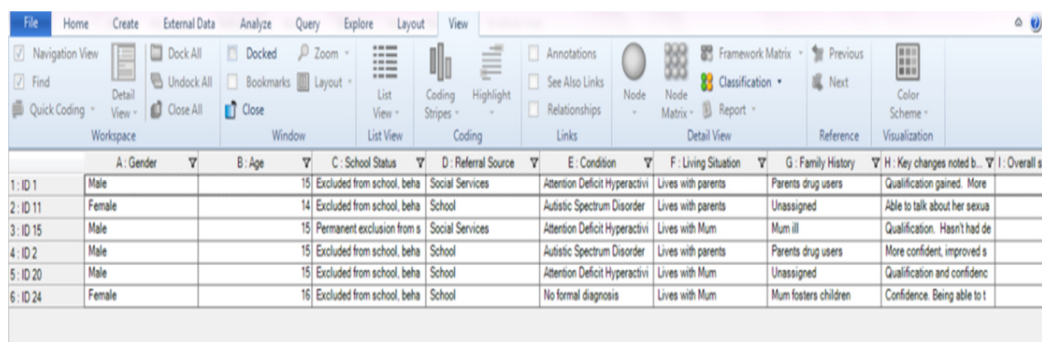
Notes from a new transcript were compared to the existing tree nodes and then coded to an existing node, or a new node was created. The memos helped the researcher to understand the differences between cases. An example of a memo:

> 'I was interested in the differences between all participants' references to a 'change of identity' between baseline and post-intervention. Was this related to the impact of the care farm intervention? If so, when did the 'change of identity' begin to develop?' (Researcher)

The observational notes were coded under the same guidelines and procedure.

Screenshot examples of workings taken from NVivo are presented on the following pages:

Figure 5: Report generated on participant attributes

	A : Gender	B : Age	C : School Status	D : Referral Source	E : Condition	F : Living Situation	G : Family History	H : Key changes noted b...	I : Overall st
1 : ID 1	Male	15	Excluded from school, beha	Social Services	Attention Deficit Hyperactivi	Lives with parents	Parents drug users	Qualification gained. More	
2 : ID 11	Female	14	Excluded from school, beha	School	Autistic Spectrum Disorder	Lives with parents	Unassigned	Able to talk about her sexua	
3 : ID 15	Male	15	Permanent exclusion from s	Social Services	Attention Deficit Hyperactivi	Lives with Mum	Mum ill	Qualification. Hasn't had de	
4 : ID 2	Male	15	Excluded from school, beha	School	Autistic Spectrum Disorder	Lives with parents	Parents drug users	More confident, improved s	
5 : ID 20	Male	15	Excluded from school, beha	School	Attention Deficit Hyperactivi	Lives with Mum	Unassigned	Qualification and confidenc	
6 : ID 24	Female	16	Excluded from school, beha	School	No formal diagnosis	Lives with Mum	Mum fosters children	Confidence. Being able to t	

Figure 6: Coding of transcript document
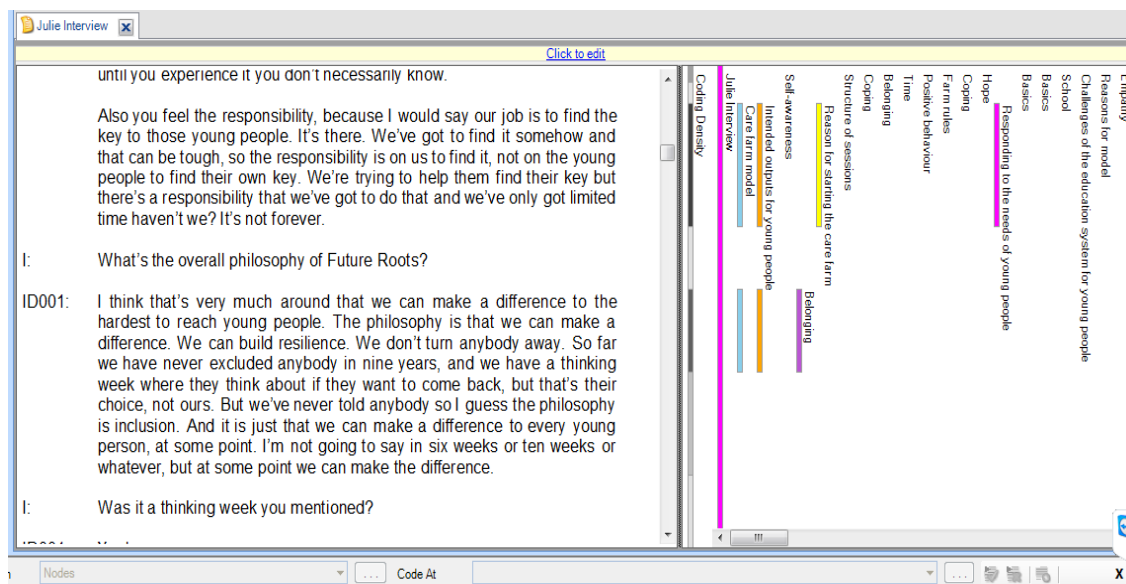
Figure 7: Example of a Code Node memo
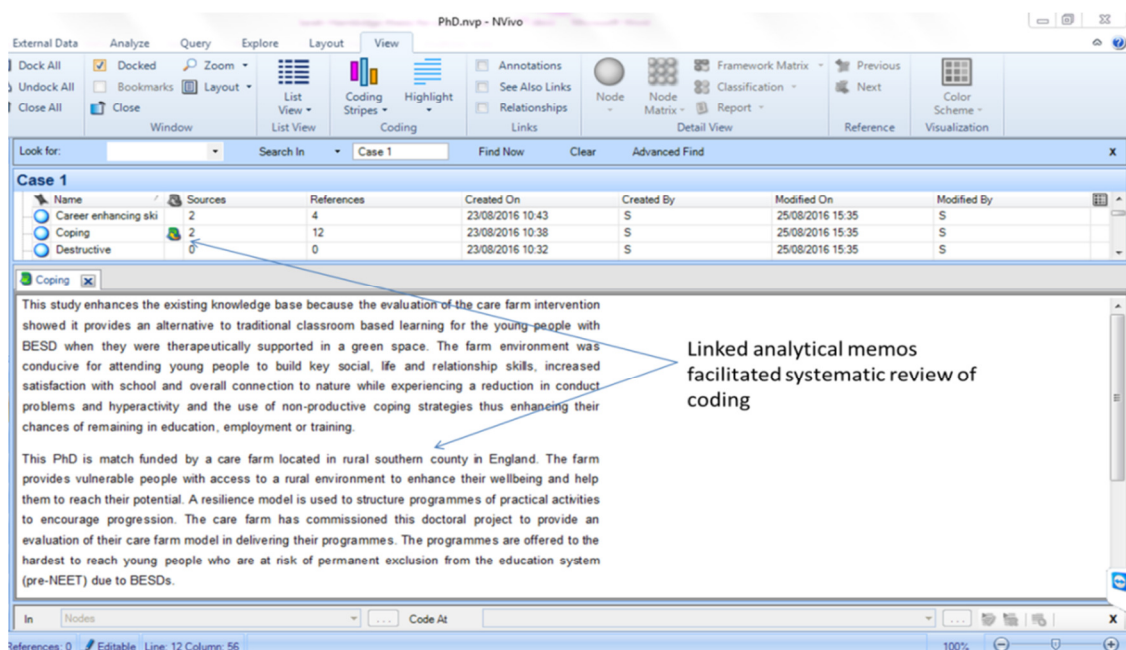
Figure 8: Example of a super-ordinate theme
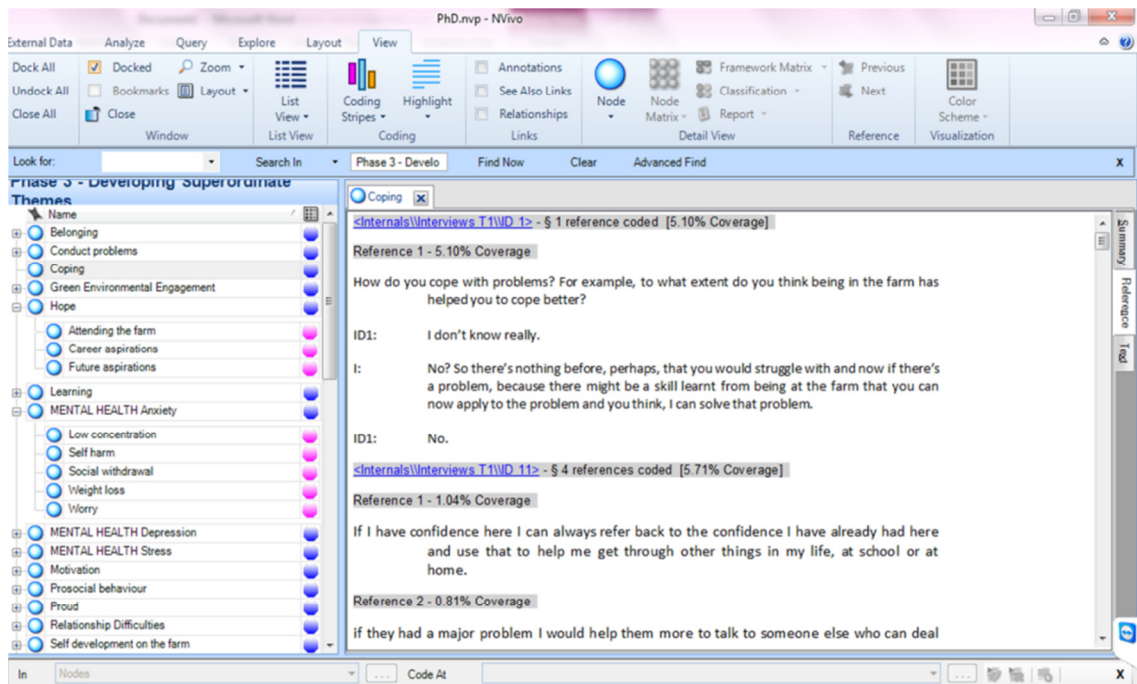
Figure 9: Illustration of group set explored
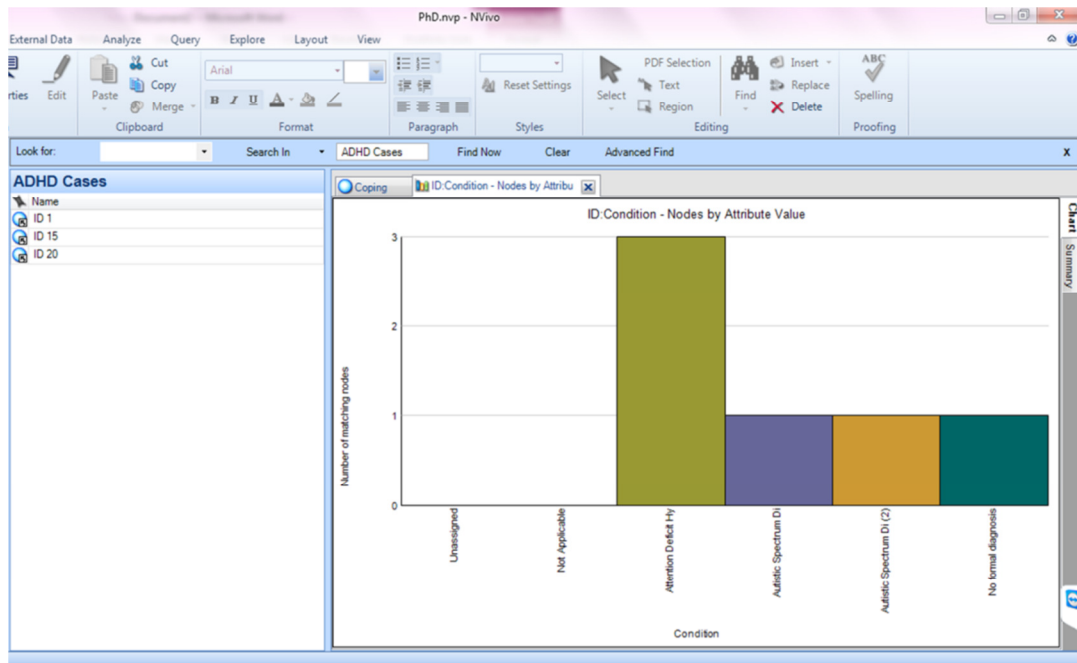
Figure 10: Report generated on participant attributes
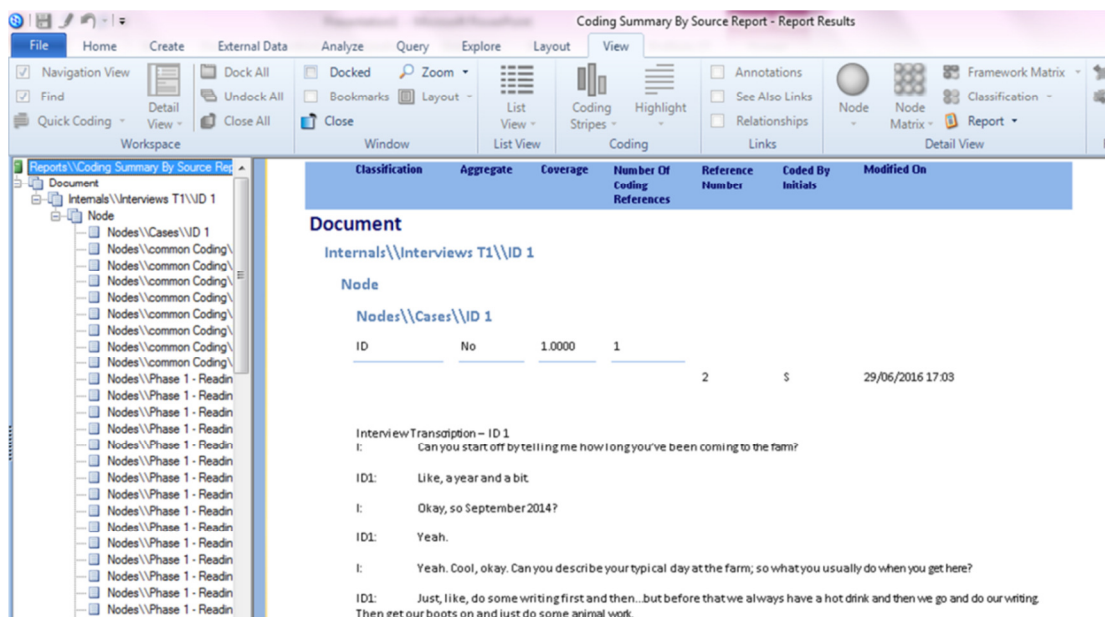
4.11 Fieldwork processes and ethics

The previous sections in this chapter contained the description of the research design, theoretical frameworks and research techniques used, while this section will explain the processes used in the fieldwork period to ensure the research was conducted in an ethical and accountable manner. This study is a part-funded research and the stakeholders required annual updates and feedback on completion. The implication of the research being funded was that an independent evaluation had to be preserved. However, to establish that this would not put pressure on the researcher to produce positive results, 'collegiality' (Manzi & Smith-Bowers, 2010) was established to ensure that both the researcher and the stakeholder had the same objectives and were committed to the goal of seeking the truth (Manzi & Smith-Bowers, 2010). Both the care farm owner and the farm staff supported the research by ensuring access when appropriate, not seeking to interfere or influence the participants or the data being collected and agreeing to change any current practices if findings suggested it to be beneficial to service users.

4.11.1 Ethics

Ethical approval (for all aspects of this study) was awarded by the Ethics Board at Bournemouth University. The researcher also completed the Bournemouth University Ethics Modules and is deemed ethically competent by the university.

4.11.2 Anonymity and confidentiality

It was important to recognise the potential impact of young people disclosing information about any involvement in crime or illegal behaviour (e.g. such as taking non-prescribed drugs or medication or under-aged consumption of alcohol), which was known to be commonplace with some of the participants. It was decided that the researcher would not disclose this information, but would only disclose information if it was a legal requirement to disclose instances, or risks, of harm or abuse to children aged under 18 years or other child protection concerns. The consent form and the participant information sheet clearly explained the level of confidentiality (Appendix 3).

It is not possible to conduct confidential research because of the subsequent implications with publishing the findings and any matters of disclosure that need reporting (Wiles et al., 2005). However, the location of the farm was anonymised to help protect participant's identities and the questionnaires were anonymised by changing names into a unique identification code known only by the researcher. This allowed personal information to be kept separate from the data. Only data sets with identification codes were shared with the supervisors of this project at the analysis stage (Wiles et al., 2006). Identifiable details (such as the participant's name) are changed to a pseudonym in Chapter 6 and 7 of this study because it did not implicate the integrity of the data (Becker & Bryman, 2004).

4.11.3 Consent

The term 'young people' refers to all persons under the age of 18 years, generally from 14 to 17 years of age (HM Government, 2015). Whilst the intention of the study was to treat young people as autonomous individuals, capable of making their own decisions, legislation states that those under 16 are not legally competent to provide consent. This was sought from an appropriate adult (parent or guardian) before gaining assent from the young person.

Recommendations on individual service users, who were or were not suitable participants, was sought from the farmer (primary gatekeeper), before consent was sought from the parents/guardians. Gaining the consent of the farmer enhanced judgement and increased the ethical robustness of the study (Wilkinson, 2002). The farmer's existing knowledge of individual service users and duty-of-care protected the well-being of participants that acted as an additional safeguard. Active consent was used, whereby parents/guardians were required to sign and return a form indicating their consent for their child to participate. A non-return of the consent slip would have been taken as an indication that the parent(s)/guardian(s) did not want their child to participate (Appendix 3). However, all of the parent/guardians returned a completed consent form. Participants were asked to provide signed assent, after being provided with a written explanation of the research, in an age appropriate format (Appendix 3). A verbal discussion of the research project was also undertaken by gatekeepers at the farm (staff) with the young people before and during the research process. Participants were free to leave the study at any time without giving any reason.

4.11.4 Participant information sheet

Participants were provided with the participant information sheet and consent form (Appendix 3) two weeks before the research commenced. The information sheet explained the purpose of the research, why they were being asked to participate and what they would be invited to do. The service users may have felt vulnerable and compelled to participate (Department of Health, 2005) so extra time and care was taken to discuss the information sheet with each service user to ensure they understood all aspects of participating in the research. A typical discussion involved explaining to the participants that the research may not have any direct benefit for them personally (McKane & Tolson 2000), and any potential benefit(s) will contribute towards an improved understanding of the organisation and the wider benefits to service users. Confidentiality procedures, how the information they provide will be used and additional information including contact details for the BU ethics committee and the BU complaints procedure, was also highlighted. No complaints or issues arose from this study. Only participants with intellectual capability completed and participated in this research study (e.g. those able to give 'valid' answers to questions). Permission for the semi-structured interviews to be audio-recorded was also sought. The transcription of the interviews was completed by the researcher so there was no requirement to use a third-party transcription service. IPA is interpretative, so the validation strategy of 'member-checking,' was not completed Harper & Thomas, 2011).

4.11.5 Verbal and on-going consent

Verbal and on-going consent was confirmed before each questionnaire pack or interview was completed to improve the ethical research procedure (Usher & Arthur, 1998) to acknowledge that participants have the right to change their mind. Observations were taken over a number of weeks and those observed during these sessions that were not part of the research (e.g. visitors, volunteers) were not issued with a consent form. Instead these individuals were informed of the researcher's presence and the purpose of the research, and in all cases these individuals agreed to the observation continuing.

4.11.6 Risks and safeguarding participants

The interests and rights of the participants were the primary consideration when conducting this research. There was a duty to ensure the method was appropriate for the group (e.g. length of the questionnaire or the use of appropriate wording in the interview schedule) and would not cause participants any physical or psychological harm. It is recognised that misunderstanding questions and instructions could be a potential cause of distress for participants in terms of causing anxiety, embarrassment, and/or confusion. To minimise any potential effect, the research instruments were piloted before being used with the participants. The questionnaire pack was piloted on six young people who attended the farm (who were pre-NEET with BESDs, but who were not eligible to be part of the main study) and six young people (in the same age group) who did not attend the farm. A pre-test of the questions allowed the appropriateness of the measures to be checked and to ensure the young people did not understand or interpret

questions differently from the way the researcher intended (Borgers et al, 2000; Scott, 2008). The interview schedule was discussed with one young person at the farm who was not part of the research study and one young person who did not attend the farm to check that questions were easy to understand and answerable. There was no change to instruments or the interview schedule after this piloting process. The data obtained from testing the instruments was not included in the overall analysis.

4.11.7 Data storage

Electronic data were stored securely on a Bournemouth University password-protected computer; all participant files were protected by personal identification numbers known only to the researcher or used to identify interviewee or observation quotes (Chapter 7). Paper documents (e.g. completed questionnaire packs, interview transcriptions and observation notes) were kept in a locked cabinet while associated consent forms were stored in a separate secure cabinet. Audio recordings were transcribed by the researcher and once checking procedures had been completed the recordings were destroyed. The data will be securely held for at least five years, as a requirement of the BU ethics committee, after which it will be appropriately destroyed.

4.11.8 Right to withdraw

Participants were reminded at each data collection phase of the study that they had the right to withdraw at any time, with the assurance that this would not adversely affect their relationship with the farm or the staff.

4.11.9 Debriefing

After each completed phase of the data collection, participants were given the opportunity to discuss their experience of the research process and to raise any questions or issues. Each participant was individually debriefed to ensure any comments remained private. Debriefing with young people who are regarded as vulnerable was dealt with in a sensitive manner by ending conversation and interaction naturally, rather than simply stopping once data collection had been fulfilled. None of the participants reported any concerns about the research directly to the researcher or indirectly to their mentors.

4.12 Summary

This chapter detailed the research design and techniques used in this evaluation of a care farm intervention for young people with BESDs. This PhD study used a mixed methods pilot study design which is considered appropriate for assessing the impact of the intervention on pre-NEET young people; an area that is currently under researched. The study employed the RE-AIM evaluation framework to advance the scientific evidence-base of care farm interventions for young people with BESDs and to better understand the potential public health impact. Three of the five RE-AIM dimension reach, effectiveness and implementation, on which an intervention

can be thoroughly evaluated were used in this study. In this chapter all data collection techniques and sources were clearly stated.

The fieldwork was undertaken in sequential stages to allow individual methods to support and triangulate each other. The strengths and weaknesses of this study and the researcher's decisions about this PhD process have been discussed. The limitations of the methods used were also highlighted, but when used in parallel, comprehensive findings on which conclusions about a care farm intervention for young people with BESDs can be drawn.

The use of both qualitative and quantitative data has been undertaken in previous care farm studies, but not with service users who are deemed pre-NEET young people with BESDS. The pragmatic approach allowed the researcher to select methods which were deemed suitable for the participant group to obtain the type of information required, as informed by the literature review. The use of the questionnaire pack, the interviews and observations provided a broader and comprehensive depiction of participants' experiences and the subsequent impacts of attending the intervention. The longitudinal aspect of this study allowed for any longer-term changes and impacts to be captured, which otherwise might have been missed. The RE-AIM framework enhanced the quality of the evaluation by proving a better understanding of the interventions <u>reach</u>, <u>effectiveness</u> and <u>implementation</u> (with limited reference to <u>adoption</u> and <u>maintenance)</u>. The inclusion of a comparison group provided reliable baseline data to compare participants' results and any subsequent changes. The findings of this research provided a comprehensive and unique contribution to knowledge by making use of the RE-AIM evaluation framework to understand why and in what ways the intervention is successful.

Chapter 5 and 6 of this PhD thesis details the quantitative and the qualitative findings of the research.

Chapter 5: Quantitative results

Chapter 4 discussed the evaluation approach and the methods used for this study. This chapter presents the findings of the quantitative research. It begins by outlining the demographic data of the care farm participants (intervention group) before looking at any relationships between the longitudinal impact of attending the care farm and the behavioural and well-being measures included in the validated questionnaire pack. To gain a better understanding of the extent to which change continues while the participant is attending the care farm, the analyses looked at participants' scores between baseline and post-intervention and any differences between the intervention group and the comparison group at baseline and intervention.

A discussion of the quantitative measures and the descriptive statistics used to analyse the resulting data was presented in Chapter 4. The quantitative findings of the study contributed towards the RE-AIM framework by evaluating the reach (e.g. number of participants) and the effectiveness (e.g. results of the outcome measures) of the care farm intervention.

The findings specifically attempted to answer the second research question (RQ2) for this study, which focused on how the care farm model impacts on the mental, behavioural and social development of participants.

5.1 Demographics

The intervention group comprised of a total of 25 participants; 19 males and 6 females. Their ages ranged from 13-16 years old (M=14.4 years $\pm SD$ .870) with 16% of the participants aged 13 years, 32% aged 14 years, 44% aged 15 years and 8% aged 16 years old. All of the participants attended the farm once a week, except one male participant who attended twice a week.

The comparison group comprised of a total of 25 participants, 17 males and 8 females. Their age range was 13 – 14 years old (M=13.1 years $\pm SD$ .374) with 84% of the participants aged 13 years and 16% aged 14 years.

The gender, ages, reason for referral to the farm, the source of referral, any diagnosed conditions and living situation of participants are shown in Table 3.

Table 3: Intervention group gender, ages, reason for referral to the farm, the source of referral, any diagnosed conditions and living situation.

		No.	%
Gender	Male	19	76
	Female	6	24
Age (in years)	13	4	16
	14	8	32
	15	11	44
	16	2	8
Reason for referral	Low attendance at school, behavioural problems	5	20
	Excluded from school, behavioural problems	10	40
	Excluded from school, behavioural & anger problems	5	20
	Permanent exclusion from school, behavioural problems	2	8
	Permanent exclusion from school, behavioural & anger problems	3	12
Source of referral	School	16	64
	Social services	9	36
Conditions	No formal diagnosis	3	12
	Learning difficulties (inc. SEN)	3	12
	Attention Deficit Hyperactivity Disorder	5	20
	Attention Deficit Hyperactivity Disorder + learning difficulties (inc. SEN)	8	32
	Attention Deficit Hyperactivity Disorder + Autistic Spectrum Disorder	2	8
	Autistic Spectrum Disorder	2	8
	Autistic Spectrum Disorder + learning difficulties (SEN)	2	8
Living situation	Living with parents	14	56
	Living with Mother	7	28
	Living with Father	2	8
	Living with Grandmother	1	4
	Foster Care	1	4

5.2 Questionnaire results

Table 4: Baseline scores between the intervention and comparison group

	Intervention (n=25) Mean	± SD	Contrast (n=25) Mean	± SD	*p-value*
SDQ					
Total difficulties	16.36	5.21	11.84	4.86	.796
DASS-21					
Depression	11.12	9.76	6.24	8.6	.373
Anxiety	9.12	7.23	5.52	5.92	.280
Stress	14.28	7.63	6.24	7.62	.964
ACS II					
Productive coping	60.00	12.91	60.00	14.14	1.00
Non-productive coping	53.60	18.00	48.80	13.01	.103
BMSLSS-PTPB					
Overall	3.26	.812	4.02	.770	.825
NR-6					
Total nature relatedness	3.12	.830	2.76	.831	.699

SD=Standard deviation

The mean scores at baseline between the intervention and comparison group show there were no significant differences in those scores at this time point.

Table 5: Baseline and post-intervention scores for the intervention group

	Baseline (n=25)		Post-intervention (n=25)		
	Mean	± SD	Mean	± SD	*p-value*
SDQ					
Total difficulties	16.36	5.21	14.72	5.59	0.08
DASS-21					
Depression	11.12	9.76	13.44	11.56	.293
Anxiety	9.12	7.23	11.04	9.66	.273
Stress	14.28	7.63	16.00	8.79	.242
ACS II					
Productive coping	60.00	12.91	60.80	14.69	.824
Non-productive coping	53.60	18.00	46.40	22.89	.047
BMSLSS-PTPB					
Overall	2.36	.81	3.56	.79	.115
NR-6					
Total nature relatedness	3.12	0.83	3.69	0.95	.017

SD=Standard Deviation

The total item score for each of the questionnaire scales was tested with a paired samples t-test for changes in mean value in the intervention group between baseline and post-intervention. Differences in the mean value were found to be statistically significant for the following measures:

- There was a statistically significant decrease in non-productive coping scores from base line to post-intervention $t(24) = 2.09$, $p=.047$, $d=0.34$. (small effect size) which indicates participants were using fewer non-productive coping strategies.
- There was a statistically significant increase in the total nature relatedness score between baseline and post-intervention $t(24) = -2.56$, $p=.017$, $d=0.67$ (medium effect size) which indicates that participants had become more related to nature.

Individual items for each of the questionnaire scales were tested using a paired samples t-test for changes in mean value in the intervention group between baseline and post-intervention. Differences in the mean value showed improvement and to be statistically significant for the following individual measures:

- Conduct problems scores $t(24) = 6.45$, $p=.010$, $d=0.34$ (small effect size; SDQ)
- hyperactivity scores $t(24) = 2.52$, $p=.019$, $d=0.46$ (small effect size; SDQ)
- satisfaction with school score $t(24) = -2.86$, $p=.009$, $d=0.41$ (small effect size; BMSLSS-PTPB)
- how their actions affect the environment $t(24) = -2.61$, $p=.015$, $d=0.65$ (medium effect size, NR-6)

Table 6: Baseline and post-intervention scores for the comparison group

| | Baseline (*n*=25) | | Post-intervention (*n*=25) | | |
	Mean	± SD	Mean	± SD	*p-value*
SDQ					
Total difficulties	11.84	4.86	11.64	5.92	.796
DASS-21					
Depression	6.24	8.6	8.32	11.44	.119
Anxiety	5.52	5.92	6.64	7.38	.283
Stress	6.24	7.62	8.48	9.15	.119
ACS II					
Productive coping	60.00	14.14	61.60	14.08	.538
Non-productive coping	48.80	13.01	47.20	18.14	.627
BMSLSS-PTPB					
Overall	4.02	.770	3.85	0.895	.161
NR-6					
Total nature relatedness	2.76	.831	2.82	1.84	.818

SD=Standard Deviation

The mean scores between baseline and post-intervention for the comparison group show there were no significant differences in those scores between the two time points.

5.3 Summary

The longitudinal quantitative data of this study suggests that spending time on the care farm is significantly associated with a reduction in conduct problems and hyperactivity and the use of non-productive coping strategies. There were significant associations with increased satisfaction with school and overall connection to nature.

However, peer difficulties remained a problem for the intervention group and the quantitative results yielded non-significant findings. Reports of depression, anxiety and stress showed also no significant change over time and appeared to have slightly increased during the duration of the intervention. Levels of depression, stress and anxiety were also non-significant but appear to have the tendency to increase within the comparison group from baseline to intervention.

The quantitative findings confirm the RE-AIM dimensions of: 'reach' and 'effectiveness': the care farm is a suitable intervention for pre-NEET young people with BESDs as demonstrated by the impact in the above outcomes which have reached significant levels.

The quantitative data analysis in this study confirms that time spent at a care farm can significantly improve some of the outcomes measured, namely specific benefits were desired relating to components of more effective behavioural, emotional responses, well-being and connection to nature.

Chapter 6: Qualitative results

This section explores participants' perceptions on the impact of attending the care farm. The Interpretative Phenomenological (IPA) framework informed the data analyses process in this chapter (see Chapter 4 for rationale and process). Participants' accounts provided a better understanding of the intervention impact on the lives of young people with BESDs. This chapter will focus on the qualitative analysis and results while the implications will be discussed in Chapter 7, in conjunction with quantitative findings (which were examined in Chapter 5).

A total of six participant interviews at baseline and six interviews (with the same participants) post-intervention were completed. At baseline the interviews lasted between 12-20 minutes and post-intervention between 15-35 minutes. One interview with the farmer was completed which was 50 minutes in duration and four interviews with former service users were completed which lasted between 8-15 minutes.

Demographic data were collected from the first questionnaire (baseline) and secondary data sources (referral and progress forms) for each participant used by the care farm staff. Table 19 presented on the next page contains demographic information about the six interviewees, including the reason why they are attending the care farm.

Three of the research questions (RQ) for this study stated below were answered by using qualitative techniques:

> RQ1: What does attending a care farm mean to pre-NEET young people with behavioural, emotional and social difficulties?
>
> RQ2: How does this care farm model have an impact on the physical, mental and social development of pre-NEET young people with behavioural, emotional and social difficulties?
>
> RQ3: How does the natural environment have an impact on the care farm experience of pre-NEET young people with behavioural, emotional and social difficulties?

Table 7: Demographic information of interviewees

ID Pseudonyms	Sex	Age	Reason for attending farm	Referral	Condition(s)
Cecil	Male	15	Exclusions from school, behavioural problems	Social Services	Attention Deficit Hyperactivity Disorder + learning difficulties (inc. SEN)
Cooper	Male	15	Exclusions from school, behavioural problems	School	Autistic Spectrum Disorder + learning difficulties (inc. SEN)
Audrey	Female	14	Exclusions from school, behavioural problems	School	Autistic Spectrum Disorder
Arthur	Male	15	Previous permanent exclusion from school, behavioural and anger problems	Social Services	Attention Deficit Hyperactivity Disorder + learning difficulties (inc. SEN)
Hunter	Male	15	Exclusions from school, behavioural problems	School	Attention Deficit Hyperactivity Disorder + learning difficulties (inc. SEN)
Lillian	Female	16	Exclusions from school, behavioural problems	School	No formal diagnosis

The transcripts and notes were coded and analysed using QSR*NVivo software. When using qualitative data analysis software, the computer is used as a tool for efficiency and not as a tool which conducts analysis and draws conclusions. NVIVO is a computer programme available to assist with qualitative analysis and is an aid to sorting and organising sets of data. Computer-assisted qualitative data analysis software (CAQDAS) has been used since the 1980's to assist qualitative analysis (Kelle, 1995). It is suggested CAQDAS can increase the rigour of qualitative research because the process is more systematic and transparent, although there is still criticism that computer programmes may alienate the researcher from the data (Kelle, 1995).

Five higher order themes were identified from the qualitative data which showed to have applicability throughout the analysis in relation to the impact of the care farm and any associated outcomes and consequential changes for the participant: 1) Green environmental engagement; 2) Personal functioning; 3) Social functioning; 4) Personal development; 5) Reduction in self-reported mental health risks and behavioural regulation difficulties. This was in addition to 24 emergent (sub-themes) derived from 124 initial open codes.

Table 7 displays the structure of the super-ordinate themes and the subordinate themes created in NVivo to analyse the qualitative data. Examples of the coding undertaken are presented using excerpts from interviews with the care farm participants. Further details of the themes and excerpts from the interviews will be given in Chapter 7. The interviews undertaken with the farmer, former care farm service users and the notes from the weekly care farm sessions observed will be used where appropriate to support the themes and the participant excerpts in Chapter 7.

Table 8: Results from the NVivo coding structure for the qualitative analysis

Super-ordinate theme	Emergent theme	Excerpt from interview
Green environmental engagement	Exposure to the green environment	'I've started spending more time outside since coming to the farm. (Hunter).
	Physical space creating a sense of freedom	'Being outside, helps me to relax if I'm stressed out because I don't feel trapped like I do when I'm in a classroom' (Arthur).
	Increased physical activity	'When I've been physically active at the farm I feel happier so now I'm happy to do PE at school' (Audrey).
	Positive experiences with animals	'I love spending time with the animals. They don't judge me and I can rely on them to be there when I come to the farm' (Lillian).
Personal functioning	Coping	'When I'm upset I think how I handled situations at the farm and I try to apply them to the thing I'm not really coping with. It helps' (Lillian).
	Trust	Learning to trust the animals helped me to realise I can trust other people' (Lillian).
	Emotional regulation	'I'm able to control my temper better' (Arthur).
	Self-regulation	'I struggle at school, nothing will change that but now I can control my anger which helps make school manageable' (Cecil).
	Self-development	'I've learnt a lot of skills which will help me get a job when I leave (farm). I've learnt what I'm good at (Audrey).

Super-ordinate theme	Emergent theme	Excerpt from interview
Social Functioning	Pro-social behaviour	'I am more helpful, so, if I see someone struggling, and I actually enjoy helping people' (Arthur).
	Sense of belonging	'The staff (farm) they're not like teachers, they're like family' (Arthur).
	Trust	'I trust everyone here at the farm, especially the farmer and the farm staff' (Lillian).
	Interpersonal skills	'Everyone works as a team at the farm' (Cecil). '
	Social inclusion	From the moment I arrived I was made to feel welcome here, even on the days when I was misbehaving' (Arthur).
Personal development	Skill leaning	'I've learnt lots of useful skills that are going to help me get a job when I leave here like caring for the animals and driving the tractor' (Hunter).
	Re-engagement with school	'I make sure I get my homework completed on time now' (Arthur).
	Career aspirations	'I'd like to work with animals when I've finished college' (Lillian).
	Identity development	'I've learnt that I can be honest about who I am and being different doesn't matter' (Audrey).
Mental health development and behavioural regulation difficulties	Depression	'Before coming here (farm) I use to think that I'm not good enough for anyone or that I disappoint everyone' (Audrey).

Super-ordinate theme	Emergent theme	Excerpt from interview
Mental health development and behavioural regulation difficulties (Continued)	Anxiety	'Before I wouldn't volunteer to do anything or really speak to anyone but I'm not so worried anymore' (Lillian).
	Stress	'Normally it's like someone mentions family and I just lose it and get upset for no reason' (Cecil)
	Hyperactivity	'I get out on my bike when I'm at home to burn off all the energy I feel. Then my Dad and I seem to get on better, when I'm calmer' (Hunter).

6.1 Evaluation process using the RE-AIM framework

This section introduces the findings which specifically related to the RE-AIM framework. The RE-AIM dimensions were used in the development of the coding matrix, but the individual elements of the framework were not given an emergent or super-ordinate theme status. This decision was made because the researcher decided that the data relating to the RE-AIM dimensions fitted into the naturally emerging and super-ordinate themes and instead those dimensions will be identified in the following results and expanded upon in the discussion chapter (Chapter 7).

The 'reach' dimension was examined through the following components during the interviews with participants and the farmer: target population, access to attending the care farm and motivation/barriers to engagement for participants to attend the care farm. However, the farmer acknowledged several barriers to potential participant engagement with the care farm. It was beyond the limitations of this PhD to measure any capital or human costs for the implementation of the care farm but costs per session for each participant is discussed. Motivation for attending the care farm was viewed as an opportunity for participants to turn their life around. The reach dimension contributed towards answering RQ1 for this study.

The effectiveness dimension was any behavioural, emotional and social changes experienced by the participant because of the impact of the intervention. The effectiveness dimension contributed towards answering RQ2 in this study.

The adoption dimension had a limited role in the evaluation of the care farm intervention in this PhD study. None of the participants' had experiences of attending other types of interventions or other care farm interventions so it was not possible to draw any findings based on this dimension.

However, the farmer acknowledged that due to the increasing number of participants per session, additional mentors would be needed to help maintain the current infrastructure. The number of mentors per group is something which should be considered in any 'adoption' of this care farm model.

The implementation dimension contributed towards answering RQ1 and RQ3. The findings included participants' opinions on the key components of delivering a session.

The maintenance dimension included both participant and organisational factors to determine the sustainability of care farms for pre-NEET young people with BESDs. This dimension specifically looked at the long term impact of the care farm (and the limitations of measuring maintenance within this PhD study) and barriers to engagement for participants.

6.2 Summary

In this section a step-by-step guide has been presented regarding how the data were analysed and the five super-ordinate themes obtained, which provides context to the interpretive analysis presented in the proceeding chapter (Chapter 7).

In Chapter 8, interpretations and conclusions are made based on both sources (quantitative and qualitative) of data collected (Teddlie et al., 2009). 'Integration' (the merging of the data for analysis and comparison; Creswell et al., 2011) provided a better understanding of how meaning was established from the information collected to answer the research questions of this study. Merging of the data was completed after the statistical analysis of the numerical data and qualitative analysis of the textual data. The merged data showed the findings from both types of data confirm the results of the other, providing similar conclusions and adding greater credibility to the results. However, discordance occurred, whereby the qualitative and quantitative findings were inconsistent for the DASS-21 scores and participants self-reported or observed levels of depression, anxiety or stress. These findings were re-analysed to understand reasons for the conflicting results. Discussion of these all findings are chronologically presented in the next chapter.

Chapter 7: Discussion

The main aims of this study were to evaluate the impact of a care farm intervention on pre-NEET young people with behavioural, emotional and social difficulties (BESDs) and to understand what attending the care farm meant to them. The two primary aims of the chapter are to present a summary of the participant interviews (supported by the interviews undertaken with the farmer/former service users and observation/documentary notes) while relating the findings from this PhD study to previous literature (Chapters 2 and 3). Thus, in this chapter, using the RE-AIM evaluation framework, the impact of the care farm intervention will be discussed. Data from the various sources (Chapters 5 and 6) will be integrated to provide a holistic understanding of participants' experiences and the effectiveness of the intervention for this population. Each research question will in turn be addressed by examining the evidence this PhD thesis yielded. Throughout the chapter, the findings will be related to previous literature. The Self-Determination Theory (SDT), which was introduced in Chapter 2 will be used to contextualise the findings of this thesis, where relevant. This chapter will also highlight how this research contributes to the understanding of care farms as an effective intervention for pre-NEET young people with BESDs.

7.1 Overview of policy and care farms for pre-NEET young people with BESDs

This PhD thesis longitudinally examined and evaluated the impact of the care farm intervention on the behavioural, emotional, and social well-being of young people attending a care farm. In the UK approximately 18.5% of secondary school pupils in 2016 received a diagnosis of BESDs (Children's Commissioner, Lightening Review: Access to Children and Adolescent Mental Health Services, 2016). Young people with BESDs typically experience educational disengagement and are at risk to becoming long-term NEET (Cole, 2015). (See literature review in Chapter 2 for elaborated discussion). The purpose of this PhD thesis was to answer the following questions:

- RQ1: What does attending a care farm mean to pre-NEET young people with BESDs?
- RQ2: How does this care farm model impact on the physical, mental and social development of pre-NEET young people with BESDs?
- RQ3: How does the natural environment impact the care farm experience of pre-NEET young people with BESDs?

This integrated discussion chapter will present the combined findings of this study and will address a current gap in the evidence base.

7.2 RE-AIM: <u>Reach</u>

2013-14 figures from the Department for Education in the UK executed a budget cut of more than £103m from youth services between 2010-2016. These cuts resulted in budget reductions for children's social care, family support services, adoption services, youth justice teams, Sure Start

centres, child protection services and looked-after children services to name a few (Unison, 2016). Local authorities have responded to these cuts by closing youth centres, which are an integral part of a community for young people, especially in rural parts of the UK, because they provide opportunities to socialise in a safe environment with peers (Unison, 2016). The consequences of the cuts are that various local authority agencies do not have adequate staff resources and the capacity to communicate with each other in order to provide a seamless and joined up service for children and young people. Many disaffected young people are falling through the gaps left by a lack of services, which has consequences on the young person's life chances (Unison, 2016). Young people are facing a constant change of youth and/or social workers and are often being left stranded in the middle of these disconnected services. Currently, the system in the UK is said to be in disarray (Unison, 2016). There are no stable services/places (e.g. youth club) for young people, living in rural England available to bring them together to make them feel that they have opportunities and to socially connect with others. The care farm intervention, systematically studied in this PhD work aimed to address this service provision gap by providing disengaged young people living in a rural area of southern England with a service that can help to improve their current and future life chances.

The following section describes the <u>reach</u> capability of the care farm intervention:

The care farm intervention reached 100 per cent of the population who attended the care farm. In this cohort, every participant completed the intervention and reported physical, psychological and social benefits (which will be discussed later in this chapter). It was not possible for this study to determine the <u>reach</u> of the total eligible population of 13–16 year old pre-NEET young people with BESDs living within the local county (N = 19,010 13-16 years old in county). In this study, interview, questionnaire, documentary data and observations indicated that all participants were from white and low socioeconomic backgrounds.

Through the evaluation of the intervention, participants confirmed they felt supported in being able to access and attend the care farm. Having support was important for many of the young people, who may not have otherwise attended. If there was a lack of parental support, or other barriers that threatened their attendance, participants said they were able to seek and receive assistance from their social worker (in some incidents) and/or the farmer and the mentors to help arrange transport to and from the farm and/or funding for their weekly sessions.

> 'Yeah, my social worker supports me coming to the farm. When I first started
> coming I was really nervous, so she came along with me for my first session.
> I mean, she didn't stay for the session, but she dropped me off. If she hadn't
> supported me like she has I'm not sure I would have started to come. I'm

nervous around people I don't know and you don't know what to expect, so it was important for me to have support' (Lillian: baseline).

The farmer and the mentors invited some of the participants, who required extra support during the school holidays to help out at the farm, because during this time the farm sessions were not funded. The care farm evaluation showed there was forward planning and understanding of how to reach and enable these young people to benefit from attendance. Help with transport and any other logistical issues provided directly by the farm staff ensured participants were able to attend the intervention. The farmer was aware (from experience) that, the most disadvantaged participants may not be able to attend the farm during the school holiday period and therefore planned ahead and ensured that all who wanted or needed (e.g. poor home environment) to attend could. This was to make the intervention accessible for the most hard to reach participants and to avoid any set-backs from progress they have made from attending the care farm during term-time. The school holidays were typically challenging for these young people because they often lived in volatile situations with no support. Due to financial limitations of this study, the researcher was unable to observe any of the young people who spent time at the farm outside of the term-time sessions. However, the interviews data revealed that for the young people able to attend the farm during the holidays, continued access and attendance was important to their well-being.

'The farmer lets me come here [farm] sometimes in the school holidays to help out. I love not missing out on being here. Like, to be honest if I'm just stuck at home I end up getting myself into trouble because I'm not happy, and then I start to get angry which is even worse. So, it's really good for me … and I get to help the farmer and everyone else [mentors] because they all work really hard' (Arthur: post-i)'.

This PhD thesis using the RE-AIM framework identified that there needs to be continuous support for young people attending the care farm to strengthen its reach of this population. Young people's problems do not cease during school holidays and the current lack of support for continuing attendance highlights the gap in the social and youth services provided for disadvantaged youth, living in rural England. This will be discussed in more detail in Chapter 8 (Recommendations section).

Both the participants and the farmer agreed that spending one academic year at the care farm was often not long enough for the most disadvantaged participants in order to make enough progress to independently cope with their difficulties. Although all of participants made positive progress, it was clear from the quantitative and qualitative data that those facing the most severe difficulties made less progress in all areas measured or observed than those dealing with less severe difficulties. Quantitative data yielded in this PhD thesis, showed trends for improvement in psychological functioning, but the change was not statistically significant. Perhaps, confirming the intervention

was simply not long enough for this effect to take place, or that the sample was not large enough to detect that difference. Therefore, to improve the <u>reach</u> capacity of this and other future interventions, further funding should be allocated to ensure longer term attendance. The duration of the intervention programme will be discussed further in Chapter 8 in the recommendation section.

All participants who were interviewed expressed their reluctance and extreme sadness at having to leave the care farm and agreed that they would recommend attending the care farm to potential service users and service providers. Participants said they would recommend attending the care farm 'to help cope with life and school', 'to have a break from all the trouble at school and at home', 'to meet new friends and have fun', 'to spend time with animals and explore outside' and 'to come somewhere that feels like home'. This data confirms that it is vital to reach this disaffected rural population and that the present care farm intervention is working for those who attended during this PhD study.

None of the participants had been referred to, or attended, any other type of intervention as an alternative provision to mainstream education. It was, therefore difficult for this study to compare the care farm's <u>reach</u> and the quality of the support young people received to access/attend a care farm elsewhere, because there was no direct comparison available. However, it was clear from the data yielded in this PhD study that having this type of support had significant meaning in encouraging participants to initially attend the care farm and for their on-going engagement.

The findings from this PhD thesis using the RE-AIM evaluation framework confirmed the care farm's <u>reach</u> of attending participants. However, the literature reviewed in Chapter 2, and the qualitative evidence from this thesis corroborates that <u>reach</u> could be strengthened by securing additional support (e.g. transport, financial costs and logistical arrangements) either by the farm or youth/social services or schools, which is key to helping these disadvantaged young people to access the intervention.

7.3 RE-AIM: Implementation and addressing RQ1: What does attending a care farm mean to pre-NEET young people with behavioural, emotional and social difficulties?

<u>Implementation</u> of the care farm model was assessed on the consistent delivery of specific components as intended (Chapter 3) and the role of mentors as implementers. The following sections will present the evaluation outcomes of how the care farm implemented its intervention. As discussed in Chapter 3, the care farm's overarching aim was to create a 'sense of belonging' and 'trust' by unconditionally accepting participants for who they were, regardless of their previous records (e.g. school or police records) and behaviours. In the ten years of the care farms existence, the farmer has never turned away a potential participant. In this section, the evaluation regarding the process of implementation of these fundamental elements of the care farm intervention will be discussed, including the impact of building trust and creating a care farm family unit.

The cost for attending the care farm is based on a traffic light system. Each session typically cost £30 (green), £40 (amber) or £50 (red) and reflects the young person's individual needs. Those with higher level needs (e.g. those being referred from a specialist service for young people whose level of mental health needs and risks to self, others and the environment is such that they require 24 hours assessment, treatment and care in a specialist psychiatric unit) is £50. The pricing structure is based on risk to staff, the young person and other young people. Those with higher needs typically require one-to-one support with a member of staff (very occasionally two staff members) and their own space. The cost per session for every participant in this study was £40.

The interview with the farmer revealed the aims and objectives of the care farm model/intervention and observations of farm staff showed the consistent delivery of the intervention. Observations and interviews with participants identified that the delivery, consistency and group dynamics of the sessions were important to participants' engagement. Furthermore, the qualitative data yielded identified the process of how the 'sense of belonging' and 'trust' was cultivated during the intervention. This data, (the perceived sense of belonging) also appeared to contribute towards improving participants' experiences of self-reported mental health risks (e.g. stress and school-related anxiety), behavioural and emotional regulation difficulties, social interaction and enhanced well-being (Boekaerts, 1993; Goodenow, 1993b; Roeser, Midgley, & Urdan, 1996). Any changes to participants' physical, psychological and social development captured by the qualitative and quantitative data over time may be referred to, but a more in-depth discussion of these changes will be used to answer RQ2.

Creating a sense of belonging through trust

Deci and Ryan defined belonging as the need for relatedness which 'encompasses a person's striving to relate to and care for others, to feel that those others are relating authentically to one's self, and to feel a satisfying and coherent involvement with the social world more generally' (1991, p. 243). Educational researchers agree that the need for belonging is one of the most important requirements for pupils to function effectively in any type of learning environment (Connell & Wellborn, 1991; Deci & Ryan, 1991; Finn, 1989; Osterman, 2000). SDT suggests that a sense of belonging may have a direct influence on the young person's motivation (Goodenow, 1993a).

The farmer recognised that belonging is a fundamental human need, therefore creating a sense of belonging was an intended impact of the care farm model, as discussed in Chapter 3 and above. The farmer (and the care farm staff) emphasised to participants that they are accepted for who they are regardless of their past.

> 'I was an educational social worker at the time, and every participant I met
> that was being excluded or failing in school, you could tell they were bright.
> You could tell that they had abilities and strengths but there was nowhere for

them to go to be able to demonstrate that, plus, they had nothing they belonged to. The sense of belonging wasn't there, so their families…they didn't feel they belonged to their families. They didn't belong to the school. They didn't belong to the youth clubs because they tended to be part of schools. So there was nothing for them, in a rural community which most of these were, there was just nothing out there for them. So we thought, if we started a care farm there's going to be the sense of belonging and ownership, responsibility as well as all the skills that they could learn while they're on it [farm]' (Farmer).

Prior to attending the care farm many of the participants in this study struggled to satisfy their needs for relatedness because their BESDs and a lack of attachment with their parents made it hard for them to feel they belonged in social environments (e.g. school or peer groups; Vallerand, Fortier & Guay 1997; Department for Education, 2016: Mental health and behaviour in schools). Qualitative data findings showed that many of the participants in this study felt 'socially isolated', 'alienated', and 'lonely' (Arthur: baseline).

'I don't get on with my parents and I fight a lot with the other kids at school. I spend a lot of time on my own and sometime I feel quite lonely because there is no one to help me out' (Cecil: baseline).

It was important for this study to identify what a sense of belonging meant for participants to better understand its implementation as part of the care farm intervention. For example, participants often expressed the reasons for their behaviours in association with the need for belonging. The quantitative and qualitative data revealed that the satisfaction of this need were met by their attendance to the care farm, leading to experiencing more positive emotions such as 'happiness' and 'joy' (Cooper: post-i), whereas the lack of belonging at school or home caused them to experience negative emotions, such as 'anxiety', 'stress' and 'loneliness' (Lillian: pre-i). Maslow (1968) suggested that the underlying cause of most emotional breakdowns is the need for belongingness. Many negative behavioural, psychological, and social outcomes experienced by participants in this study, which includes poor mental health, criminal tendency, and social isolation could be attributed to the lack of meaningful social relationships and unstable home environments. Establishing a sense of belonging in the environment of the care farm (discussed further in RQ3) meant participants felt included, accepted, respected and supported for the first time in their lives by the farm staff and their peers (Goodenow, 1993b).

The encouragement from the farm staff enabled participants to recognise the value in their lives, which meant they were able to cope more effectively and consistently with the behavioural, emotional and social difficulties they experienced outside the care farm environment. The care farm

intervention offered participants a nurturing environment where they could develop a sense of belonging, establish trust with others, and begin to consider building more secure and trustful relationships with significant others in their lives (e.g. school teachers, peers, parents). The observation and interview data confirmed the implementation of 'belonging' as intended by the care farm model was successful.

Farm staff building trust with participants

Trust is the foundation of building supportive and productive social relationships. The development of trust for a young child is based on the reliability and dependability of the child's primary caregiver (Bowlby, 1958). If the caregiver is emotionally unavailable, and/or rejects the child, this can affect the child's ability to trust others. If a participant can develop a sense of feeling safe and being able to trust within the context of the care farm intervention, it is more likely that he/she will be able to develop a sense of belonging, access learning and (given time) transfer trust to wider contexts of their lives such as at home and in school (Sunderland, 2007; Perry & Szalavitz, 2011).

The following section will describe how the care farm aimed to help participants to establish trust with others during the care farm intervention. The qualitative data highlighted the process of how trust was encouraged. The natural environment of the care farm placed young people in a situation where they had to reflect on their ability to trust and to be trusted. Participants knew they were immediately trusted at the farm because they were allowed to care for the animals, to use the machinery, and were ultimately trusted with autonomy with their tasks. Before the care farm intervention, when participants were challenged in their environment, they would typically respond based on their 'fight' or 'flight' response by acting aggressively or avoiding the situation (Geddes, 2006). This kind of response was counteracted by the physical set up of the care farm intervention (see Chapter 3). The animals needed to be cared for so flight was no longer an option and fight was not tolerated in the ethos of the farm. Therefore, participants were 'forced' by the imposed structure to face and deal with their behavioural problems in a calm and practical manner.

The data from the Strengths and Difficulties Questionnaire (SDQ: Goodman, 1997) 'Total Difficulties' and 'Conduct Problems' sub-scale scores at baseline revealed the majority of participants had a 'borderline' or 'abnormal' score (in comparison to a 'normal' score), which confirmed participants' likelihood of engaging in destructive and difficult behaviours. Participant referral forms from their school or social services substantiated these results and provided a deeper insight by suggesting this behaviour was a consequence of living in survival mode as an outcome of neglect, inconsistent care and typically these young people had difficulties to form trusting and healthy relationships (Hughes, 2006). Observational and interview data revealed that the intervention helped participants deal with their behavioural difficulties by providing them with meaningful tasks to channel their behaviour in a positive manner and with extra social support from

their mentor. In the context of the farm environment, participants increasingly embraced all new situations and activities. The qualitative and quantitative findings of this study confirmed that engagement in tasks and participants' ability to trust their mentors helped to regulate their behaviours and was fundamental to any therapeutic benefits they gained from the care farm intervention and the implementation of the care farm model.

To help build trust it is necessary for participants to feel safe (Axline, 1971; Maslow, 1968; Rogers, 1951, 1980). The farmer and the mentors used the same (e.g. contact with the environment and the animals, comforting food and drink and social contact with peers and staff) to ensure a consistent approach in every session, which helped to build and maintain trust with participants. This consistent approach was critical to provide stability and safety to each session, so participants learnt what to expect:

Reflexive note – Week 12: *It became clear over the course of time that there was no typical session at the care farm. Even with the best planning in the world by the farmer and the mentors, the sessions never appeared to turn out quite as they or I expected it to. The unique elements the farm offered were also the elements, which made executing a structured session difficult. There were a lot of uncertainties in the environment, the weather and the daily farm environment made a difference, also whether the animals were calving or if there was one animal that was poorly and so on. Participants also would arrive with different issues day-to-day, so one week they would come to the farm really happy and cheerful because life had been good to them and the week after they would come in really upset and despondent because all hell broke loose at school and/or at home, and the mentors had to explore and to pick out what was bothering them. The mentors did not have at this point any insight into participants' lives, which made it difficult to plan and execute a structured typical session. However, there was always a sort of structure to the session. There was a start, middle and an end and it to the session; for example, there was contact with the environment/animals, comforting food and drink sessions and continuous supporting social contact with peers and staff. This loose structure was far more critical than having a session run with precision'.*

The farmer described these key factors in her interview:

> 'Everybody has a hug and a mug, as I call it, so there's always the tea and toast when they [participants] arrive and there's the lunch-time sessions, always in the kitchen. There is always the animal care around every session and everybody goes outside every session. Everybody gets a chance to talk to somebody, on a one-to-one. Even if it's in the cow yard when they're scraping out there is a moment where someone [mentor] is giving them eye

contact and it's like 'are you okay? Is everything alright?' Enough so that they can respond and say what's going on for them' (Farmer).

To summarise, the farmer's narrative and the observational notes confirm that the key factors associated with green space and the physical environment of the farm, such as interactions with animals and physically active tasks, which include walking, lifting, feeding and carrying were critical to the implementation of the care farm intervention. Being outside and having contact with the green environment happens every session regardless of the weather (NB. adequate clothing and wellington boots are provided). In every session there is space for personal time with the mentors, so participants reported feeling supported. The animal care and the effect of green space/outdoors (which will be discussed in more detail to later on in this chapter; RQ3), were factors that enabled participants to develop more secure attachments, and establish a sense of belonging and trust. The evaluation data in this PhD thesis using the RE-AIM evaluation framework substantiates that the intervention was successful at implementing trust as a core component.

Trust developed when the participant started to understand that the mentors accepted them for who they were, and that the mentors did not fear them, regardless of how badly they behaved. The mentors understood there were reasons behind a participant's aggressive behaviour, and if an aggressive act occurred, it was not attributed to the participant being a 'bad' person. The mentors were extremely successful at de-escalating situations with participants through verbal reasoning. The mentors were not afraid of participants and worked towards creating a sense of safety for them. The observation and interview data revealed that the majority of participants haven't experienced such support from their parents, and/or other significant adults in their lives, such as school teachers. For example, one of the young people experienced severe neglect at home. She would arrive at the farm in dirty and smelly clothes and without a wash. In this case, the care farm provided the young person with a new uniform, affirming that she was cared for and could trust the farmer and the mentors to look after her physical, mental, and social needs. However, it was extremely difficult to turn around the girl's family. On her return home the girl's mother confiscated her new uniform. Thereafter, she continued to arrive at the farm in a dirty uniform, but on several occasions' staff washed it for her whilst at the farm.

Arthur's account also clearly indicates the relevance of building trust with the care farm staff.

> 'Actually for most of us, they're not afraid of us, whatever we're doing, they don't show they're afraid and it makes me feel safe like I can rely on them even when I'm having a bad day. There was an incident with Thomas [mentor] and Fred [participant]. Fred pulled a chisel on Thomas. It looked pretty heated but Thomas explained after that Fred was angry, there was a reason he did it. Thomas spoke to him [Fred], brought him back down' (Arthur: post-i).

This specific incident was resolved by the mentor verbally reasoning with the young person to put the chisel down. Thomas, the mentor reassured Fred that there would be no repercussion for his action and they could sit down and talk the problem through together to resolve the issue that had driven Fred to threaten Thomas. Fred trusted Thomas enough and responded to his request without escalating the incident. In situations, where a participant behaved aggressively or if a young person was upset and not interacting well with the group, he/she was invited to spend some time at the Thinking Hill or to spend extra time with the animals. The physical act of being on the hill and away from everything, and/or the physical touch of stroking an animal provided a soothing and nurturing element for the young person. It was in these situations, when the natural environment calmed a participant down and/or an animal responded with affection to a participant, when the beginnings of developing and showing empathy to others were observed by the researcher. The 'Thinking Hill' was an intended component of the intervention (see Chapter 3) to help implement the care farm intervention. The observation and interview data in this study confirmed that the concept of the Thinking Hill was successful in helping participants to regulate their behaviours and emotions.

The lack of fear and understanding portrayed by the mentors helped participants to talk to the mentors without putting up barriers, and because of this unconditional acceptance a deeper level of trust began to emerge. It was the sense of belonging and trust, which provided the foundation for participants to begin making progress in their lives and to cope better with what they encountered outside of the farm. Participants appeared to have become more resilient.

Participants also attributed their increasing levels of trust to the risk orientated nature of some of the farm tasks, and having to trust the mentors and their peers to ensure the tasks were completed safely.

> 'If we've got to do footwork on the donkeys, we've got one who's especially
> quite temperamental. If one person is holding them, you've got to trust them
> [peers] to hold it [the donkey]. You've got to trust them [peers] to not mess
> about and not let go or anything, because it's going to hurt if you do get
> kicked' (Lillian: baseline).

> 'Like William, Maureen and Thomas [mentors], will come in with us with the
> cows. There always has to be at least two people in the pen with the cows.
> So if something does go wrong you have got the other person to help you,
> so it's instant trust and support for other people' (Hunter: baseline).

The implementation of the intervention was successful because the weekly sessions provided participants with the opportunity to reflect upon and share what happened to them in the past week when they were not at the farm. The observational data revealed that talking about their problems

helped participants to feel less isolated and encouraged them to confide in mentors and their peers in order to seek and receive social support from them. A relevant topic of conversation is picked at every session, which was discussed while completing activities out in the farm yard. The topic of discussion sometimes was a 'general' topic, but one, which the mentors deemed to be relevant to the participants' current problems, or it was a specific topic depending on whether a participant specifically identified an issue. The purpose of these 'discussions' were to explore alternative ways to cope with a problem. It appeared that the support and non-judgemental responses of the mentors served as a foundation for learning to trust. This non-judgemental attitude was the most important aspect of enabling the participants to ask for help.

> 'If there is a major problem, I will go and talk. We have normal discussion time when doing work and so we go for any topic, but like I can bring it up [a problem] in a topic and we will discuss all about it and like how to help with that problem. No one judges so it helps us to trust each other with stuff that's going on in our lives' (Lillian: baseline).

Interview and observation data substantiated that participants appeared to trust the mentors more than other older adults in their lives. The mentors were viewed as being able to offer participants guidance and support, but more importantly they were viewed as a friend and not an authority figure like their parents or teachers.

> Like, I'll tell Maureen or William or Thomas [mentor] if anything has happened outside of the farm or at school or home, because I know that they could give me advice and help me. I trust them to give me good advice, yeah. I will talk to them more because they are older but they are a friend as well' (Audrey: baseline).

None of the participants viewed the mentors as 'teacher' figures, probably because the mentors treated them as 'equals', which is why they also trusted them.

> 'Yes, I do trust them because it is the fact, like I have said before, they make me feel like I am one of them, like a friend instead of just that student/teacher vibe we get at school' (Lillian: baseline).

The farmer trusting the participants to look after her animals and to be on the farm, and to work independently (where appropriate) was a catalyst for building reciprocal trust.

> 'Because obviously they must have a lot of trust in us to allow us to look after their animals, so obviously I pay it back by trusting them' (Cooper: post-i).

> 'I know it sounds really silly, but I don't think they'd [farmer and mentors] allow just any person to come in [farm]. Obviously they give people chances,

but I think they must trust us to allow us to do the things we do here. Like
driving the tractor, driving the tractor is a big responsibility' (Lillian: post-i).

Trust appeared to be quickly formed amongst the participants and their peers at the farm, because
of the unique experiences they were sharing. The 'in it together' team attitude helped to strengthen
their relationships, which made the environment much safer for all.

'I trust them like they can trust me. A lot of situations that we go through here
you need to have trust in each other. I've got really good friends now at the
farm. Friends I can trust' (Lillian: post-i).

Data yielded in this PhD thesis confirmed that the farm animals were fundamental to the
implementation of the intervention. They played a key role in helping participants to develop trust at
the farm. Participants were observed at the beginning of the intervention projecting human feelings
onto the animals. Participant statements, such as 'Don't feel sad when I leave' and 'I'll feed you so
you don't get hungry and scared' were an example of expressions noted by the researcher during
the observations, which appeared to move an 'interaction' with the animals to a 'relationship' by the
participant. Participants increasingly trusted the animals. They also displayed safety and familiarity
with the environment as a transitional object (Winnicott, 2005). Touching, nurturing, and helping to
care for the animals helped participants to cope with their otherwise stressful lives.

Participants were very much aware of how their behaviours could affect the farm animals. The
successful implementation of the care farm intervention required participants to understand that the
farm animals have physical needs and they have to be cared for and looked after appropriately.
This practical aspect enabled participants to realise that there are tasks that must be done, like
feeding the animals, and clearing out their stables and pens. The animals trusted the participants
that they will do their best to look after them. Realising this, participants felt a sense of reciprocal
trust with the animals.

'Some people say that sometimes animals can actually feel when you're
afraid and stuff, and that causes them to come over to you to give you
comfort. I've built up a trust with the animals' (Lillian: post-i).

By the end of the intervention participants had begun to develop a sense of trust in themselves and
their own capabilities. This was reflected in their confidence to undertake more and more tasks on
the farm, which were regarded as difficult.

'Jumping in the tractor and driving and actually promising myself to trust
myself and not to crash or anything like that' (Arthur: post-i).

By the completion of the intervention the increased sense of trust had begun to transfer to their relationships with other people in their social environment outside of the farm:

'Like I've had more confidence to tell friends stuff at school and out of school' (Cooper: post-i).

'Yeah because I'm more open with my friends than I used to be because I didn't really trust them, because before I once told someone something about me and they told everyone. But now I'm learning to trust them even more so I can tell them anything' (Audrey: post-i).

Although participants displayed increasing levels of trust towards others inside and outside of the farm environment, there was still evidence of a lack of trust with specific individuals. The unresolved trust issues were viewed by Arthur as a problem that was beyond the reach of the intervention. The quote below also reflects how some of the parents (and in this case Arthur's father) dealt with confidential discussions with their children. Arthur feels nothing personal can be discussed with his father, because he uses Arthur's disclosures to make a joke of him.

'At home when you have known them for longer like my dad, I'm really not that close with him but, like, I know what he is like, if you know what I mean. He's not a nasty person, but he's just got to have a joke. I'm not... that's a trust issue that they can't... here they can't help me with, because that's a personal trust issue, that's something you have got to get over yourself, that is something you and him have got to do. But, maybe at home, yeah, with him...I trust myself more at least' (Arthur: post-i).

Having people they can trust increased participants' sense of happiness and life satisfaction.

'It's good, like knowing I have people here [farm] I can trust. I can talk to them [mentors] about pretty much anything, and like having that helps, it makes me feel better about my life and I'm generally happier' (Arthur: post-i).

The evaluation of the care farm intervention using mixed methods techniques confirmed trust was an essential intervention component that was needed for the successful implementation of it.

Role of the farm mentors in implementing the care farm intervention

Farm mentors were an integral part of implementing the care farm intervention and they worked towards enhancing its impact on participants. Mentors coached participants to fully engage with the care farm intervention elements. Many of the participants prior to attending the care farm intervention were disengaged with their environment (e.g. home or school) and often avoided

146

simple and challenging tasks. The observational data verified that mentors supported participants' by being consistent in their presence, behaviour and interactions with them, which at the beginning of the intervention helped participants' to re-engage with their environment and become more intrinsically motivated to attend the farm, learn, perform tasks well and eventually establish friendships with their peer group.

> 'When I first arrived here [farm] I was put with William [mentor]. He was really nice to me straight away and helped me feel less anxious because everything was new. William stayed with me and treated me like a friend. I enjoy coming to the farm because I always know he'll be here, and because we work in a group together I know he'll always show me what I need to do and help me if I get stuck' (Cooper: baseline).

The farm mentors taught and supported participants to reflect on their behaviours and challenged them when needed to tackle their negative thoughts and feelings about their ability to undertake and complete tasks (O'Donnell, 2013). Observational and interview data revealed if participants were able to acknowledge that they have done well and create positive thoughts about their ability to carry out a farm activity, especially if they were finding it difficult, then they were more likely to persevere and achieve success with various tasks (O' Donnell, 2013).

> 'If I'm struggling, say if I am moving the hay and it's really heavy and the wheelbarrow tips over, then Maureen [mentor] always encourages me to focus on how much of the task I've completed already and to think about how well I've done and to not give up. Maureen always encourages me to reflect and to finish the task so I won't feel disappointed at myself' (Audrey: post-i).

When participants realised they had the ability and skills to overcome the difficulties in their lives, they also became more confident to cope with their difficulties (Hornstra, van der Veen, Peetsma & Volman, 2013; O'Donnell, 2013). The mentors initiated this process by finding out what activities participants were interested in within the farm setting and ensured that they were involved in these activities (e.g. grooming the animals, helping to move the animals from their yard to the field) each session. This encouraged improvements and success in their performance and learning new skills (Cunningham, 2005; Hirvonen, Tolvanen, Aunola, & Nurmi, 2012). The support and guidance provided by the mentors were significant factors, which helped to reinforce their positive behaviours in the context of the safe environment created on the farm (Ames, 1992; Gillet, Vallerand & Lafreniere, 2011).

The relationship between participants and the farmer/mentors was an integral part of the process described above, to the achievements of participants and ultimately the interventions' success. The

mentors provided autonomy support for participants, compared to 'controlling' and 'strict' interactions with their teachers at school. The aim of the care farm intervention was to build meaningful relationships with young people attending the farm, the foundation of which was to receive support for their endeavours on the farm and which was expected to extends to their home and school environments.

> 'I'm known as the Director of the farm. I've never really thought of myself as that and I like to say I'm the leader more than the director, because the director doesn't have to do anything hands-on, and I'd like to say that my beliefs and values go forward into the farm, so I like to think of me as being the leader of the farm and part of the team. Everybody here, it doesn't matter whether it's a senior mentor, a new mentor, volunteers, we're all working together to find the best solutions for the participant' (Farmer).

Observational data in this study revealed that, approximately two months into the intervention participants began to show a higher level of respect towards the farmer and their mentors. Participants genuinely seem to like the staff at the care farm. When participants were asked what helped them cope, the reason they gave was the sense of connection they felt towards the farmer and the mentors. They felt unconditionally supported and cared for. In the safe environment of the care farm they no longer feared to voice their concerns. They also trusted staff with helping to find a satisfactory solution to the problems they raised with them.

> 'Thomas [mentor] will ask me every Thursday how my week's been. Have I had any problems? And he'll ask me if I've had, like if I have any problems, he'll ask me what happened and how I could think about that. It's someone caring, about me. So it gave me a sense that someone is there. And that nothing bad will happen just because you tell someone you've got a problem' (Lillian: post-i).

Participants also demonstrated increasing levels of self-control and higher perseverance at various tasks. They perceived the unconditional social support received from their mentors as key to helping to resolve their problems. Mentors also aimed to instil hope in the young people's ability to turn around their lives if they try their best.

> 'Without their [mentors] support I'd have probably given up. It's hard, and you think to yourself 'I can't do this', but when someone else like Thomas or William [mentors] are encouraging you not to give up, it makes you keep trying and then you don't want to give up because you can see that you're getting better and you can see that they want you to get better' (Cecil: post-i).

This quote again highlights the importance of autonomy support the mentors gave to participants. They always gave a clear, easy to understand, and meaningful rationale for why learning an activity is important and useful, which in turn encouraged participants' desire to engage with learning a new task or carry out other farm activities (Reeve, Jang, Hardre & Omura, 2002). By mid-term the researcher's observational notes substantiated that participants felt that their mentors are genuinely interested in them. They perceived to have on-going, unconditional, and consistent support, which increased their feelings of security. They felt that they could rely on the mentors during the best and worst times.

> 'William and Thomas they joke around, they're funny and they make jokes and they make you feel happy and Maureen, she's the supporting one, and she can always have a laugh and, the farmer's amazing, always supporting us. She [farmer] does amazing stuff to help us around here. I know who to go to depending on how I'm feeling' (Lillian: post-i).

By the end of the intervention the observations revealed that all participants were proud of being part of the care farm family.

> 'I'm quite proud to come here and it feels like home' (Arthur: post-i).

Participants viewed the mentors as the most reliable adult figures in their lives and to whom they could turn to if they had a problem.

The evaluation of the intervention confirms that the farm mentors were successful at implementing the care farm intervention by being autonomy supportive and building meaningful relationships with participants. The data from this PhD thesis supports that participants' sense of relatedness to the mentors was linked to their committed engagement with difficult tasks at the farm, compared to experiences at school where they felt disconnected from teachers and responded only to external contingencies and controls.

The role of 'Basics' in the implementation of the care farm intervention (Basic component of the care farm model)

Fulfilling participants' 'basic' needs was an intended factor in implementing the care farm intervention. 'Hug in a mug' (previously discussed) as part of each weekly session meant that the basic needs of the participants were met. The interview with the farmer and participants' referral forms from social services/school confirmed for some of the participants in this study their basic needs were not being met outside the care farm environment. Some participants were not adequately fed at home and often arrived at the farm with little or no breakfast at all. Maslow's Hierarchy of Needs Model (1943, 1954) suggests that individuals' daily actions are motivated to accomplish specific basic needs. The hierarchy of the model proposed that individuals are

motivated to fulfil their basic physical needs (consuming food and water) before moving on to their more advanced needs (e.g. psychological). Thus individuals' needs progress from satisfying their physical needs to satisfying their psychological and/or social needs. Without their basic physical needs being met (adequate food and fluid) it can be argued that it is impossible for individuals to progress past this point to fulfil their psychological (e.g. improved well-being) and social needs (e.g. improving relationships with teachers and peers). This was also the case for the participants of this PhD thesis.

> 'Yeah, so many of the participants, it's hard. You've [researcher] been here now and you've observed them, so it is hard out there in the winter months, but they come, no breakfast, no lunch. Young people who we have here don't have, well, we've got boys that live on their own at 16. We've got young people that just aren't cared for by [their] families who have drug or alcohol problems or both. The parents don't get up before they come here [farm], they're without money. Some of them will come here with like 10 pasties but nothing else, or 10 bags of crisps and nothing else, but we've got to have food available. That's a really important part of it I think, is that nobody is hungry' (Farmer).

The quote also describes the level of neglect some of the participants' experienced. The farm had a major effect on their well-being, because the farmer and the mentors recognised and filled a gap in caring for participants' physical needs, which did not appear to be addressed by any other of the services in the social systems they were in. It was outside of the farm's service provision to provide participants with food. However, the farmer understood that if participants' physical needs are not met, then they will be unable to progress and engage with the care farm intervention. Longitudinal research findings (Jovoti, Frongillo & Jones, 2005), show that if a child is hungry there can be diverse developmental consequences. In Jovoti et al's study (2005), food deprivation over time was related to poor outcomes in reading and mathematics test performances, weight/body mass index and social skills of children. These findings demonstrate that the consequences of hunger can be severe for developing young people.

The observational notes in this PhD work highlighted that when a participant, who was known to staff not to be fed sufficiently at home, arrived at the farm hungry he was very inactive, appeared to lack energy, his concentration levels were poor, and his behaviour was disruptive. After he had an intake of food and fluid it was observed that his concentration began to improve and he became less disruptive and more focused on his immediate environment and tasks. One of the key factors at the farm was to ensure every participant had the opportunity to eat and drink before they started their daily activities. For these participants, it appeared that the only opportunity to have enough to eat was when they were placed at the farm. Providing food for these participants was not undertaken in an obvious way where the participant was 'singled out'. Instead there was food and

drink freely available to everyone in the kitchen. On arrival, at the farm everyone would meet in the kitchen to make a drink and have some toast, then mid-way through each session there was a tea break, and at the end of a session there was a lunch break. Fresh produce from the farm, such as eggs were available, but there were also shop brought items, like fruit, biscuits and soup. The kitchen was fully functional (e.g. cooker, microwave, fridge/freezer and sink) with two big tables and seating, designed to feel like a big family kitchen. The mentors would teach participants how to boil eggs (or similar), so they were better able to care for themselves. The results of this PhD work is in line with the Self-Determination Theory's tenets, which suggest that teaching young people skills to help them look after themselves is fulfilling their basic need for autonomy, and the universal urge to be causal agents of their own lives.

This qualitative data of this PhD thesis verified that providing for the basic physical and psychological needs of participants was an important component in the implementation of the care farm intervention.

The role of social relationships in the implementation of the care farm intervention

As part of the care farm intervention routine, the mentors were always waiting in the kitchen for participants on their arrival to the farm. Both staff and participants also spent every break in the kitchen together. Farm staff did not go to a staff room, which signalled to participants that they belong with them.

> 'I still believe it was really, really important they [mentors] stayed in the kitchen with us to be part of our lunchtime session, because most teachers walk away and it's like 'well they're not good enough we're going'. But they [mentors] didn't. They had their lunch with us, so we felt, well actually we are a team. It's not like the minute they got a break they wanted to leave us. They stayed with us even if we were being really difficult. And that's the part that made me feel part of the farm family' (Rita: former service user).

This quote reflects how both current and former service users regarded the time mentors chose to spend with them at lunchtime and tea-breaks as a sign of unconditional and continuous support, which many did not receive from anyone else in their lives. The mentors' presence in the kitchen was intentional. Mentors aimed to show participants that they have enjoyed spending time with them and were not there simply because it was their job. This was crucial from the beginning of the intervention for the participants. These integrated sessions helped them to form a sense of attachment and trust with the mentors. SDT suggests that individuals' intrinsic motivation will begin to develop and thrive when they begin to feel a sense of security and relatedness with others (Ryan & Deci, 2000). Indeed, this was the case in the current study, with observations at week four revealing that participants displayed a sense of attachment and were more intrinsic motivated to engage with the opportunities presented to them at the farm. During these sessions (and in future

sessions) interpersonal affiliation was developed, because the mentors demonstrated genuine care towards participants during the farm tasks (e.g. asking if the participant needed help, taking time to demonstrate how to do something or asking them how their life had been over the previous week). This demonstration of care began to be reciprocated by participants in many ways, but one example was when participants offered to make hot drinks for the mentors during the tea break so the mentor 'could rest'. During the tea breaks participants would enthusiastically discuss the enriching experiences they had at the farm that day. They shared their stories with their mentors by describing what they had learnt, how much fun they had and made kind comments about their mentors (Ryan & Deci, 2009). In contrast, participants often spoke about their teachers at school as adults who did not care about them. Interestingly, the findings of this PhD work are in line with Grolnick and Ryan's (1989), who found lower intrinsic motivation in children who believed their teachers to be uncaring or cold and therefore, failed to fulfil their social relatedness needs.

Many of the participants in this study responded positively to the mentors and wanted to stay with them during break-times. Previously these young people held a view that significant adults in their lives, namely teachers and social workers, only interacted with them because it was their job to do so.

> 'It's like having one regular person that believes in me even when I'm like having a bad day. They're still there with me even when they could go off and have a break. I know that like every week I turn up they'll spend time with me' (Arthur: post-i).

Thus social relatedness is based upon 'interpersonal affiliation, authentic care and the sharing of enriching experiences' (Deci & Ryan, 2009 p. 570), which was important to the <u>implementation</u> of this care farm intervention.

How <u>implementation</u> was facilitated by creating the 'care farm family unit'

The observational and interview data and participants' referral forms revealed the majority of the participants had never established long term relationships with others in their family or social environments, like school until they arrived at the farm. However, by mid-term of the intervention, participants reported and were observed to have developed a meaningful connection with the farm (e.g. the environmental elements and the animals) and the people (e.g. the mentors and peers). The mutually supportive social relationships with staff, peers, and animals were key elements and catalysts for change in behavioural and emotional regulations of these young people.

> 'I consider all of them as friends really, including the older mentors. If I had a personal problem I would be able to go to them in a heartbeat and I could tell

them anything. Yeah, it's more of a big family as well, rather than a big friendship group' (Lillian: post-i).

Lillian shared the viewpoint of many of the other participants who came to view the farm as their family. Many of the young people felt vulnerable to the difficulties they experienced in their lives, and the farm offered them more than just friendship. They felt protected and cared for, like they would if they were part of a caring family.

Previous research suggests that teacher support in conjunction with pupils' competency beliefs can influence pupils' motivation and achievement in the school environment (Deci et al., 1999; Freiberger, Steinmayr & Spinath, 2012; Beilock & Willingham, 2014). This demonstrates that for a disengaged learner 'teacher' support is vital, because it supports psychological needs related to motivation and development (Katz, Kaplan & Gueta, 2010). A lack of teacher support, as reported by the participants in this study is typically associated with negative motivational processes. Having a sense of belonging in the classroom environment, which has been established by a teacher can determine pupils' level of success (Ames, 1992; Simmons & Page, 2010) The observational data for this study showed that when participants arrived at the farm, they were typically externally motivated and largely avoided difficult tasks (O'Donnell, 2013). However, as the intervention progressed, participants began to show signs of working more effectively and collaboratively within their groups. This is so because their contribution to completing the task well became important to them and provided them with an increased confidence in their ability. The collaborative working provided participants with a sense of power and freedom (Simmons & Page, 2010).

> 'I always work as hard as I can during my session at the farm, I don't want to let the farmer and my group down by not pulling my weight. Anyway, it's more rewarding when you know you've worked hard and everyone has done a good job' (Arthur: post-i).

Participants learnt that, even after completing their placement at the care farm, they were able to re-engage with the farmer and the mentors, as and when they wished to. This long-term sense of belonging to the 'farm family' was essential to their progress in the intervention. Participants knew that if there is a breakdown of service integration in the future, they can always rely on advice and support from the care farm staff.

> 'And all of the kids, I was listening to what they were saying, and all of them were saying, nobody bothers with me. It's my birthday, or whatever, and nobody really cares. Even if they've had social workers, psychiatric people, CAMS or whatever, just nobody seemed to follow them through and actually care about them especially long-term, or that's how they felt' (Farmer).

The purpose of the 'farm family' is to help the participants to feel cared for and to provide a sense of continuous positive, lasting and significant interpersonal relationships. One of the ways the farm family operated is to mimic the normal occurrences of everyday life. For example, remembering and celebrating participants' birthdays, celebrating Christmas together with a meal at the local pub (paid for by the farm), sharing and rewarding achievements with certificates, and various prizes and so on. This signalled to the young people that the 'farm family' is real and that it cares about them deeply.

> 'We're hard and we're quite tough with the young people because the work that the kids do when they're here, they're putting the animals before themselves. They have to work as a team, and we're quite tough on them. The animals come first. You've got to think about somebody else. Then we put focus on them, so it's like the birthday cakes, remembering certain things that they told us the week before, the hug in a mug, the sort of right, let's all come together now and get warm and toasty and talk about your lives or the morning or whatever, and it's also about the mentors being part of that' (Farmer).

The sense of being cared for and belonging was still very much felt by the former service users.

> 'I still feel part of the farm family as she [farmer] loves to call us. It was the things like, remembering my birthday, helping me to realise there was something I was actually good at, praising me when I'd done something good and not just saying well done for something I hadn't done that well' (Rita: former service user).

The above narrative bear out the importance of the being part of the farm family. Rita voiced that the mentors recognised and nurtured her talent and the support and reinforcement for her efforts through praise and encouragement were crucial for her advancement. It was evident from the ten-year anniversary reunion event (held at the care farm during this study) that many of the former service users stayed in contact with the farmer and the mentors through various means.

> 'Many, many, many of our participants stay in touch. I mean I would say some of them can't get back and might like to. In rural areas it is hard to get here with transport, but the ones that have passed their driving test, they just turn up, yeah. So there's quite a few that just go, 'look at me now', 'check my boyfriend out', or whatever. And they do come, and that's great. And we've started a Facebook page. There's been hundreds, there's loads that are starting to come out of the woodwork, and it's all kids that left ten years ago, and most of them just want to say, 'How's the farm'? 'What's this sheep like

now'? 'What's the cow doing'? 'Is William still working here'? It's just that touching base, knowing we are still here for them' (Farmer).

From mid-term of the intervention, the sense of belonging to the farm family was frequently reported as one of the most important factors for participants. Participants need for belongingness was satisfied by social connectedness and interpersonal bonds with farm staff and their peers, which meant participants experienced positive relationships based on stability, emotional involvement and longevity (Baumeister & Leary, 1995). However, it was apparent that participants appeared to differ in their needs to belong. Observational data showed that some participants appeared to have a lower need to belong and seemed satisfied by a small number of peer friendships, while others with a greater need to belong appeared more satisfied when they had established a higher number of friendships. Thus, Kelly (2001) suggests that it is the lack of satisfaction with personal relationships relative to their need to belong that determines the individual's sense of loneliness.

The findings from this study supported previous studies, which suggests that a sense of belonging is important to care farm service users (Hine, Peacock & Pretty, 2008; Hassink et al., 2010). The sense of belonging typically resembled feeling part of the farm family, having a close relationship with the farmer/mentors (Pedersen et al., 2012; Hassink et al., 2010) and the peers from their session group. This sense of belonging was developed through several core components of the care farm intervention: the farm satisfied the physical needs of participants; the farmer and the mentor's fostered building a sense of trust; and they cared for participants by showing them support and providing guidance/feedback. The evaluation of the care farm intervention using observational data, data from semi-structured interviews and questionnaires combined with data derived from secondary documents confirmed that the implementation of the care farm intervention was successful in developing a sense of belonging in participants, who also reported improvements in their physical, psychological, and social health as a result of receiving unconditional social support for their endeavours.

Therefore, the findings of this PhD thesis supports Self-Determination Theory (SDT) which proposes that social support (Cohen, Underwood & Gottlieb, 2000) is a key factor for fostering autonomous behaviours that will lead to self-actualisation (Deci & Ryan, 2008; Deci, La Guardia, Moller, Scheiner & Ryan, 2006; Stone, Deci & Ryan, 2009). The findings for this study were similar to the SDT framework assumptions, because the autonomy support mentors provided during the farm sessions nurtured and helped to build participants' inner motivational resources (Deci & Ryan, 1985; Reeve, Deci, & Ryan, 2004). Unlike participants' past experiences in the classroom (which they reported as being managed by 'controlling teachers'), the autonomous social support provided by mentors encouraged a variety of skill learning in participants and yielded many emotional and developmental benefits for them. The benefits included perceived autonomy and greater psychological need satisfaction during activities, but also a greater sense of engagement with the intervention. Furthermore, the data from this PhD thesis support that participants began to display

positive emotions, and showed improved intrinsic motivation. They were also willing to embrace challenges, showed enhanced psychological well-being and re-engagement (to some extent) with their formal education. Similar outcomes have been found in other studies (Black & Deci, 2000; Koestner, Ryan, Bernieri, & Holt, 1984; Reeve, Jang, Carrell, Barch, & Jeon, 2004; Vallerand, Fortier, & Guay, 1997).

Helping participants to <u>reach</u> their potential (Core-self component of the care farm model)

One of the consistent key elements of the care farm intervention is getting participants to think about their future career aspirations. The evaluation data revealed that in the past ten years of the existence of the farm, almost all participants arrived with low career and educational expectations (see both of Cecil's narrative below).

> 'Dunno, I haven't given it [career] much thought' (Cecil: baseline).

Through the course of the implementation participants' career aspirations became increasingly important and was discussed frequently, with the majority aspiring for careers in the farming or horticultural sector.

> 'Yes, we're working for our Level 1 in Land-based which will help us go to college. It will help me to get into college slightly because we have already got Level 1 instead of having to do it there. We've got the skills we need to get onto the course. After that [college] I want to work on a farm, maybe even run a farm of my own in the future' (Cecil: post-i).

Participants demonstrated that they were learning to value education and the power of it (e.g. gaining qualifications to help them progress in their lives) through engagement in the care farm intervention. Although much of the work was physical, there was a great deal of problem solving tasks that were integrated into the farm 'curriculum'. This educational experience at the farm and the discussions about their future (which most did not have at home or school) indicated significant personal developments. The intervention created an atmosphere of hope for the future. At the end of the intervention most participants were able to motivate themselves and had a desire to improve their current situation and to progress in life.

> 'I was a bit careless. I wasn't really bothered about my exams, homework. I'd sort of winged it on every exam. But I've seen that I need to actually do some [school] work and get some proper, good, results. I've done revision every night, and I'm getting it all done. If I don't get the good results I can't get my apprenticeship' (Arthur: post-i).

Participants felt more motivated to engage with skill-learning, because of the consistent support they have received from the farmer and the mentors for their educational endeavours. Participants saw the farmer and the mentors as integral to helping them identify and apply for relevant courses and thus removing the barriers to professional training that they had previously encountered at school. These young people were not expected to gain formal educational qualifications post-16 years of age, therefore, at school further educational options were either not discussed at all or there was encouragement to follow an academic route, even though participants had no interest in an academic based qualification/career.

> 'I've probably learnt more skills here than I have at school that I will need to know when I'm older. I benefit from this more than I probably do at school, even though you need all the GCSEs. At school all the teachers care about are good grades and going to university' (Lillian: post-i).

Participants decisions regarding their future career paths was supported by those parents who took more of an active approach in their child's life, while those who appeared to have a more difficult relationship with their parents felt their parents continued to be unsupportive.

> 'I'm hardly ever there, my Mum wouldn't care anyway' (Cecil: post-i).

> 'Since I've been attending the farm, it's helped me with my mum because I didn't know what I wanted to do after school so we argued about it a lot. But being here [farm], I know what I want to do and I've now got an interview for college. So my parents are happier, less arguments' (Lillian: post-i).

It was clear to the researcher that participants were influenced and motivated by their peers at the farm, but the evaluation data was ambiguous and unclear regarding the source of motivation for participants' specific career choices. It is likely that they were motivated by both their peers and farm staff. However, talking about it openly and making future career plans appeared to be contagious and motivating even for those who had given their career options less thought.

> 'I realised when everyone else was talking about making plans about what they want to do after here that actually I need to think about it, you know make some decisions' (Cecil: post-i).

Another consistent (and key) component of the care farm intervention was cultivating a sense of 'hope' in participants. The farmer has a very strong belief that it is the responsibility of the mentors through the implementation of the intervention to help participants to find the key to their problems. Once the reasons behind participants' problem(s) are understood, the mentors could help them to realise that there is always a reasonable solution to problems, and if not how to accept the outcomes of the problems they have experienced.

157

'The fact is most of participants have got something going on in their lives that's pretty dire, so us finding the key to what the problem is, that's our responsibility. The things that have happened to them make them behave in the way that they do, so those with emotional, social and behavioural problems, it's unlocking the thing that matters most to them. I would say it's our job to find the key to those participants. It's there. We've got to find it somehow and that can be tough, so the responsibility is on us to find it, not on participants to find their own key' (Farmer).

However, the farmer acknowledged that the nine-month duration of the intervention is often not long enough to unlock the full potential of those participants with severe behavioural difficulties. The evaluation data revealed that the implementation of the care farm intervention to unlock some participants potential was not fully achieved. This suggests that further study is needed to examine individual participants' needs before they engage with the care farm intervention; an adjustment to the current intervention may be required for those who are the most disengaged with their environment.

'We're trying to help them find their key, there's a responsibility that we've got to do that but we've only got limited time haven't we? It's not forever' (Farmer).

The farmer's narrative clearly shows that she understood the needs of the most disadvantaged participants, which is a crucial element to be considered if the care farm intervention is going to be adapted more widely. According to her, there were three elements needed for helping participants to understand their problems and to give them a sense of hope for the future, which in combination appeared to work: the environment; long-term mentors and farm-based activities.

'I say it's a bit like a recipe. So the outdoor environment is the biggest part of the recipe. It's like the flour in a cake if you like. The mentors are like the eggs, so you need long-term mentors. You don't need people coming in one week, going off the next week that they can't form relationships with. And then you need the activity that's positive for them to know that they're good at something. So I think having those three things definitely works in terms of working with the behavioural, social and emotional difficulties' (Farmer).

The qualitative data confirmed that many of the participants developed a sense of awareness about why they experience difficulties in their lives, such as a relationship breakdown with a parent. Engagement with the farm showed participants that their lives can be different and they are not doomed for life. However, it was clear that individuals' sense of hope was affected by their perceptions of their own abilities and their level of self-confidence. All of the participants said they

had hope for the future because they had realised that they can learn new ways of coping and solving problems. Being unconditionally accepted and validated as people in their own right gave hope to participants that they could aspire to go to college and/or get a job after their time at the farm.

> 'After I come here, I'll go to school tomorrow, on the Friday thinking, you know, on the to-do-list, I am going to revise, revise, revise, because they [mentors] have been helping me, saying that I have only got, like, a few days left until my exams. And if I don't do that [revise] I'm not going to get my apprenticeship and I'm not going to do what I want do, and I'll have to redo everything' (Arthur: post-i).

Cecil's narrative below also reflects how the farm is helping to tackle the risk of becoming NEET. For example, he is aiming to go to college and become a qualified farmer. Many of the participants had never had anyone (a parent or a teacher) who expected them to move on to study further or get a job. Attending the care farm and the mentors' unconditional support helped participants to accept that they can get qualifications and have a professional career.

> 'I'm behaving at school, which when I first started, I wasn't. I'm knuckling down and actually getting my GCSEs done. So I can go to college and do my agricultural course diploma two and hopefully I'll be able to get my full-time job as a fully-qualified farmer' (Cecil: post-i).

The farm, as a working farm environment, helped participants to develop transferable skills, which they could utilise outside of their usual experiences (e.g. school). They could now see a future and expand their goals and aspirations.

A lot of participants expressed hope in pursuing a career in some form of farming job or working with animals in various job contexts.

> 'My dad is ex-military so, as a child, I was brought up to join the army. I even had to take up the cadets and all of that malarkey. As soon as I came here I realised the army wasn't right for me. I just dropped all that. My dad didn't like it that much but he got used to it. Since I have come here, I realised I really have a true passion for farming' (Arthur: post-i).

Using the RE-AIM evaluation approach framework when evaluating the implementation dimension, this PhD thesis found that the care farm intervention was successful in providing a consistent approach by creating an intervention environment, which enabled participants to thrive and engaged them in meaningful developmental growth opportunities.

7.4 REACH: <u>EFFECTIVENESS</u> OF THE CARE FARM INTERVENTION

RQ2: How does this care farm model impact on the physical, mental and social development of pre-NEET young people with behavioural, emotional and social difficulties?

<u>Effectiveness</u> of the care farm intervention was assessed based on data yielded in this PhD study and in relation to the aims and objectives of the intervention (Chapter 3). In this section, strengths and weaknesses of the intervention will be discussed, together with considering the anticipated and unanticipated outcomes. Impact of the intervention on participants' mental and social development will be examined. Note that the physical impact will be discussed in relation to RQ3 later on in this chapter.

Re-engagement with school (Learning component of the care farm model)

This next section will focus on discussing how the care farm model impacted on participants' re-engagement with school.

Observational and interview data at the start of the intervention indicated that most participants in this study were disengaged from school. All of the participants held a very negative view of the school environment.

> 'But, then it varies on like the environment you are in, like, at school you can
> have a dick around, you can laugh, and that's only a joke' (Arthur: baseline).

> 'I refuse to do work at school if I don't want to do it' (Cecil: baseline).

Previous research findings indicated that if an individual has doubts or lacks self-confidence about their levels of achievement then they would be at risk of poor educational performance and outcomes (Ames, 1992; Beilock & Willingham, 2014; Hirvoven et at., 2012; Wigfield & Eccles, 2000). Indeed, in this this current study, it was observed that doubting oneself was a contributing factor as to why participants were underachieving and disengaged from school. As described in Chapter 3, the care farm intervention's physical and educational set up aimed to facilitate personal development, hence increasing participants' confidence in their abilities and skills. Consequently, the intervention also aimed to reduce participants' fears and doubts associated with school attainments and exam performances. Previous research suggests that when an individual believes they can be successful by learning new skills, they typically prove themselves right because they are determined to do so (Deci et al, 1994, Wigfield & Eccles, 2000; Beilock & Willingham, 2014). However, if an individual is apprehensive about their skills then they can become anxious; produce poor performance and will under-achieve (Beilock & Willingham, 2014; Wigfield & Meece, 1988). Similar to previous findings, at the start of this study, many participants were observed to be apprehensive and demotivated when they were asked to tackle a specific task (Beilock &

Willingham, 2014; Hirvoven et al., 2012; Wigfield & Eccles, 2000). This can explain why participants may have lacked interest in school and why they have been avoiding and displaying disruptive behaviours, for which they were often excluded from formal education. In the next section, the evaluation of the effectiveness of the care farm intervention to up-skill participants will be discussed.

Skill-learning:

The farmer drew on her own personal experience from growing up as a farmer's daughter to realise that skill-learning was an essential part of participants' personal development and was an integral component for the effectiveness of the care farm intervention. She and her staff worked towards getting every single young person to leave the farm with professional farming skills, which will give them the opportunity to gain further professional and formal qualifications.

> 'And I was thinking, what I learned. I learned to change my car tyres. By 16 I could change tyres. I could drive the tractor. I could do some fencing. I knew how to... I didn't like welding or anything like that but I'd watched dad do it, and there were just millions of skills, plus the animal side of stuff. Every time I felt stressed, and I did okay in school, but I hated it, and every time I felt stressed I'd go out with the animals. I realised how many transferrable skills the farming life had given to me. And I just thought, it worked for me as a teenager, and we're talking about teenagers, those that have added problems in their lives, so why wouldn't it make a difference to them?' (Farmer).

The interview with the farmer revealed she knew that if participants did not re-engage with the formal educational system, they would be left behind and probably continue to have a bleak life course. Therefore, she focused her intervention to reduce the risks of becoming a NEET. It was not likely that participants would gain higher grade GCSE qualifications, so the decision to focus on practical and career enhancing skills seem to have suited this population. Engagement with a working farm was instrumental to help them to secure a place at college, an apprenticeship and/or a job. There is a strong track record of participants leaving the farm with a vocational qualification, even when they achieved very little at school.

> 'For some of the children that are dyslexic it's the fact that they're never going to be academic. They're very, very clever, and that is so frustrating they're so clever, but they're never going to be the best in an academic writing situation. But they can be the best at planning, problem solving and

making something wonderful and that's what we try to discover and nurture'
(Farmer).

Consequently, the intervention is a structured hands-on programme implemented around the seasonal demands of farming life. Observational data of this PhD study revealed that during the nine months intervention period participants acquired essential employability skills (e.g. teamwork, communication, problem solving and planning) and life skills (e.g. healthy living and nutrition and cooking skills). These skills were systematically learnt through engagement with the care farm's every day activities, such as learning how to feed and care for livestock, cleaning and maintaining the farm, and tending and harvesting fruits and vegetables. From the start, observational data showed that participants actively engaged with various farm tasks and were motivated and willing to continue to do so. The tasks were effective in helping participants to develop skills, such as communication and problem solving and to explore feelings of responsibility, achievement and pride. The findings of this PhD work supports previous research findings (Melson, 2001), which showed that there is a connection between purposeful activities and a greater sense of responsibility when working in a natural environment.

'I've learnt a lot of new skills like feeding animals, doing hay, how to pick up a wheelbarrow and what needs planting or picking and digging holes. I've got to learn to drive the tractor. Lots of handy practical skills' (Lillian: post-i).

'I've learnt the foods that you can't give animals. Like the pig food you can't give other animals because it's got copper in it. I've learnt what the five freedoms are, I've learnt them. And just skills like that and working as a team' (Cooper: post-i).

Another element of the care farm intervention was to teach participants the protocol of social interactions as part of the life skills educational component, so that they can manage their behaviours more effectively in a more restrictive social environment, such as a classroom. Observational and interview data confirmed that participants were able to recognise and adhere to positive social etiquette, including recognising behavioural boundaries. The latter is an important skill, as it promotes education and learning. Boundaries enable an individual's harmonious functioning within the structures of the learning environment. However, boundaries can be set by 'teachers' in a variety of ways. Previous studies have confirmed that individuals given controlling boundaries demonstrated significantly less intrinsically motivated behaviours compared to individuals who were set autonomy-supportive boundaries (Koestner, Ryan, Bernieri & Holt, 1984; Tsai, Kunter, Lüdtke, Trautwein, & Ryan, 2008). In the current study, the mentors provided participants with autonomy-supportive boundaries, which allowed them to be creative in their choices and enabled them to approach tasks and solve problems using their abilities and curiosity.

Participants commented during observations that teachers at school were often 'controlling' and did not allow them any flexibility towards learning in the classroom, which diminished their interest in learning. The autonomy-supportive environment of the care farm appeared to be the key difference in participants' desire to engage with learning at the farm in comparison to school.

Life skills are abilities that are necessary (or desirable) to enable an individual to fully participate in everyday life. Although there is no definitive list of life skills, they are typically associated with skills that enable individuals to better manage their lives. Life skills help individuals to succeed in achieving their ambitions and to have control over their own life decisions. Enhancing life skills at the farm did not just focus on employability skills, but included activities like preparing food and hot drinks, washing clothes, and caring for themselves in general, which significantly improved participants' chances to manage their basic needs as an independent adult. Without these skills participants' ability to cope and progress further in their lives would have been more limited.

Reflexive note - Week 5: *One of the girls is fifteen; Wilma has behavioural, emotional and social difficulties and is in the process of being excluded from school. Her dad has very poor mental health and she has no one looking after her, which is reflected by her poor hygiene and unclean clothes. Wilma is extremely difficult at the farm and I've previously witnessed her hitting one of the goats when she was feeling frustrated, despite the fact that she is usually quite placid and gentle when she is with the goats and sheep. Today the farmer told me that she'd asked Wilma to make them both a cup of tea. Wilma said to the farmer that she was unable to do so because she didn't know how to boil a kettle. Wilma didn't have the 'basics' skills in life, which was clearly adding to the frustrations of her current situation, her inability to progress and her non-productive coping responses (e.g. hitting the goats). The farmer said Wilma couldn't cook and at home she regularly prepared a pot noodle for her dinner by putting the contents of the carton into a bowl with cold water to microwave it. This indicated a level of neglect to the researcher and the farmer. It appeared that Wilma's parents and the social system failed her. Therefore, it is important that the farm intervention introduces these young people to basic life skills, which will help them to survive as independent adults.*

As the intervention progressed, it became more apparent that one of the reasons participants were motivated to learn new skills was because they viewed their participation as a matter of personal choice rather than it being compulsory, like school.

> 'It's not like we're being forced to, it's more of a democracy. It's not really we're being forced to do it. If we don't want to do it we don't have to do it, but we're encouraged to do it, it's not like we're forced into it. We're encouraged rather than forced' (Cecil: post-i).

> 'They are not like teachers. They wouldn't actually force us to do anything. Like at school, if I didn't want to do my work they would force me to do my

work. Here, if I don't want to do it and I really don't want to do it, I won't have

to do it' (Hunter: post-i).

The engagement with skill-learning was fun for most of the participants. The tasks were enjoyable and interesting, like helping to feed the baby lambs and moving Betty, the horse from her stable to the field. Many of the participants talked about how they struggled to sit still and concentrate at school. On the other hand, this care farm intervention used haptic (e.g. sense of touch) and observational learning approaches, which allowed participants to be physically active, to use their hands and to learn by observations rather than being told what to do. The vocational and practical styles of skill learning, combined with the relaxed and autonomy supportive learning environment enhanced participants' learning experiences.

'I get bored easily sat inside at school, but outside at the farm I can do a lot of stuff with my hands and I find it a better to learn like that' (Hunter: post-i).

'It makes you feel proud, it makes you feel, like... maybe if you didn't know you could do it and once you have done it, you feel like, well, like you have proved yourself wrong. And that just makes you feel like you can't wait to use that skill next, to show that you can actually do it again, even if it is something simple, that skill is a skill' (Arthur: post-i).

Participants were further motivated to learn at the farm because they viewed learning as a productive use of their time that would also help them to achieve their career goals. Participants loved the farm work and were very responsive to the farmer/mentors, which helped them to gain perspective on their wider life and educational aspirations.

'I've got the skills that I've learnt here to go do that [apprenticeship] in the future because I'm not going to be 'I do not know what to do', because I've learnt here what I need to do with the animals and how I need to be around them and all that, so this, the farm has helped me a lot, for the future. Now though I can use the skills that I've got to help out here [farm] and it seems to help keep me out of trouble a bit at school' (Cooper: post-i).

As previously discussed in Chapter 3, the farm asked participants to undertake a learning style test to establish their preferred learning style, so the farm can tailor some activities towards the individuals' learning preference to help make learning easier and more enjoyable for them. Despite the scientific literature failing to robustly confirm the effective use of learning styles, the observations in this PhD work showed that participants did respond positively to tasks that matched their learning styles determined through their Brainboxx Learning Style Questionnaire (BLQ: Fewings, 2016). The questionnaire was completed when they first arrived. For example, the observations showed that if one of the audio learners was struggling with a practical task, a verbal

explanation from the mentor explaining how to approach the task helped them to engage more effectively. However, it became apparent through the observations that all participants preferred a form of haptic learning style. Haptic learning involves learning through touch, feeling, or sensing information in an active format. This was a naturally occurring learning style at the farm (due to the nature of the environment, the animals and the tasks), but all participants favoured a haptic learning style over others (e.g. visual or auditory). While the BLQ (Fewings, 2016) may help mentors to match their teaching styles to that of the participants, the observations demonstrated that the findings from this questionnaire should not be used as conclusive evidence for the usefulness of learning styles approaches at the care farm. However, it was the care farm staff' belief that participants should be encouraged to engage in different types of learning. Independent evidence supports the findings of this PhD thesis by confirming that being outside and engaging with nature supports hands-on learning, which appears to help enhance the mental health and well-being of individuals (Dillon & Dickie, 2012).

> 'And I do think there's something around that what happens in schools and the kinaesthetic learners. When we got the kids to complete the learning styles questionnaire, it seemed to me that most of our participants are kinaesthetic learners and therefore their needs aren't being met in school. And that's what makes them get frustrated and angry, and also fearful about their future. And I do think this sort of environment [farm work] works for those learners, it gives them the opportunity they don't have in schools anymore' (Farmer).

The key findings emerging from the data suggest the farm curriculum and the green space had a positive effect on participants' skill-learning, interpersonal skills and re-engagement with school. The skills learnt at the farm were beneficial to participants, helping them to secure training and/or a job beyond 16 years of age. The hands-on activities helped participants to learn new skills, unlike at school where they struggled to sit still and concentrate. In the care farm's autonomy supportive environment participants were able to flourish and to develop farm and career related employability skills that enhanced their enjoyment of learning. Participants were given tasks that were appropriate to their own abilities (Cunningham, 2005). Thus the participants' engagement was related to the type of task in conjunction with how the task was explained and delivered by a mentor (Ames, 1992). The findings of this PhD study established that of the care farm intervention was successful in re-engaging participants with formal education and reduced the risk of them becoming NEET.

In summary, the findings of this evaluation supports the findings of Self-Determination Theory research, by suggesting that learning at the farm was more successful than at school because mentors' support of participants' psychological needs for autonomy (e.g. by minimising academic pressure, increasing participants choices and providing a meaningful rationales for learning),

competence (e.g. providing challenging but interesting, structured activities with constructive feedback), and relatedness (e.g. through the sense of belonging and trust which has been built in the farm environment) facilitated and promoted participant engagement.

In this study, for most participants, the care farm intervention has been a life changing experience and helped them to re-engage with formal education. However, it is very likely that some participants would never re-engage with school. Observed conversations between the farmer and participants suggested this was most likely to be the situation for those who had a poor relationship with a specific teacher.

Reflexive note – Week 10: *I was listening to Cuthbert talking to Maureen about how he was coping with school. He spoke about how school was still a big challenge for him because of his relationship with one particular teacher. He told Maureen 'there's a particular teacher that always puts me down and who says some really horrible things actually even though I've been trying harder to listen and do my work in class'.*

The farmer confirmed that from experience those participants are very unlikely to positively turn the relationship around with certain teachers. However, the farm mentors and the farmer would always try to get them to re-engage with formal education. They would coach and work one-to-one with participants and had some success in turning these young people around.

> 'If there's been a teacher that has been particularly difficult with them, that teacher still sees them as a bad person, and then their tone and everything is still like that to the child. That brings the child back into the situation he was in before when he was considered to be bad, so there is a bit of a cycle. What I think happens is when they are removed from a situation that's really horrible for them [participant], they can use all of the things that they've learned and built up here [farm] in a new situation. But if they've had two or three years of failure and they're going back into that same situation again, same teacher, that's really tough' (Farmer).

In these circumstances, the farm helps participants to find different ways of coping with the teacher and the situation(s) by discussing with them different options and solutions to such problems. At month seven of the intervention it appeared that many participants were beginning to use better coping strategies in school.

> 'Now, if I'm getting annoyed with someone in class, like the teacher or someone sat on my table, then I count to ten or I might take deep breaths. If it's nearly break time and I'm feeling agitated during break time, I just like take myself off and spend five minutes on my own until I've like cooled off.

166

Before, I'd have reacted to the situation straight away by shouting and even throwing books and stuff across the classroom' (Arthur: post-i).

The quantitative outcomes from this study supported the qualitative data. Participants' 'life satisfaction with school' (measured by BMSLSS-PTPB, Bickman et al., 2010) showed a statistically significant improvement between baseline and post-intervention. This may be reflective of attending the care farm and learning to cope better at school. There was no significant difference between the intervention and the comparison group's scores post-intervention, which suggested that their satisfaction with school was similar to a 'normal' population, despite the intervention group's difficulties, which made school more challenging for them to cope with.

The approach of mentoring participants one-to-one appeared to increase their self-reported coping repertoires. One coping strategy mentors encouraged participants to use when they were finding a classroom situation difficult, was to remove themselves from the class. This course of action may have got them into more trouble, but at least it prevented participants from being in the classroom where their behaviours typically escalated out of control to acts, such as throwing tables or chairs. The farmer had tried to work with schools to help participants to learn to manage their behaviours by implementing an official 'exit card'. This would allow the pupil to legitimately leave the classroom if they felt they were unable to control their behaviours and emotional responses, but the schools were not willing to consider a change to their policies. The Department for Education (Mental Health and Behaviour in Schools Departmental advice for school staff, 2016) provides non-statutory advice to schools about positive classroom management to promote positive behaviours, and social development, which can include small group work, counselling, and working with parents. However, strategies utilised are determined by the preference of individual schools. The lack of cooperation by participants' schools in response to the farm's suggestions to help improve young people's behavioural management in school reinforces the need for services to work more closely with each other to find solutions that will help young people manage their lives more effectively. The disjointed approaches of the educational, social, and youth services that needed to manage participants overall well-being appeared to disadvantage participants and make their classroom experiences more difficult to cope with. The RE-AIM evaluation thus revealed that while the care farm intervention was successful in helping participants to improve the behavioural, psychological and social outcomes observed in this study, these were limited by external factors outside the structure of the care farm intervention.

The hope of having a future encouraged participants to behave better at school in order to gain certain GCSE grades. Verbal and non-verbal skills, team work skills such as communication, planning and problem solving, assertiveness and negotiation skills were all interpersonal skills that were learnt through the care farm intervention programme. For participants, belonging to the care farm family meant a sense of stability, which provided a platform for skill learning to occur. Some participants re-engaged with school because the intervention taught them behavioural skills to

manage relationships with their teachers and peers. The farm also provided a break from school for participants, which enabled them to cope more effectively with problems on the days they were at school.

REAIM: EFFECTIVENESS and RQ2: How does this care farm model impact on the physical, mental and social development of pre-NEET young people with behavioural, emotional and social difficulties?

In the following section the effectiveness and impact of the care farm model will be discussed in relation to participants' mental, and social development during the 9-month intervention (RQ2 above). Note that the physical impact will be discussed in relation to RQ3 later on in this chapter.

Mental Development: Outcomes of self-reported mental health risks and behavioural regulation difficulties (Core-self component of the care farm model)

Contact with nature has been the focus of numerous studies, which suggest children and young people benefit from contact with nature, with specific impacts relating to (ADHD) and the improvement of anxiety and depression (Munoz, 2009; Faber Taylor & Kuo, 2009). Many participants in this study have a diagnosis of ADHD and confirmed by the observations showed signs of mental health problems (e.g. depression, anxiety and stress) and behavioural regulation difficulties, such as controlling feelings of anger and how they react to specific situations or people.

Depression

Qualitative and quantitative data revealed that participants often felt sad, which was expected as a normal reaction to the difficulties they have experienced in their lives, because these events were often stressful or upsetting. However, for some participants these feelings appeared to interfere with their daily lives and their behavioural and emotional responses (or lack of). Some participants disclosed their feelings of hopelessness during the interviews and informal chats with the researcher. At the start of the intervention they reported not to think and/or plan for the future. It is noted that significant others in these participants' lives did not expect them to progress with their education post 16 years of age. The data from observations and pre-intervention interviews revealed that if participants made a reference to their future then it was done using a pessimistic tone.

> 'I don't volunteer for stuff because I feel people would just like laugh at me because I'll probably do something stupid' (Lillian: baseline).

> 'That I'm not good enough for anyone or that I disappoint everyone' (Audrey: baseline).

Some participants frequently displayed a lack of interest in both farm activities and engaging with their peers in the early stages of the intervention. This was noted by the researcher during the observation sessions.

Reflexive note – Week 2: In the last two weeks *Mable arrived at the farm looking pale and tired. There was a sad aura that appeared to surround her and combined with her appearance it was borderline harrowing. It made me realise the depth of some of these participants' difficulties, and I wondered what was going on in Mable's life. On arrival to the farm, during the kitchen session everyone seemed to be happy and proceeded immediately to engaged with their peers and the mentors in light hearted conversation. However, Mable sat in the same chair, as she had done the previous week, keeping her eyes firmly to the floor. The only time she very briefly made eye contact was with one of the mentors who then spoke to her. When we went outside it was apparent Mable had no interest in interacting with her peers and stood on the side-lines continued to look down at the floor while everyone else was excitedly getting involved in the tasks. The only interaction I saw Mable instigate was to pet one of the cows, she seemed to whisper a few words into the cows' ear.*

However, by the end of the intervention these participants appeared to have come 'out of their shell' choosing to engage with the farm activities and interacting with the mentors and a few close friends. However, some participants still appeared to be distant and less interactive with their wider peer group at the care farm.

Reflexive note – Week 12: *Mable entered the classroom and immediately smiled as she spotted Cooper and Doris. She had made what appeared to be a close friendship with these two peers and when Mable was with them, especially with Cooper, she seemed happy, as she was often laughing and joking. Over the course of the intervention, Lola (one of the mentors) primarily worked with Mable and Doris (who also had severe difficulties stemming from her OCD). Lola's close mentoring style appeared to have helped to break down the social barriers between Mable and Doris. Mable was now participating in all of the farm tasks and always followed the instructions and requests of Lola and of the other mentors. The raw sadness that appeared to consume her nine months ago appeared to have lifted. I wouldn't say it wasn't there but there definitely appeared to be a happier person.*

Data from the DASS-21 (Lovibond & Lovibond, 1995) depression subscale supported the qualitative findings (see Chapter 6). Participants' responses indicated that they had a 'mild' score of depression both at baseline and post-intervention. This indicates that the individual is 'above the population mean', but still well below the typical severity of people seeking help for clinical depression (e.g. it does not mean a mild level of a 'disorder'). Participants' depression sub-scale scores slightly deteriorated between baseline and post-intervention, but this was not significant. However, the qualitative data findings showed that participants felt the care farm intervention provided them with literal and figurative space for personal reflection and restoration, which had the

positive impact of helping them to alleviate these negative feelings and thoughts. Psychometric questionnaire data often does not reflect or detect subtle changes in participants' psychological well-being (Jamison, 2006; Sheehan, 2012). Therefore, including qualitative data allowed this study to make some evaluative conclusions about the impact of the care farm intervention by presenting participants' self-reported progressions.

Anxiety

The majority of the participants felt anxious or fearful about situations in their lives, such as exams, which would subside after the event has passed. However, some participants experienced daily anxiety, which manifested in symptoms that might indicate the presence of OCD. This included, but was not exclusive to, a fear of germ contamination, the making of specific, repetitive noises and the frequent washing of hands.

Reflexive note – Week 2: *Brenda never sat down at the table in the kitchen to join in with the other participants, nor did she join in any of the farm tasks nor did she touch any of the animals. She simply stood with her hands tucked inside her coat watching what was going on around her. The farmer has told me that Brenda suffers from OCD and has a fear of cross-contaminating items with germs from another item. She refuses to touch anything. The farmer said she was shocked that Brenda had even agreed to come to the farm, let alone come back after the first session as she walked off site with mud all over her boots'.*

By the end of the intervention, the observations revealed that even people with serious mental health problems, such as an OCD were still able to engage with the care farm and benefit from the intervention.

Reflexive note – Week 12: *Brenda was stood stroking one of the donkeys while chatting and laughing with Cooper and Beryl. There were certain tasks and social interactions that Brenda chose not to engage with but it was clear she had made excellent progress since the start of the intervention. Brenda demonstrated a more confident interaction with her peers and mentor, and she would happily help with specific farm tasks, although mucking out the cows was one step too far for her, not just yet! In those moments where she must have felt anxious (perhaps her OCD was getting the better of her) her hands would slip back inside her coat or jumper.*

Participants also reported being less anxious and more able to engage with activities (at the farm and at school), because they had less doubt about their own abilities and skills. They also felt more accepted, which lead them to feel better about themselves.

> 'Before, I wouldn't volunteer to do anything or really speak to anyone but I'm not so worried anymore. I mean I still have moments of doubt but I feel better about myself so it kind of helps me to think I'll do something or give it a go' (Lillian: post-i).

The data from the DASS-21 Anxiety sub-scale confirmed that participants had a 'mild' score of anxiety at baseline and an increased score to 'moderate' levels of anxiety post-intervention. The increase in the score was not statistically significant, but indicated that participants continued to experience anxiety. A 'mild' or 'moderate' score means that the individual is above the population mean, but still well below the typical severity of people seeking help for anxiety (e.g. it does not mean a mild level of a 'disorder'). All participants voiced their sadness about getting to the end of the care farm intervention and said that there would be a 'gap' left in their lives. At the end of the intervention, it was apparent that many participants were anxious about no longer having the weekly support of coming to the farm, which may have been adding to their increased levels of anxiety at this time. The qualitative data supported the <u>effectiveness</u> of the care farm intervention, in reducing participants' levels of anxiety. Therefore, the timing of the quantitative data collection may have influenced the results (e.g. near the end of the intervention).

Stress

Many participants spoke about their difficulties with becoming easily upset and agitated with other people. In some situations participants reported to be unable to cope or have control over (e.g. their home situation with parents or school) their behaviours. The reflexive note below describes an observation made by the researcher when one of the participants was stressed. The observation captures the participant's emotional response and the mentor's actions.

Reflexive note – Week 5: *Gerald had arrived at the farm acting quieter than he normally is. He was talking to his circle of friends, rather than banter with the whole group as he usually does on arrival. When we had moved outside to work in the cow barn it was clear that Gerald didn't want to participate in the task of helping to move the cows out of their barn and into the yard. It was sometimes a challenging task (especially if the cows had their own plans for where they wanted to be) so good communication and team work was required. Maureen was talking to Gerald and explaining that the team needed his help. Without any warning he appeared upset, raising his voice at Maureen and asking why should he help? He stormed off, visibly upset and went behind the pig pen, a small secluded area where he was out of sight but just about visible and refused to move for at least five minutes when Maureen went over to speak to him. Maureen asked him what was causing him to be upset. Gerald said that he was feeling stressed by an on-going situation at home with the mum. Maureen suggested that he took a five-minute break from the task and to go for a walk to the Thinking Hill and take some deep breaths before returning to the group'.*

Arthur needed to be physically close to someone to help calm himself when he experienced feelings of stress (e.g. indicating this may have been some form of coping mechanism), while Cecil found the mention of his family caused him to feel stressed because it reminded him that his family

were not 'normal' (e.g. Cecil was neglected by his parents who had addiction problems) and many of his problems resurfaced at these times (e.g. hunger, weight loss, neglect).

> 'When I feel stressed at school, if I like get something wrong and I'm stuck inside I get really frustrated and upset really easily and I have a go at the teacher or maybe someone who is near to me ' (Arthur: baseline).

> 'Normally it's like someone mentions family and I just lose it and get upset for no reason' (Cecil: baseline).

Participants discussed how the mentors helped them learn to cope better when they were feeling stressed. This included taking time out to help clear their heads, doing something physical, or to take deep breaths by inhaling and exhaling slowly. The mentors encouraged participants to use the breathing techniques when feeling very stressed. The mentors also encouraged participants to change their mind set by accepting that they cannot control everything, so they need to choose their 'battles' by deciding which ones they can gain a positive outcome from with the least effort. This helped participants to put their stress into perspective. While participants found they were still dealing with 'high' levels of regular stress, because of the disadvantages that existed in their lives, they felt they were able to cope with such on-going acute stress.

The quantitative data from the DASS-21 Stress sub-scale confirmed that participants had a 'normal' score of stress at baseline, but this had increased to a 'mild' score post-intervention. The increase in the score was not statistically significant, but reflected that participants were continuing to experience feelings of stress. During the quantitative data collection period post-intervention many of the participants were taking GCSE examinations and waiting to find out if they had secured an apprenticeship or a collage place. Many participants confirmed these were contributing factors to their levels of stress. However, overall though participants felt they were experiencing fewer episodes of stress and were better able to cope through the use of productive strategies to manage these incidents.

> 'Before I came here [farm] I used to get annoyed and upset quite quick by things and it would get me into trouble. Everyone here [farmer and mentors] has helped me find ways so I don't get as stressed out, so I'll do things like and I know it sounds silly, but going outside to a field and breathing in the fresh air. It gives me time to think about what's just happened and I've realised it's not worth getting stressed and upset about' (Cooper: post-i).

The findings of this PhD work showed that at the end of the intervention participants were significantly more effective in managing their mental health risks, many using the green

space more frequently to calm themselves and escape the stressful thoughts they had as demonstrated in the last quote.

The impact of the care farm intervention on participants' behavioural regulation difficulties

In particular, male participants spoke about their aggressive and generalised destructive behaviours outside of the care farm intervention (whereas before attending the care farm, such behaviours often escalated to violence to self and others). Although participants showed signs of aggression during observational times at the care farm, it did not escalate into violence. However, the male participants spoke in-depth about their behavioural regulation difficulties:

> 'If I have problems I get negative and doubt myself and I get, like, angry and
> stressed and I trash my room, I've punched a hole through a fence, thrown a
> chair at school stuff like that. At my mum's house I lobbed my bike, which I
> had literally just repaired, across the garden. If I've been really bad, it causes
> a row with my mum' (Arthur: baseline).

The mentors helped participants to learn to use more productive coping skills, such as thinking before they speak or by counting to ten (or longer if required), taking time out by removing themselves from a situation, doing something physical to refocus their negative energy, learning to calm themselves by practicing breathing exercises and identifying possible solutions by talking to someone about the issue. These productive coping strategies were found to be extremely helpful when participants chose to use them.

> 'If I'm stuck in the classroom and like, I can't get outside to get fresh air and
> cool off then in my head I count to ten and if I'm still feeling like I want to flip
> the table, like I'll count to ten again or like maybe count to twenty. It helps
> me, I've not launched anything across the class for a long while' (Arthur:
> post-i).

However, there were still times during the observational period when participants reported using aggressive or destructive behaviours.

The qualitative data findings supported the quantitative data obtained from the SDQ 'Conduct Problem' sub-scale, which confirmed that participants' conduct problems significantly decreased between baseline and end of the intervention. Therefore, it can be concluded that the care farm intervention had a significant positive impact on participants' conduct problems, transferring to their everyday experiences.

Hyperactivity

The reflexive field-notes identified high levels of hyperactivity amongst participants, particularly amongst those who also had a formal diagnosis of ADHD.

Reflexive note – Week 2: *It was clear straight away that all the participants had difficulties with sitting still and paying attention to the mentors' instructions or guidance. In the kitchen on arrival some participants were constantly getting out of their seats and moving around to pick-up various objects like pens and pieces of board games that had been left on the table, or to simply pace around the room. They were quickly and easily distracted from whatever they were doing by something else that was going on, such as someone else arriving or someone getting their phone out of their bag. As the session progressed and we were outside in the cow barn, it was clear that the same participants had difficulties listening to and following instructions from the mentors. It meant that the mentors often had to repeat instructions about the tasks, such as how many scoops of food to put into the animal food trough. When the mentors were repeating instructions these participants often interrupted by talking over the mentors by asking random questions, which were generally unrelated to the task. These participants' behaviours often appeared impulsive, like they weren't thinking about what they were doing. They were just bouncing around full of energy and enthusiasm.*

In later sessions, as per the researcher's observations, the mentors found productive ways to engage the hyperactive young people.

Reflexive note – Week 5: *After participants arrived at the farm and had their cuppa and something to eat in the kitchen, every session started with everybody going outside and engaging in some physical farm work. I chatted to the farmer about this before the session started and she confirmed that undertaking a physical activity straight away was a structured aspect of the session to help participants vent their energy and calm their minds. I noticed, as I had done so the two previous weeks that after a couple of hours outside undertaking physical tasks, and basically burning off lots of energy, all participants became calmer and more focused. The physical activity at the beginning of each session always involved interacting with the animals. The animals appeared to have a relaxing effect on participants. Some participants simply stopped and stood still for ten seconds to pet the animal. However, others continued to move about energetically, but all of them appeared to be less noisy and talked to each other instead of shouting. Most participants refrained from banging the food buckets together too, as they frequently did in the shed where the food was stored and they shut the gates carefully instead of allowing them to swing and clatter behind them in the fields. Although some participants with ADHD still struggled with instructions, there was a noticeable difference in their conduct and concentration. The more I watched participants with ADHD, the more I began to realise that the mentors kept repeating instructions to them on a one-to-one basis, after they had finished giving instructions to the whole group. The mentors also broke down the*

instructions for these participants into more digestible segments, as if not to overwhelm them with too much information at once. The mentors would communicate one instruction of the task, allowing participants to act on the instructions before giving them the next one. This method seems to have worked with participants with concentration problems. They were able to complete the task this way. I also noticed in today's session when one of the participants was being particularly hyperactive that Maureen engaged with Charles in a conversation to encourage him to deal with his feelings by discussing what aspects of the tasks or work he found difficult to deal with and why. Thereafter, Maureen explained to Charles that some types of behaviour were not acceptable at the farm and gave reasons as to why that is. For example, running about in the yard when the cows are in the yard can frighten them because of the sudden and fast movements. Therefore, it is not safe to behave like that.

The combined results of this PhD work showed that the physical environment had a positive impact on participant's hyperactive tendencies. Being active in a green space has been very helpful in engaging this population in learning and farm tasks. Indeed, the participants valued being active and being outside completing tasks or simply just running around in the field at the farm. Observation notes revealed that when participants were undertaking these outdoor activities, they were engaged and focused on the task. The amount of knowledge and understanding they took in during these tasks was confirmed by their ability to recall answers in the daily quiz held at the end of sessions. The quizzes were viewed by participants as fun and not as a formal test or an examination. Many of the participants were not encouraged by their parents to be physically active, despite their desire to be. The quantitative data from the SDQ 'Hyperactivity' sub-scale score showed a significant decrease between baseline and post-intervention supporting the qualitative data. The evaluation of the care farm intervention showed that the physical environment of the farm and the opportunity to be physically active had a positive effect on participants:

> 'If I'm full of energy at the weekend and I can tell I'm going to annoy my Dad because I can't sit still and I can't stop talking, like I talk over the TV and stuff, well now I'll go out on my bike up across the dirt track. I'll go for like half an hour or something and when I get back I don't feel you know all loud and like I need to jump about. Me and my Dad have a better day together when I'm like that [less hyperactive] because he's not like shouting at me all the time to sit still and shut up' (Hunter: post-i).

The key findings emerging from the data suggest participants' ability to manage their behaviours and emotions had a positive effect on and reduced their self-reported mental health risks and behavioural regulation difficulties. However, DASS-21 scale scores revealed that participants experienced a slight increase in levels of depression, anxiety and stress despite the observations and interviews suggesting otherwise. Participants reported a statistically significant reduction in hyperactivity and conduct problems, which can be attributed to their increased engagement with nature and the care farm intervention.

Impact of the care farm intervention on learning new behavioural skills: Coping skills (Coping component of the care farm model)

Both the quantitative and the qualitative data revealed that, before attending the care farm intervention, many of the young people struggled to cope with the difficulties they experienced in their lives. Observation data and responses provided to the Adolescent Coping Scale II (Frydenberg & Lewis, 1993) sub-scales substantiated those participants frequently used non-productive coping strategies (e.g. drinking alcohol, taking illegal drugs or fighting) to deal with their problems. At the start of the intervention the interview data yielded only minimal references to using productive coping strategies.

> 'Life's never going to be easy. For some of these participants it seems to me
> that life throws pretty nasty things at them when they're young and it's never
> going to be easy, but if they're resilient enough to cope and go 'yeah, but, it
> will be okay tomorrow. I can cope with this'. That's what they need' (Farmer).

Non-productive coping strategies, which participants reported to use included being aggressive, hitting and kicking:

> 'When I feel like I can't cope with a situation, that's when I get really angry. Like,
> I didn't know what else to do. I'd throw things and shout' (Arthur: post-i).

Participants were beginning to learn to cope with their problems by removing themselves from a potentially 'explosive' situation, which they couldn't do before.

> 'You think back to here [farm] and then you think how you stopped yourself
> from doing that here. If someone is, like, annoying me, instead of retaliating,
> like, hitting them in the face or something, like, Maureen will say to me, go
> see the donkeys or something. So, she is telling me to do another job, but
> she knows it will calm me down. And when I look back on it, I know what she
> is doing. That's how I know if I distract myself in situations then I might stop
> getting into bother' (Hunter: post-i).

Qualitative data obtained during the interviews and the observations confirmed that participants had begun to use more productive coping strategies. However, the quantitative results were statistically not significant. The observational and the interview data in the latter half of the intervention revealed that participants attributed the changes in their coping skills to their farm experiences.

The mentors' positive expectation of the participants and the extra support and feedback from mentors helped them to learn to cope:

176

'There's always someone there to pick you back up again. So now I know obviously if I go wrong, someone's always going to be there to help me make it right and I don't need to get frustrated and angry' (Lillian: post-i).

By month four of the intervention participants began to learn how to reason rationally and to weigh up the options they have when trying to solve a problem.

'Coming here I've learnt not to give up if I feel I'm not coping. Like, Brain will encourage me just to try and he'll talk to me about why I don't think I can do something and like talk to me about why I'm bothered if I get it wrong and why I'm not really coping that well. Like, he'll say 'is that a reason to give up completely?' And it's not' (Lillian: post-i).

The care farm intervention was focused on creating opportunities for young people to learn coping skills and the green space provided the perspective in which they could view and evaluate the seriousness of their problems. The farmer and their mentors thought the solutions through with them. This reasoning exercise prepared them to learn how to do this for themselves. However, the participants were inexperienced and still very young at the time of the intervention and therefore found it effortful to keep the difficulties in their lives in perspective. The qualitative data showed that trying to cope with a set of serious and complex problems on a continual basis was emotionally taxing (Lazarus & Folkman, 1984; Skinner & Zimmer-Gembeck, 2007).

'Outside, at an activity like this, it takes your mind off your problems and trying to cope with everything, because you're too hard concentrating on keeping yourself on top of what you have got to do, that you forget any other stuff. So now, If I'm at home and I'm a bit pissed off, I go out for a walk with my dog, or I use my punch bag. I guess I cope by distracting myself from what was pissing me off' (Arthur: post-i).

The post-intervention interviews revealed that participants had begun to transfer the use of productive coping skills to other areas of their lives, including school. This appeared to have an impact on their day-to-day functioning at school and when dealing with specific events such as examinations.

'I use to give up when doing stuff I find difficult. Yeah, but I've been coping much better at school 'cos I'm calmer. I've been gradually calmer and calmer at school' (Cecil: post-i).

'Like say at school, like I had my mocks recently. I didn't think I could do it but then obviously someone at the farm gave me the confidence and said,

you can do it, and then it, kind of, gave me the boost to cope with the revision and to do it' (Arthur: post-i).

The reduction in non-productive coping skills and the increase of productive coping skills was reported by all six participants. They talked about using their newfound coping skills in their home environments. The first account below describes Arthur's experiences at home pre-intervention with the second account being reported post-intervention.

'I mean, yeah, I don't know if you know this, but I've got ADHD, and at home my brother has got autism. So, he's nine, me and him in the same room together that we used to share and it was a bit like cats and dogs. I used to get annoyed and he used to get annoyed and he couldn't cope and I couldn't cope' (Arthur: baseline).

'But, my brother, he likes his computer things, and since we've moved down to the farm, I'll be getting... not like forcing him to, because I used to be quite nasty to him, to be honest with you. I motivate him to come outside with me and, like, do things. We have got more of the brother bond. My mum is amazed. The first time she said 'where you two are going?' We were walking the dog' (Arthur: post-i).

Examples of productive coping skills participants started to use were: seeking help from others (e.g. talking to someone about the problems); using the green space to calm themselves down and support their emotional regulations (e.g. taking time out to think clearly about their problems); and being able to walk away from a negative situation (e.g. such as an argument).

'Just try and calm myself down and just sit in a place where I feel comfortable and relax' (Lillian: post-i).

'It makes me feel better working outside on the farm even though I come home stinking of crap from the cow crap all over my leg, or something like that. But, I feel good about it. I feel I can cope better from being outside and working' (Arthur: post-i).

Participants found that by using certain productive coping skills such as talking to someone they trust helped them to find a solution to their problems, which reduced their behavioural and emotional difficulties.

'If there is a major problem and I'm feeling like I can't cope, I will go and talk to someone I can trust and by talking it sometimes helps me sort out the problem whereas before I'd be getting upset and playing up because I didn't know what to do and I was getting stressed out about it' (Audrey: post-i).

178

The qualitative data findings supported the quantitative data obtained from the Adolescent Coping Scale II 'non-productive coping' sub-scale, which confirmed that participants' non-productive coping strategies significantly decreased between baseline and end of the intervention. Therefore, it can be concluded that the care farm intervention had a significant positive impact on participants' non-productive coping strategies, transferring to their everyday experiences. However, there was still a tendency for participants to use non-productive coping skills.

> 'Well I used to keep problems to myself and try and fix them myself, but now I open up with people about them. But sometimes I still try and fix the problem myself rather than letting anyone else help me' (Audrey: post-i).

The findings of this PhD work is similar to those studies discussed in Chapter 2 from the Self-Determination Theory literature, which suggests that if participants do not feel fully supported by family, teachers and friends or receive limited social support for their endeavours, they will be reluctant to trust and/or confide in them if they have a problem (Ryan et al., 2003).

Participants also recognised how they have improved their ability to cope with the disadvantages of their lives since attending the farm.

> 'I manage them by just thinking of the positive things in life and forgetting about the negative things, like there's the silver lining in every cloud, sort of thing. I just have to think positive about everything' (Lillian: post-i).

The evaluation of the care farm intervention's impact on acquiring productive coping skills were supported by the quantitative and qualitative data of this PhD thesis, which indicates that the intervention was successful at helping participants learn new behavioural skills, like coping. There was clear evidence for reduction in using non-productive coping skills, such as getting into a fight, shouting at others and so on. Overall, participants reported they were better able to cope with many of the stressors in their lives and have managed to maintain healthier relationships with people in their environment. In this study, the mentors were able to adjust the delivery of the intervention to participants' personal level of coping ability, which is a key element for this care farm intervention (Hassink et al., 2010; Pederson et al., 2012) and probably caused the subsequent impact on participants' ability to use a more varied coping repertoire.

Impact of the care farm intervention on participants' social development (Core-self component of the care farm model)

Pro-social behaviours

Pro-social behaviour is defined as 'voluntary actions that are intended to help or benefit another individual or group of individuals' (Eisenberg & Mussen 1989, p. 3). However, for the purpose of this

study the Department of Education's (2012) definition was utilised, which was used to describe pro-social behaviour in relation to young people (specifically those who are NEET). Thus, pro-social behaviour is the 'antithesis of anti-social behaviour that lacks consideration for others … and manifests itself in aggressive, intimidating or destructive activity that damages or destroys another person's quality of life or has a negative impact on a local community' (2012, p. 7).

Evidence suggests that pro-social behaviour is significantly lower amongst NEET young people (compared to those in education or employment) because the lack of education or employment is a barrier to pro-social activity (Department for Education: Barriers and Facilitators to Pro-social Behaviour among Young People, 2012). However, currently there is virtually no support from the Government in the UK for interventions like the one being evaluated in this PhD work. The care farm intervention in this study is aimed to fulfil this service gap, and works with pre-NEET young people who are currently not engaged in pro-social activities, which they see as an essential skill for keeping them engaged in learning, especially when they are transitioning from school into employment or training.

A lack of pro-social behaviours of participants was confirmed by both the quantitative and qualitative findings of this study at baseline. However, subsequent observational and post-intervention interview data revealed an improvement in participants' pro-social behaviours. The Pro-Social Behaviour subscale scores obtained from the SDQ showed an increase in pro-social behaviour between baseline and post-intervention (although that increase was not statistically significant).

At the beginning of the intervention participants' pro-social behaviours began to improve through a display of kindness towards the animals at the farm.

> 'I enjoyed when the lambs were little and we were able to feed them, because obviously it's that one-on-one with the lambs, and it was great being able to hold them and feed them, just basically being nice to them, you know!' (Lillian: post-i).

> 'I just think they're [farm animals] like people, exactly like people, and like the people here. They deserve to be treated like people, treating them kindly and making sure they're happy' (Hunter: post-i).

By approximately month two of the intervention participants' kindness began to include their mentors and peers too. Participants learnt to anticipate the needs of others, and to view the act of doing something kind for someone as intrinsically rewarding.

'I'll now quite happily help more people, like I know it's the right thing to do and like I feel good after helping and they feel good that I've been helping them' (Arthur: post-i).

'Yeah, I am more helpful, so, if I see someone struggling, and I actually enjoy helping people, it's rewarding, if that makes sense?' (Cooper: post-i).

By the end of the intervention the young people were motivated to help the mentors and/or their peers through voluntary actions that were not intended to help or benefit them and had no expectation of a reward. These helpful behaviours were typically observed in parallel with increased levels of kindness, empathy and/or concern for others and behaving in ways to help or benefit other people.

'Yeah, definitely, like, even when I am not at the farm, even when it's like in the holidays, they've got their County Show at the farm and I volunteer. It's a lot of work for them [farmer and mentors] if I didn't help out' (Arthur: post-i).

Interviews with Arthur and the observational data, revealed a life of difficulty with his parents and his step-father, which led to his aggressive behaviours at home and in the school setting and resulted in long and frequent periods of non-attendance at school. His connection to the farm (which was demonstrated by his newfound enjoyment for the natural environment and the farm animals) provided him with a sense of escape from the difficulties and challenges in his life. He would frequently volunteer to help out at the farm in school holidays and at the events held by the farm. Arthur suggested that being at the farm allowed him to think about or share his experiences with the mentors and/or the animals in an environment where he was understood. Through his experiences at the farm, Arthur was able to manage his aggressive tendencies, fulfil his school commitments and focus on a vocation, which involved agriculture and animals, all while beginning to feel better about himself.

The evaluation of the care farm intervention showed a significant impact on participants' pro-social behaviours, which were freely given and 'from their hearts' (e.g. volunteering to complete a task instead of being asked). Previous research supports the findings of this study, which showed that pro-social behaviour led to greater improvements in well-being (Dunn, Aknin, & Norton, 2008; Weinstein & Ryan, 2010).

Impact of care farm intervention on the interpersonal skills of participants (Core-self component of the care farm model)

Participants further spoke about how they learnt to cope with the everyday tasks on the farm, which can be dangerous if not collaboratively organised and negotiated both physically and verbally. Team work and communication with the mentors and their peers was regarded as an integral part of

learning interpersonal skills. For example, participants had to communicate with their mentors about what they were finding difficult and working out a solution or asking for help to get the farm task successfully completed.

> 'Moving the cows because obviously they're big animal, they're a bit scary when they're coming at you. That's a challenge I find. You've got to rely on everyone to have your back here, you've got to be working as a team and making sure you listen and talk to each other' (Lillian: post-i).

Consistent and dependable relationships are regarded as a fundamental part of a happy childhood and a sudden demise or lack of this type of relationships can create a level of trauma (Layard & Dunn, 2009). The referral forms sent to the farm by social services and/or schools indicated that participants in this study have encountered on-going and negative social relationships at home and at school (e.g. due to their parents' mental health issues, addiction problems, unemployment and other difficulties). Participants rarely received any positive reinforcement from significant adults, which can adversely affect their interpersonal and social interactions. In the care farm intervention, there was a focus on developing key interpersonal skills, which included learning to trust and nurture others and show empathy, which are skills that young people with BESDs typically struggle with (Geddes, 2006).

The findings of this PhD work established that the care farm intervention helped these young people to make positive changes in the way they choose to interact with other people, allowing them to build stronger interpersonal relationships. Appropriate greetings, conversations and behaviour towards the mentors and their peers were encouraged by the structured time spent in the kitchen during every session. Participants recognised some of the interpersonal benefits that they have gained, including improved communication skills and non-verbal communication, such using eye contact.

> 'I enjoy getting here, you go to the kitchen and everyone, like the mentors as well, they're all really pleased to see you. It's nice having time catching up with everyone before we get on with the jobs. I use to struggle in groups you know, walking into a room full of people, eye contact even making conversation really, but its relaxed here. You get your cuppa or whatever and then you sit down and have a laugh' (Hunter: post-i).

> 'I think I'm more calmer and friendly towards people because before I didn't like talking to new people but obviously here I just got thrown into the group and I had …didn't really have a choice, so obviously I've learnt that if people talk to you then it's obviously polite to talk back, because I use to be, I wouldn't talk to anyone unless they talked to me, but now that's completely

182

changed because I feel more relaxed in other people's company' (Lillian: post-i).

The finding of this study showed that participants improved their interpersonal skills by the end of the intervention.

'I have learnt to actually to talk to someone, like to talk to people more about what we need to do and like how to do it and by talking to people I can usually work out the best way to deal with the problem' (Cecil: post-i).

The tasks on the farm often encouraged participants to develop team work skills, because they had to trust and rely on each other to complete various tasks. Problem-solving with a team is a crucial employment skill that the participants were able to acquire.

'Like I have said before, because it is easier for me to be doing stuff practically, it has helped me remember more of how to work as a team with people instead of just me doing all the work on my own or someone else having to do it. It has actually helped me to talk to someone and co-operate with them' (Arthur: post-i).

'Because, when you are here you work as a team and do separate jobs together. I don't know, say that you are using a tractor and you had to push the muck around the yard into a heap, so you might have somebody guiding you, so you have got to listen to what they are saying about where you have got to go while also concentrate on what you are doing' (Cecil: post-i).

Assertiveness and negotiation skills are vital in interpersonal relationships (Choudhary, 2014). However, for some participants these were difficult skills to master and it took them longer to learn successfully, mainly because of the higher demand on them to control their behaviour and emotions. However, towards the end of the intervention there were much clearer indications of interactions which involved both.

'I used to, like, more or less just boss people around, now I'm more, 'oh we need to do this otherwise we won't be able to do this and that, what do you think?'. And I will help out doing the jobs instead of just saying, 'everyone do this and that', or not actually doing it' (Audrey: post-i).

Positive changes in social relationships at the farm were only observed after the first six-week period. From the researcher's conversations with participants at the farm, and data from school reports sent to the farm there were no significant changes reported in participants' behaviours at school during the early stages of the intervention. Positive behavioural changes at school were not

reported until approximately six months into the intervention and were typically only true for those participants who had supportive families and/or had other significant others in their lives giving them support for their endeavours.

> 'Some of the teachers they're saying, 'oh my goodness. They're so different'
> and 'they can talk to us now' (Farmer).

It took nearly a full 9 months of the intervention for participants who had multiple life problems (e.g. neglect/abuse at home, learning and engagement difficulties at school, getting into trouble with the police) to develop effective interpersonal skills. Therefore, it appears that participants who are dealing with multiple and complex disadvantages, the impact of the intervention might be less successful compared to those with less severe needs. However, if the intervention could be extended for young people most in need, greater benefit and outcomes would potentially be observed (Evans, 2010).

Improving social and family relationships is integral to participants and the impact of the intervention, because they are learning to manage their behavioural and emotional difficulties, which is often a cause and a consequence of poor relationships with people in their lives. The care farm intervention recognised that if a young person is going to successfully learn interpersonal skills, then they need to be more accepting and tolerant of others, even if they do not like the person or their actions. Learning such skills was expected to help participants become more resilient.

> 'We encourage the participant to accept everybody, we tell them you don't
> have to like what they're doing and you don't have to do the same as them,
> you are your own person. I think that goes back into their home life, 'okay, I
> can accept these people for who they are and what they are. I don't have to
> be like it. I don't have to like them, but I can manage it'. And again,
> sometimes it takes too long. We haven't got that time with them' (Farmer).

The quantitative data derived from the life satisfaction measure (BMSLSS-PTPB, Bickman et al., 2010) corroborated results yielded by the qualitative data. It was confirmed that participants' life satisfaction with their family life and friendships had increased between baseline and post-intervention, but did not reach statistical significance. However, despite participants' mean scores for satisfaction with family life and friendships being slightly lower than the mean scores for the comparison group, there was no statistically significant difference. The evaluation of the care farm intervention also showed that it had a significant impact on participants' ability to relate to others and that they have acquired critical and transferrable life skills.

Family

All participants talked about the difficult relationships they had with their parents and how their disagreements caused regular conflict in the home environment.

> 'I seem to argue with my Mum about everything, homework, well not doing my homework, not helping out with the housework, not getting to school on time' (Audrey: baseline).

Similarly, participants who were interviewed in this study commented that after approximately 5 months of attending the care farm intervention, their relationship with their parent(s) had started to improve because they were better able to control their behaviours and emotions in the home environment. This suggested they had begun to employ their interpersonal skills and also that in the process of acquiring such skills they learnt how to negotiate and express their views without creating conflict and emotional distress to themselves or others.

> 'Yeah, me and my mum are not arguing as much. When I was at school and I was stuck in a classroom, I'm not as calm when I'm at home, so we'd fall out. I use to fall out with mum quite a lot, but now me and mum don't really fall out as much because I'm more calm because I don't have to stay at school for so long' (Hunter: post-i).

Spending time and developing a respectful relationship with her farm mentors made Audrey realise how much her mum did for her, which helped to improve Audrey's relationship with her parents.

> 'Yeah, I think I have a lot more respect for my parents because of all the adults here [farm]. I've learnt to respect them [mentors] because of everything they do to help me, so I have a lot more respect for my mum and what she does for me' (Audrey: post-i).

As the arguments and tensions decreased in the family environment of the 5 participants interviewed (except for Cecil), they reported feeling closer to their parents and siblings. Participants acknowledged that they trusted their family members more, which subsequently enabled them to communicate with these significant others about some of the difficulties they were experiencing and were able to request and seek help. However, it was not clear how frequently or to what extent they were talking to their family members about their problems.

> 'Well, with like problems I used to keep it to myself but now I've started to open up to my family to talk about it' (Cooper: post-i).

> 'Well, before I didn't do that, I didn't really talk to my parents that much anyway, but now that I've started to help out at home, we talk more, and I

> feel like we're closer and we don't really argue. Spending time at the farm
>
> has made me realise that I need to help out at home' (Audrey: post-i).

Cecil's parents were known drug users and his home life was especially chaotic and difficult. Cecil did not improve his relationship with his parents, but he did appear to show some acceptance for who they were. However, he continued to show signs of physical neglect and unhappiness, but his behaviour became a lot calmer and his anger appeared to be more controlled at least within the context of the care farm environment.

> 'My parents are always going to be who they are. But I'm not going to be like
>
> them. I've realised that now' (Cecil: post-i).

Having good interpersonal relationships with parents in adolescence is critical to young people's development (Institute of Medicine, 2011). Parental autonomy support is the extent to which a parent encourages the child to develop their own interests and values, the absence of which can be detrimental for the healthy development of a child. The Self-Determination Theory claims that parents play a vital role in helping their children to develop their own identity, their sense of self and to be autonomous beings (Joussemet, Landrt & Koestner, 2008). However, Cecil's parents (and many of the participants' parents) appeared to act in a manner, which was not conducive to his development, because their behaviour and lack of social support undermined his ability to adopt social rules and to develop interpersonal skills. In the absence of autonomy support from his parents, the farm intervention succeeded to support Cecil by encouraging him to make his own choices and to pursue his own interests and values in the safe environment of the farm. This type of support appeared to help Cecil develop a stronger sense of personal competence and autonomy, which began to influence the type of interpersonal and social relationships he was choosing to cultivate while at the farm and at home.

Peers

The care farm intervention was also successful in helping participants to improve their social relationships with their peers. Data from all sources in this PhD work verifies that before attending the farm many of the participants would not discuss any of their problems with any of their peers.

> 'Well, with like problems I used to keep it to myself but now I have started to
>
> open up and I talk to my friends about it as well. But they are only small
>
> problems' (Audrey: post-i).

However, as the intervention progressed, all of the participants began to develop a sense of trust through shared experiences with their peers at the farm. It appears that sharing the same experiences enabled participants to relate to each other through learning the reasons why others

were also at the farm and helped each other to find common solutions to the problems they experienced, which perhaps their friends outside of the farm were unable to understand or relate to.

> 'Me and Joe for instance. I now tell him stuff basically and he just doesn't tell
> anyone and I don't tell anyone. We understand each other's problems'
> (Hunter: post-i).

However, Cecil, who appeared to make less progress with improving the relationship with his parents, also appeared to be less socially connected to his peers at the farm than the other participants. This was evident from data yielded during the observations and the interviews.

> 'I like Joe, we get on okay because I remember him from primary school' (Cecil:
> post-i)'.

Participants interview data suggested that the relationships with their peers at the farm, which were based on a mutual trust and the ability to talk to each other about their problems, helped them to open up to friends outside of the farm and they began to discuss 'small' problems they were experiencing with outsiders.

School

Learning to manage interpersonal relationships in the context of the care farm intervention, participants appeared to be able to transfer their skills into the school environment too. They have reported to manage their school engagements easier. They also took responsibility for their homework, which significantly reduced the number of times they found themselves in conflict with a teacher. They were more confident in asking for help, because they could voice their needs and concerns more effectively and calmly then before they embarked on the care farm intervention.

> 'Yes, because now I'm finding classes much easier than they were before,
> because I didn't always understand. But now I'm happy to go up and ask
> them [teacher] what does it mean? Instead of just saying, I don't understand
> this, I won't do the work and then being in detention' (Audrey: post-i).

Social inclusion

The care farm intervention is designed to be socially inclusive. This is especially important, because many participants attending the farm have a history of frequent social exclusion from school, from peer groups and/or their families. Participants in this PhD study began to feel valued as individuals, because they were constantly included in every aspects of the farm life. They were given many opportunities to interact meaningfully with their environment (e.g. staff, animals, peers), which in turn helped them to fully participate in social activities. Through these social interactions, they improved their social skills and were able to transfer these skills to outside of the farm environment.

The care farm intervention advocates the value of social inclusion and through structured times in each session facilitated social relationships in a trusting and relaxed environment.

> 'First of all I get here and I have a hot drink and just like chat with my mates'
> (Arthur: baseline).

> 'Like how to communicate, have a two way conversation with people and be
> more social with them, because sometimes I used to not go out at all and
> see my mates. But now I'm more willing to go out and see them' (Audrey:
> post-i).

The triangulated data in this PhD study support those reported by Kettlewell et al. (2012). The support for young people with NEETs provided in small group sizes or on a one-to-one basis leads to better motivation and engagement. This evidence further reinforces the benefits of the social support provided by the mentors to participants (Phillips, 2010; DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011; Sheehy, Kumrai & Woodhead, 2011). Previous care farm studies have shown that the community on the farm is one of the most important factors for participants attending a care farm intervention (Hassink et al., 2010; Pederson et al., 2012). The evaluation of the care farm intervention confirmed that the farmer and the mentors effectively helped participants to learn the various behavioural and social skills they needed for improving their personal effectiveness.

The impact of the care farm intervention on participants' self-regulatory skills:

Self-regulation is defined as 'one's ability to control or override one's thoughts, emotions, urges, and behaviour. Self-control allows for the flexibility necessary for successful goal attainment, and it greatly facilitates adherence to morals, laws, social norm, and other rules and regulations' (Galliot et al., 2007, p. 325). Observational data in this study supported the assumption that participants had very limited self-regulatory skills at the beginning of the care farm intervention.

Self-Determination Theory (Deci, Vallerand, Pelletier, & Ryan; 1991) suggests that promoting pupils' interest in learning in conjunction with promoting confidence in their own capabilities will improve self-regulatory behaviours. However, according to Katz, Kaplan and Gueta, (2010), individuals will not be able to learn self-regulatory skills if their three psychological needs (autonomy, competence, and relatedness) are not satisfied. These are based on 'innate psychological nutriments that are essential for on-going psychological growth, integrity, and well-being' (p.250).

In line with the findings from the Self-Determination Theory research, the care farm intervention employed strategies that promoted competence in participants using appropriate modelling behaviours (Schwartz & Pollishuke, 2013). Participants watched and modelled their mentors'

behaviours and learnt to recognise what was expected of them (Supporting Minds, 2013). Self-determination theory explains that motivation can be intentional or deliberate (Deci et al., 1991; Katz et al., 2010). Thus, if participants believe there is a purpose to their motive/task, this will be enough to influence them to persevere with their activities of learning.

The observational and interview data showed that the care farm intervention created a positive learning environment, where participants were nurtured by their mentors who gave them appropriate and task oriented feedback that enhanced their self-competence and motivation to learn (Deci et al, 1991; Ontario & Ontario, 2010; Irons, 2008).

Participants in this study were use to negative criticism, anger or disappointment from teachers or parents, which made them less able to control their behaviours and actions. In support of previous findings from the Self-Determination literature, the care farm intervention was found to help participants to become more effective self-regulators, which meant that participants were able achieve their full potential (Deci & Ryan, 2008; Ryan & Deci, 2001). The care farm intervention supported participants' eudemonic well-being. Eudemonic well-being has six categories (Ryff, 1989): self-acceptance (a positive attitude toward oneself), purpose in life (meaning and direction in life), personal growth (continued personal development), positive relations with others (rewarding interpersonal relationships), environmental mastery (competence in managing one's environment), and autonomy (ability to evaluate and self-regulate behaviour).

Learning effective self-regulatory skills includes taking responsibility for one's actions. The concept of locus of control, which is defined as 'how much individuals believe they have control over the outcome of events in their lives, as opposed to external forces beyond their control' (Rotter, 1954) are essential to own one's behaviours. Individuals with an internal locus of control believe they can control their lives, while those with an external locus of control believe their decisions and life are controlled by fate or environmental factors which they cannot influence (Rotter, 1966). In the early stages of the intervention, participants displayed a tendency towards having an external locus of control, believing their progress and setbacks were determined by situations that were beyond their control.

> 'I struggle with school, nothing will change that. I turn up and most of the
> time I misbehave because the teachers don't like me they won't help me
> so…' (Cecil: baseline).

The reality of participants' lives is that not everything is in their control, because they typically live in high-risk environments/situations. The intervention focused on helping participants to find a healthy balance between taking responsibility when appropriate, but to acknowledge that they are not always in a position to exercise complete control.

'If you get agitated and angry, which I do quite a lot, they [mentors], sort of, like, tell you how to overcome it almost. And they will help you and then you think, 'Right why am I doing this? Why am I behaving like this? And I'm not going to do it or I'm not going to behave like that" (Cooper: post-i).

The highly structured and nurturing environment of the care farm supported participants to accept responsibility for aspects of their lives they can control and develop a more productive coping strategy for those beyond their control. Participants were encouraged to make realistic appraisals of their circumstances and to work on those behaviours that are in their control. For example, a participant who had relationship difficulties with his parents, who had substance abuse issues, was encouraged to accept his parents for who they were because he does not have the ability to change his parents. Participants were taught to focus on how they can protect themselves and self-regulate in a positive manner instead of worrying about other people's behaviours that they cannot change.

'The fact was I used a resilience model in social work which was a case of … I couldn't change the parents. Whatever the government says about family work, and I know it's important, but either I was a crap social worker or you can't change the family. And there were certain families I worked with really, really intensively that were never going to change. The parents weren't going to change. The resilience had to be for the young person being able to cope with the parents as they were, but going on and making their lives different. Some parents would change and be fantastic. Don't get me wrong. But others were happy in their situation. It was the kids that weren't happy and it was about helping the kids to cope and to take responsibility of their lives' (Farmer).

The secondary documents accessed by the researcher, typically detailed participants' behavioural difficulties. The data often included lack of self-regulatory skills, non-compliance to rules and disengagement. This was often ascribed to their emotional and social difficulties. However, from the beginning of the intervention there were very few incidents of aggressive behaviours observed or reported at the care farm. It cannot be ascertained why this was the case, but the care farm intervention appeared to have a positive behavioural impact on participants. They were able to demonstrate good self-regulatory skills in the presence of the farm animals. While this was a surprising observation at the beginning of the study, because young people with BESDs are often defined by their impulsive and negative behaviours, the positive effect of animals on self-regulation has been reported in other studies (Katcher in Fine, 2010). By the end of the intervention, participants successfully learnt to take responsibility for their actions in order to protect their own health and well-being and that of others. The farm environment, which can be dangerous and risky,

taught them how to adjust their behaviours to such risks, recognising when it was appropriate to relax and in which situations they needed to be vigilant.

> 'But, here [farm] there are places where you can, like, at lunch you can have a laugh, when you've got a bit of free time. But, not when you're in the cow yard or the donkey field or using machinery, because that's just dangerous. Like, we know that that's dangerous and we know that if we were to mess around its putting each other at risk. So we help get the jobs done without being silly' (Hunter: post-i).

This was further reflected in participants' increasing ability to take responsibility for their behaviours and emotions in other areas of their lives too.

> 'It's made me aware that I need to be more motivated to get everything sorted like my homework, revision, get it out of the way so I don't have to be in detention all the time to fix it' (Audrey: post-i).

Participants also began to learn self-protection and self-awareness in a social context.

> 'Yeah, I know now when to hang out with him [friend] and when I shouldn't, like when he's being an idiot. When he's like that we get into trouble for doing something stupid, he influences me I guess. If he's being an idiot though I walk away now, I'll leave him to it and I stay out of trouble' (Hunter: post-i).

Initially, participants learnt self-regulatory skills through caring for the farm animals, while the reward of attending the care farm intervention motivated participants to control their behaviours at school so they would be allowed to attend. Participant's self-regulatory skills were developing due to increasing awareness of other's needs, which they had to learn to recognise. For example, feeding the farm animals.

> 'I used to refuse to do work at school when I didn't want to do it, but now I'd just get my head down and do it and once it's over, it's over. I now understand from having to work with the animals because they rely on us that sometimes something needs to be done even if on that day you might not really feel like it' (Cecil: post-i).

> 'Yeah, I've behaved a lot more while I'm at school because I know for a fact …if I misbehave at school they'll [teachers] stop me from coming here [farm], because obviously I'll get kicked out of school which means they'll stop me

191

from coming here and I love coming here so I try to behave as much as I can at school now' (Hunter: post-i).

Impact of the care farm intervention on participants' emotional self-regulation

A change in participant's emotional symptoms between baseline and post-intervention was confirmed by both the quantitative and qualitative findings of this study. The subsequent observational and post-intervention interview data revealed an improvement in participants' emotional self-regulation. The emotional symptoms subscale scores obtained from the SDQ showed negative emotional symptoms had decreased between baseline and post-intervention (although that increase was not statistically significant).

Kindness

Being kind to one another and to the animals is one of the very few rules imposed at the farm. This is so because when the young people began the intervention they typically had poor self-regulatory skills, which meant that, they had difficulties with adhering to rules in their environment. Setting expectations for participants at the farm removed the pressure of having to stick to rules, which they are typically expected to break during the early stages of the intervention. According to Self-Determination Theory's tenets, motivation can be differentiated by an individual's degree of autonomy in the regulation of a behaviour.

The findings of this PhD work indicated that initially personal endorsement for the care farm rules was not present, but participants unanimously followed orders and obeyed them (Gillison, Osborn, Standage & Skevington, (2009), because they wanted to remain in the intervention. At first, participants described feeling guilty if they did not complete the given task when they were becoming fatigued or hungry. By month two of attending, participants had begun to recognise the farm tasks as being valuable to them, and they reported to feel part of the care farm family. Ultimately, participants had to be committed to the values (and rules) of the farm, so that the farm could operate safely and effectively. Thus, participants started to adhere and internalise the farm rules. At the farm they did not feel over-controlled, as they reported to be in their school and/or home environments. Being asked to adhere, rather than told to adhere to a rule in the farm created the values and safety structures essential for emotional self-regulatory skill development.

> 'So we've got very few rules. Rules don't work for these kids. Expectations do. So for instance, the kids that come onto the site, swear and go at us in the first six weeks, and we tell them we don't like it but we don't say, you're not coming here and you're not swearing. That's not a rule. A rule is you have to be nice to the animals and you have to be nice to each other and the staff. You have to accept one another. You don't have to like one another, but you have to accept one another. That is a rule' (Farmer).

192

One of the most potent components of the care farm intervention was to teach participants problem-solving skills and emotional self-regulation. These young people had not had sufficient input from significant others (e.g. parents and teachers) to acquire effective emotional self-regulatory skills. Participants reported to have fraught social relationships with their peers, teachers, and family members. Therefore, they often missed out on vital social support from these people.

Participants initially reported difficulties to control their impulses and emotions. However, such behavioural skills can be trained (Muraven & Baumeister, 2000). Participants were taught to be kind to others, to accept and to learn how to control their emotions and impulses.

Empathy

Empathy is the ability to understand and share the feelings of another and is a key factor in an individual's emotional development (Perry, 2011). The development of empathy and social connections begins from birth, based on the type of bond an individual develops with their primary caregiver (Perry, 2011). However, for children and young people with attachment disorders and BESDs, empathy is often a missing characteristic from their social and emotional development (Van Ijzendoorn, Schuengel & Bekermans-Kranenburg, 1999). Children, who suffer from chaotic and/or neglectful parenting eventually stop trying to connect with their caregivers (Prior & Glaser, 2006; Perry, 2011) and subsequently experience difficulties with expressing empathy towards others (Perry, 2011). The lack of empathy is also associated with one's inability to deal with stress, to function on a social level and lack of resilience (Perry, 2011). At the beginning of the intervention, observational data showed that empathy appeared to develop amongst the participants through the need to estimate the animals' feelings for reasons of safety. For example, while the cows are typically very safe, they are large animals and can easily trample someone, especially if that person was to trip or fall. Young people attending the care farm intervention were taught to never enter the cow yard on their own. When they are in the cow yard they have to watch the cow's movements and look out for each other. This helped them to become more skilled at reading both human and non-human reactions and feelings in different situations. Other studies have linked pet ownership in a home or classroom setting with increased empathy (Melson, 2001; Daly & Mortin, 2006). By the end of the intervention, participants had the ability to understand their own perspectives and emotional needs, and that of the mentors, their peers and the farm animals, which was not present at the beginning of the intervention.

> 'It's not fair on the farmer and the others, Thomas, William and Maureen if we don't keep up the standards. It's more work for them otherwise and that's not fair because they work really hard anyway and they've trusted us to come here and I don't want to not work hard and to let them down' (Arthur: post-i).

The regulation of emotions is a challenging skill for young people with BESDs to develop and reflects the unique impact of the care farm. According to Self-determination theory, a significant reason why school teachers use controlling, rather than autonomy-supportive strategies in the classroom environment is because of the external pressures placed on them (Ryan & Brown, 2005) through school regulations, Ofsted reports and government policy.

The PhD study found that the care farm intervention provided participants significant opportunities to learn to self-regulate their behaviours on the farm and away from it.

Self-confidence

Many of the participants displayed low self-confidence. The care farm intervention encouraged participants to believe in their own abilities, skills and experience and to engage in effective behavioural practices, which helped them to change their actions and how they thought about and controlled their own behaviours. These practices involved positive learning experiences, encouraging positive thoughts and being supported to be assertive. The farmer felt that leading by example was critical to the process of helping participants develop their self-confidence.

> 'One of the reasons I think it's important we lead by example is the farm work. The work is one of the toughest jobs I think. It looks great on a sunny day, but day-in and day-out, to keep up and be happy and positive and motivated and be looking for the key that's going to turn these kids around, in wet, freezing cold weather, mud up to your knees, it's the hardest thing in the world. And I think if I didn't do it myself the kids would be like, 'well you just do not understand what this is like'. And I think until you experience it you don't necessarily know. So, when we work with them [young people], we begin to find the key to help them to unlock their potential and we praise them for what they're doing. They know the praise is genuine because I've watched them working hard. They know because we've been there throughout, they can trust what we are saying, they can believe what we are saying and wow, their confidence shoots up' (Farmer).

Example of being supported – following the actions of mentors:

> 'Like William and the others [mentors], will come in the cow pen yard with us. There always has to be at least two people in the yard with them [cows]. So if something does go wrong you have got the other person to help you. So because I had someone else with me, showing me what to do and not leaving me to cope on my own it helped me gain confidence' (Cooper: post-i).

194

Example of being supported - talking:

> 'Because obviously he [Thomas] is caring enough to like ask me how my week's been, and then obviously he [Thomas] gave me the confidence to tell other people because I can tell him' (Cecil: post-i).

Example of scaffolding – 'give it a try': (the farmer arranged with a local flying school for participants to have a flight in a small aircraft as a reward for their hard work at the farm).

> 'I went in the plane. Before I said I didn't want to because I was so scared and I thought oh no the boys will laugh at me if I scream or something, but then they [flying instructors] said you can try it once, if you don't like it we can bring you back down, so I tried it once and I loved it. So that showed me again that it was worth giving it a try even though I was unconfident about it all to start with' (Lillian: post-i).

Example of learning: letting things go:

> 'I am kind of still scared of heights, but to start [beginning of the intervention] I was really nervous because sometimes when there is not enough hay on the bottom you have to climb up on it, to grab some off the top [the hay barn has hay stacked from the floor up to approximately 6 meters – hay has to be collected from the top of the stack]. It got to a point where I didn't let my fear stop me and I climbed to the top if it [hay bale]. I find that has improved my confidence loads' (Hunter: post-i).

By the end of the intervention all of the participants reported an increase in their self-confidence.

> 'I feel a lot more confident now, like more than I did at the start of the year. My confidence has really improved' (Arthur: post-i).

Their self-confidence had also transferred to other areas of their lives including:

School:

> 'Since I've been coming here [farm] I've not just got confidence here but out of here as well. Like I've had more confidence to trust people by telling them things at school and out of school, friends and stuff like that' (Lillian: post-i).

Interactions with peers:

> 'Yeah, I am because before I would be really shy and awkward with friends even though I've known them for quite a while. But now I'm more confident about everything' (Audrey: post-i).

Social situations (this quote also demonstrates that volunteering is a big step for participants):

> 'Yeah, like confidence with the public at the county show. I volunteered, I was a marshal like the mentors' (Arthur: post-i).

Environment:

> 'Being here [farm] I've learnt that when I go out for walks with my dogs, which I didn't do before coming here, I can go in the field with the cows and not be scared. I've recently joined the Duke of Edinburgh programme and when me and my friend were practising for the {Duke of Edinburgh} award we went for a walk and I wasn't scared to go in the field with the cows because of my time here [farm] (Hunter: post-i).

Self-efficacy

Two main psychological constructs contribute to self-confidence: self-efficacy and self-esteem. Self-efficacy is the belief in one's ability to cope or succeed in specific situations (O'Donnell, 2013). At the start of the intervention participants typically reported low self-efficacy, which was demonstrated by their raised anxiety and negative thoughts and contributed towards their lack of determination to complete tasks and poor engagement at school (O'Donnell, 2013; Beilock & Willingham, 2014).

> 'I'm not good at school, I'm not clever, and I worry about being able to do my homework and the lessons I have the next day, especially if it's Math and Science. On the days I have certain lessons it just feels easier not to go, not to sit in class all morning worrying about the next lesson' (Lillian: baseline).

> 'I've learnt a lot coming here, like how to do things around the farm and I know a lot more now about the animals and farming. I find it easier to learn here [farm] than I do at school. I enjoy coming here [farm] to spend time outside and with the animals, and Maureen and Thomas like, if you don't understand something they'll spend time with you until you do know. Like, they might explain it or maybe show you how to do it in a different way' (Arthur: post-i).

Helping participants to develop their practical and life skills meant that when faced with challenges at the farm, participants were able to cope, because they had the confidence to do so. Participants' levels of self-efficacy forecasted the quality of the participants' functioning (O'Donnell, 2013). The farm environment was perceived by participants as welcoming and safe, which provided them with an immediate sense of self-confidence to try new activities (O' Donnell, 2013; Ministry of Education, 2013). As the intervention progressed participants displayed increasing levels of effort and persistence when engaged with tasks at the farm (Gillet et al., 2011; O' Donnell, 2013).

> 'When the kids have been here [farm] for a while and you can see their confidence growing out in the yard when they're working, and its hard work, but they persist until all the works done regardless of the rubbish weather or if they're having a bad day. Then you start to think quietly to yourself that being here [farm] is starting to help them to cope with their problems or control their behaviour, whatever it is' (Farmer).

Observations revealed participants' confidence, self-belief and sense of self-efficacy increased the most when they continued to persist with difficult tasks, with help from their mentors (Bandura, 1982; McCombs et al., 2008; Gillet et al., 2011). As the intervention progressed participants showed increasing levels of self-efficacy. For example, participants' belief in their own ability to concentrate and learn the skills offered during the farm sessions to pass their City and Guilds course. By the end of the intervention participants showed confidence in their abilities to exert control over their behaviours and their social environment, which allowed them to accept difficult challenges and persist when faced with setbacks.

> 'Now I just think 'I'll keep going', really. I'll stick at it until I can do it. Even if the task is difficult and I feel like 'you know what I want to give up' and I'm frustrated, I don't, I keep going and I'll keep at it, keep at it until I've completed the task' (Audrey: post-i).

> 'It makes you feel proud, it makes you feel, like... maybe if you didn't know you could do it and once you have done it, you feel like, well, like you have proved yourself wrong. And that just makes you feel like you can't wait to use that skill next, to show that you can actually do it again, even if it is something simple, that skill is a skill' (Arthur: post-i).

Impact of the care farm intervention on participants' identity development

Self-Identity is made up of two factors: self-concept and self-esteem (self-esteem will be discussed in the proceeding section 7.6.6.1). Self-concept is the set of beliefs an individual has about oneself and includes the individual's opinion about their own attributes (e.g. intelligent), goals (e.g. occupation after leaving education), and interests, values, and beliefs (e.g. religious; Gentry &

Campbell, 2002). A variety of factors positively or negatively influence a young person's identity development (and self-esteem) as they progress towards adulthood. These include cognitive skills, physical changes and other people's opinions (with parents and peers' opinion having particular significance: Keating, 1990; Robinson, 1995). To achieve a realistic sense of identity many young people experiment by changing their appearance or the way they behave and this is regarded as developmentally appropriate (Gentry & Campbell, 2002).

Data from baseline interviews showed that all of the participants appeared to be struggling with their identities and they did not know their strengths and weaknesses. They seemed to be fearful of expressing who they were. Audrey was referred to the care farm because she was struggling with her sexuality and this was having an adverse effect on her behaviour. She had a hard time controlling her emotions and she had become socially isolated. In the initial interactions with the researcher Audrey made no reference to her sexuality. When Audrey was interviewed at the end of the intervention, she was happy to share with the researcher that she had a girlfriend and felt free to talk about her girlfriend at various points during the interview.

> 'Yeah, even though, like, some people may disagree with how I see things or my choices, being around the people here [farm] makes me realise that I am who I am and no one can really change that. They're not judging me. I've got a girlfriend now and I feel like I'm closer to my girlfriend and my family' (Audrey: post-i).

As revealed in the baseline interview, Hunter struggled with his self-identity, never feeling like he fitted in with his peers. In an attempt to do so, Hunter developed the habit of drawing attention to himself by making strange and loud verbal noises. Hunter was aware that his behaviour appeared to irritate his school peers, isolating him further and leaving him questioning who he was and why people did not seem to like him. At the farm, mentors helped Hunter to adjust his behaviour, which improved his relationships with his peers and allowed him to be happier with his own identity.

> 'I feel I'm not the one just getting picked on, like the centre of attention anymore, because I'm not making any of these noises and not trying to be the centre of attention. So I feel I can actually just be more confident, be myself around everyone else and not have to put on this character that I'm not. Coming here [farm] I've learnt to calm down to show people who I am. And the thing is people do like me, they're not saying 'Hunter, stop making those stupid noises. I' know I can just be me' (Hunter: Post-i).

The mentors helped participants to define their identity through the simple process of taking time to ask them questions about their difficulties and listened without judgment to their problems.

Participants also discussed ethical or moral questions related these topics. The data from interviews and the observations revealed that participants were happy to discuss these issues with the mentors (having never been offered the opportunity to talk about the subject before), but they were only happy to do so once they felt they could really trust them. The farmer felt that participants developed a sense of self-identity, which was linked to the increase in their self-confidence and self-esteem and the skills (see: 7.6.6.1) they learnt whilst being in the care farm intervention. The evaluation of the care farm intervention confirmed that the combination of these factors allowed participants to appreciate their self-worth and to like who they were.

> 'Learning all the new skills, becoming more confident and assertive because of the relationships they're [participants] building, I think it shows them that they're good at something definitely. And it shows that they're acceptable and included and people value them. I think that's such an important thing for these kids that…that…well they become a person. They have a new identity. By the time that they leave here, not all of them I know, but a lot of them have a new identity. They're happy. They come here being, 'I'm the best at being bad', and I hope they leave going, 'I'm the best at something'' (Farmer).

The quantitative data on life satisfaction (BMSLSS-PTPB measure; Bickman et al., 2010) derived from the 'Satisfaction with yourself' sub-scale showed participants' mean scores between baseline and post-intervention had increased, although the results were not statistically significant.

Self-esteem

The second part of self-identity is self-esteem, which involves evaluating how one feels about one's self-concept (Gentry & Campbell, 2002).

'Global' self-esteem is the level of self-approval towards our perceived self as a whole (e.g. the general value that a person places on him/herself), while 'Specific' self-esteem is how we feel about specific parts of ourselves (e.g. as a school pupil or a friend or how our hair looks). The development of self-esteem is unique to individuals and it can increase or decrease due to many factors (Zimmerman, Copeland, Shope, & Dielman, 1997). Low self-esteem develops if there is a gap between an individual's 'self-concept' and what they believe they should be like (Harter, 1990).

At the beginning of the intervention participants often talked about themselves and their abilities in a negative and/or critical manner. Many of the participants appeared to suffer from social anxiety and low levels of interpersonal confidence, demonstrated by shyness, a lack of conversation and 'feeling awkward', the signs of which were: lack of eye contact; fiddling with

the hem of a sleeve; and fidgeting during social interaction with others. Participants often expressed pessimistic comments about their parents, teachers and peer groups.

> 'I always feel like they [parents] are having a go at me, whatever they say' (Lillian: baseline).

> 'No one likes me at the school, the teachers or the other kids in my classes. I find group work difficult. I don't feel like they're interested in what I have to say and then I just feel self-conscious, so I don't really get involved, I'd rather sit and fiddle with my pens and paper' (Cecil: baseline).

Once the mentors were able to develop a positive relationship with the participants, they were then able to start helping them to recognise and acknowledge what they were good at. The trust built between them allowed participants to believe that their mentors were telling the 'truth'. In addition, the completion of farm tasks appeared to have helped. Participants recognised that they could complete farm tasks efficiently and to a professional standard, which played a role of accepting that they are capable of learning new skills and mastering them.

> 'Just feeling like being in a group and having all this positive feedback from all the [farm] mentors. It's really helped me to think better of myself, like I can do this, I can do that, because I used to be I can't do this, I'm just going to give up' (Lillian: post-i).

Through leading by example the mentors helped participants learn to become more assertive, especially when they were being faced with something that they found a challenge.

> 'Thomas can get the cows to move really well, like they go where he needs them to go to, so I watched him and like sort of copied what he was doing and then I was like getting praised for doing a good job' (Arthur: post-i).

In summary, the evaluation of this care farm intervention substantiated that unconditional, autonomy supportive input from mentors helped participants to take control of their behaviours and taught them to be assertive and to believe in themselves. This newfound self-confidence began to transfer to the school environment and other aspects of the participants' lives towards the end of the intervention. Social interactions at the farm with their peers, staff and significant others in their social circles become easier and more fluid. Participants' self-efficacy and self-esteem beliefs noticeably improved as they progressed through the intervention. Data emerging from the various sources of this PhD study confirms that participants were able to control their behaviour and emotions more effectively, which in turn improved their relationships with others in their environment. Prior to the intervention, participants could not differentiate between assertiveness and aggression. To learn the difference and to be able to implement it made their behavioural

responses more controllable and socially acceptable. During the care farm intervention young people were constantly challenged to improve themselves, which included learning professional and personal skill sets. By accepting these challenges, they gained insight into how they can bring about positive changes in their lives, and thus become happier with who they were. By the end of the intervention, participants displayed highly motivated behaviours to change their expected destiny. Participants self-regularly skills have also greatly improved. They took responsibility for their actions and behaviours a lot more frequently than at the start of the intervention. For some, participants this transferred to other areas of their lives at home and at school. The ethos, the physical (e.g. the outside space and the animals) and the psychological aspects (e.g. helping the participants learn how to manage their emotions) of the care farm intervention provided an excellent interactive, supportive and practice based setting where the thoughtful arrangements and components of the intervention enabled rapid self-development to take place in this previously disaffected youth. The care farm intervention was an inspirational, engaging and enabling programme that helped participants to learn that they had personal agency and can take more control over their behaviours and lives if they wanted to.

This PhD evaluation of the care farm model using the RE-AIM confirmed the effectiveness of the intervention for these young people. The quantitative and qualitative findings showed that the care farm intervention had a significant effect on the physical, social, and psychological health and development of participants (RQ2). Although there was a discrepancy between the quantitative and qualitative data for the depression, anxiety and stress levels for participants, there were valid external reasons to explain this difference.

7.5 REAIM: IMPLEMENTATION

RQ3. How does the natural environment impact the care farm experience of pre-NEET young people with behavioural, emotional and social difficulties?

There is currently limited research regarding young people's connection to nature (Bragg et al., 2013). Therefore, this study evaluated the potential impact of a care farm intervention, which used the natural environment and aimed to re-connected participants to nature through their engagement with the farm animals and tasks. At the start of the intervention, participants reported to have minimal or no connection with nature, despite living in a rural area in the UK.

The quantitative data showed that participants' Nature Relatedness mean scores (derived from the Nature Relatedness Scale, NRS; Nisbet, et al., 2009) were significantly higher post-intervention compared to their baseline mean scores, which supported the benefits reported during the interviews/observational sessions. Post-intervention participants' mean scores had increased (but not to a level of statistical significance) for the following items: nature as an ideal vacation spot, their connection to nature, living things and the earth, their interest in wildlife and how important nature is to them. However, there was a significant increase for the item 'I always think about how my actions

affect the environment'. Furthermore, participants reported a statistically significant greater connection to nature post-intervention compared to the comparison group. The findings of this PhD study show a significant impact of the care farm intervention on connection to nature for pre-NEET young people with BESDs.

The findings from the NRS provides evidence that the care farm significantly increased participants' connection and self-identification with nature, which reflects an awareness or subjective knowledge about the environment and feelings of oneness with nature (Nisbet & Zelenski, 2013). The remaining statistically non-significant scale items showed a tendency of participants' increased physical familiarity with the natural world and a desire to be outside in nature (Nisbet & Zelenski, 2013). The rest of this section will discuss how the qualitative data supports these quantitative findings and answers RQ3.

Exposure to the green environment

The care farm model and the intervention are structured around the green environment for specific reasons (Chapter 3). The farmer drew on her personal experiences as a farmer's daughter and her professional experiences as a social worker to recognise the positive effects of the natural environment had on her as she grew up on a farm and on the clients she previously worked with. The key element of this care farm intervention was that young people had to have access and engage with green space and its inhabitants (e.g. animals) and carers (e.g. farm staff). The farmer believes it is the combination of all the different outdoor elements that in the care farm environment has the positive and calming impact on participants.

> 'I know it [environment] works because when I used to work in mental health teams I used to be an activities co-ordinator for adults with poor mental health, and most of the activities we did were long walks on a cold day. They were so happy when they got back. Put them in a room to talk, in a heated room, and they were as miserable as anything. So I thought if we started a care farm there's going to be the sense of belonging and ownership, responsibility as well as all the skills that they [participants] could learn while they're here. This environment works. There's space. There's freedom. There's activity. There are animals, the therapy around the animals, and green care, being in the outdoors works. I've been a farmer, a farmer's daughter, so I had all of these things in my life given to me from the farming environment' (Farmer).

The farmer's philosophy mirrors the wider governmental and societal concerns regarding children and young people's disconnection with nature and anything described as an integral part of nature, such as animals (Moss, 2012). A range of research findings (Louv, 2006; Moss, 2012) confirms the importance for young people to reconnect with the natural environment. A Report by Natural

England on Childhood and Nature (2009) claims that contact with nature can lead to improvements in pro-social and pro-environmental values and can support educational and social development. Furthermore, previous studies looking at the benefits of care farms have confirmed that service users enjoyed the opportunity to connect with their natural surroundings (Hassink et al., 2010), because it provided them with a sense of freedom and calmness, which have a positive effect on mental health (Hine et al., 2008; Elings & Hassink, 2008; Hauge et al., 2014).

In the following section, the physical, mental, and social development of participants will be discussed. From the baseline interview data, it was apparent that participants did not know what to expect from the care farm intervention or from their direct engagement with the natural green environment. At the beginning of the intervention green environmental engagement was predominantly viewed by participants as simply spending time at the care farm. None of the participants were able to verbalise (or were not aware) of the connection between spending time at the farm and improvements to their personal well-being. Participants were simply happy to be experiencing the farm. However, participants' narratives indicated an increased motivation to engage and attend the care farm intervention regularly, even at this early stage. Participants loved being on the farm, having fun in a stimulating, activity based, and interesting green environment. The Self-determination Theory proposes that young people have an inherent need to be vitalised. It was clear from participants' narratives that they were looking forward to attending to the farm regularly.

> 'It's a break during my school week. It's something to look forward to. I know when it's a Thursday I come here and I've only got one more day left of school and then it's the weekend' (Arthur: baseline).

Vitality in SDT is having physical and mental energy, which allows individuals to experience a sense of enthusiasm and energy available to the self (Ryan & Frederick, 1997, Ryan & Deci, 2008). It is typically connected to feelings of vigour and calmness (McNair, Lorr & Droppleman, 1971; Thayer, 1996) and allows the individual to regulate their energy for purposive actions. SDT suggests that while efforts to control oneself would drain an individual's psychological energy and vitality, autonomous self-regulation does not (e.g. having choice of one's environment; Ryan & Deci, 2008). Those participants in this study who experienced physical violence at home and/or aggressive behaviours from peers at school felt trapped, because they had no access to physical space to escape from their problems. Previous research by Ellingsen-Dalskau et al., (2015) suggests that spending time in green environment and nature elicits autonomous forms of self-regulation. SDT therefore predicts that if the activities provided at the farm can satisfy participants' psychological needs for relatedness, competence, and autonomy the participants will experience energy maintenance or enhancement, productivity and wellness (Ryan & Deci, 2008). Numerous studies using multiple methodologies both within- and between-person levels of analysis confirm the proposition made by SDT (Ryan & Deci, 2008).

The proceeding discussion demonstrates how the applied setting of the green environment (in combination with the animals and mentors) supported the psychological needs of participants, which enhanced their vitality, motivation, performance, behaviour and physical/psychological health. The findings of the PhD study confirmed that the green space and the animals were important resources and had multiple benefits for participants. Furthermore, the findings showed that participants began to pursue their own autonomous activities (creating pathways to greater vitality), which involved spending time in the green environment when not at the farm, something which they had not previously pursued.

From the very start of the researcher's observations there was a noticeable change in participants' demeanour, engagement and attitude towards other beings (humans and animals) in the natural environment. Participants seemed more relaxed, but enthused and stimulated by the multi-sensory nature of the environment. For example, they were eager to touch and stroke the animals, and keen to look at and touch new farm tools and equipment (e.g. the pitch forks used for cleaning the cow yard, the tractor) they had not seen or/and experienced using before. Participants' immediate interest in the natural environment accords with Biophilia Theory, which argues that participants have a natural fascination and affinity with their natural surroundings due to humanity's history as hunter-gatherers and the evolutionary development of the human brain to forage and hunt (Kellert & Wilson, 1993; Wilson, 1984). This has created an innate interest in the natural world and animals (Katcher & Wilkins, 2000).

At mid-term of the intervention participants' narratives started to change and to be more specific about the different aspects of their engagement with the green environment that were important to them. Subsequent observations by the researcher and the post-intervention narratives will be discussed here.

Participants in this study were predominantly from rural Southern-England but interestingly had limited experience of nature in their home and daily environments (as previously discussed in Chapter 3). The Biophilia Hypothesis (Wilson, 1984), suggests that a lack of contact with nature can cause an individual to become emotionally and mentally unwell. It is unclear how the lack of meaningful engagement with the green environment prior to attending the care farm affected participants' mental and physical health. However, there was an observable change in participants' behaviours when their classroom moved from indoors to outdoors. Data from the researcher's observational notes (month three of the intervention) confirms that participants were becoming visibly calmer and appeared to be more focused when undertaking farm tasks. By the end of the intervention participants' narratives contained more specific and detailed descriptions about the individual elements of the care farm intervention that had an impact on their mental, social and physical well-being.

All six participants (who were longitudinally interviewed) recognised that engagement with the farm's natural environment helped them to be more in control of their emotions and moods. They reported being less aggressive and angry and more joyful and happier within themselves. In particular, the physical space made a difference.

> 'I've realised I don't get agitated like I do at school trapped in a classroom. Here I get to be outside and I know it sounds weird but, like when I'm outside I don't get agitated. And if I get agitated I'm just going to flip, so I like being here, outside enjoying myself and not feeling that way' (Arthur: post:i).

> 'I realise, if I get angry at school in the morning, or the day before, it takes ages to wear off. But, being here, getting to spend time outside, at an activity like this, it takes your mind off being angry and before I know it I'm in a better mood' (Cooper: post:i).

These quotes demonstrate that participants gained an insight into how their own behaviours have changed by identifying aspects of the care farm experience that helped them to manage their moods and emotions, and thus feeling less agitated when working on the farm. The provision of purposeful activities and the physical environment of the farm acted as a scaffolding for young people, providing a safe structure for developing emotional control. In particular, contact with the animals and/or the support of the mentors (e.g. one-to-one conversations) were specific elements, which enabled and taught participants to reflect on their behaviours when they found themselves angry and/or agitated.

Conversations, which took place between the researcher and the participants during the early observation sessions, revealed that many of the participants did not find the 'rural idyll' of residing in the countryside part of their reality. The participants frequently spoke about the lack of leisure activities such as a cinema, sports clubs or social facilities (e.g. coffee shops). Participants felt increasingly isolated, because of the lack of transport options or their parents' lack of interest in their lives and/or the lack of finances to pay for public transport. The lack of access to social activities left participants feeling bored and they often resorted to destructive behaviour towards other people or public property (e.g. fighting or vandalism) to 'occupy' themselves.

As the intervention progressed, participants began to take part in more and more green- or blue-space activities. Hunter, for example, began to participate more frequently in fishing and Arthur began keeping chickens and other small livestock at his step-father's smallholding. Similarly, by month four of the intervention, both Audrey and Lillian specifically expressed their desires to be able to access green spaces more frequently, because they recognised that spending time at the farm allowed them to 'escape' the daily arguments they encountered with their parents, teachers

and peers. Through the experience of caring for animals on the care farm and being out in a green space participants developed calmer responses to environmental stressors, especially when at home or in school. Restoration was perceived as being able to be physically away from and to forget about their problems at home and at school. Although restoration was not a direct component of the care farm model, the farm created opportunities for physical and mental restoration for the participants through elements such as building the Thinking Hill (Chapter 3).

> 'When I'm here [farm] I like that feeling of being away from everything, you know actually, physically not being at home or in school because when I'm here [farm] being outside and away from all the arguments and hassle I can relax and forget about everything and I just feel calmer' (Audrey: post-i).

> 'Like, where I live I don't really go out much there because there's not much to do, but whenever I come to the farm it's more sceneries and there's more animals, I feel closer to being around nature and all that. I can be here and forget about all the stress at home' (Lillian: post-i).

Attention Restoration Theory (Chapter 3; Kaplan, 1995) suggests that connecting with the natural environment helps individuals to take a break from their daily routines and to forget about their problems and by 'clearing away' thoughts the recovery of directed attention can take place.

Despite the limited research into young people's connection to nature, data from this PhD thesis confirms the association between access to the natural environment and improved well-being and restoration in the attending young people. It is clear from both the quantitative and qualitative data that the natural environment is a therapeutic setting, which encouraged 'healing' from the daily stressors experienced by the participants. Furthermore, the care farm provided a natural affiliation opportunity with nature that was strategically developed through care farm activities and the availability of both structured (e.g. Thinking Hill) and unstructured outdoor play spaces (Lovelock, 1979; Katcher & Wilkins, 2000; Linden & Grute, 2002; Burdette & Whitaker, 2005).

Physical space creating a sense of freedom

Berger and McLeod (2006), suggest that the natural environment can provide a powerful space for therapy because the environment can 'flatten' hierarchies as 'nature is a live and dynamic environment that is not under the control or ownership of either therapist or client. It is an open and independent space, which has existed before their arrival in it and will remain long after they depart from it' (Berger & McLeod, 2006, p. 82).

From the start of the intervention participants appreciated the physical space and the associated sense of freedom experienced at the farm. They spoke about the lack of physical space in the

school classroom to be able to physically remove themselves from teachers/peers when they were finding a situation difficult and were unable to cope. Ames (1992), agrees that the classroom structure can have various impact on pupils depending on their needs. Deci's (2012) research showed the importance of creating an autonomy supportive classroom environment, as opposed to a controlling one, because the former is more conducive for a positive and stimulating learning platform.

Participants' accounts at the beginning of the intervention suggested that they viewed the school classroom as a controlling environment and the outside physical space at the farm as an autonomy supportive 'classroom'. All of the participants interviewed (except for Lillian who did not have any formal diagnosis of behavioural difficulties or autism) acknowledged that one of the reasons they found school challenging because of the long periods they were expected to sit still and to concentrate in the classroom. Sitting still is a particular challenge for young people with a diagnosis of ADHD or Autism spectrum disorder (ASD). In contrast, time in nature offered them a sense of 'freedom', which was seen by participants to provide better environmental conditions to support their learning.

The physical space and expanse of the farm land, combined with being able to channel their sense of 'needing to move' through the physical tasks, enhanced participants' concentration and learning. The care farm intervention matched the physical environment to the needs of young people with BESDs who struggled with rules and containment.

> 'I don't like working in a big classroom where I am sat down all day. I have to be moving about a lot and, like, in class I'll tap a lot and I will get told off for it. But when I come here, it is easier for me to know what I need to do because we are doing practical work and it is a lot of moving around and I feel like I learn better' (Hunter: baseline).

The last quote reflects a fundamental problem that young people with BESDs may experience in the school environment and offers an explanation for their lack of behavioural regulation and control. It is clear from the narratives that the physical environment in school could exert a continuous negative effect on their behaviours and overall sense of well-being. Research into classroom space and disruptive behaviour confirms that modifying the classroom environment can serve as a direct intervention for children and young people who have displayed long-term disruptive behaviours (Conroy, Davis, Fox & Brown, 2002). This is exactly what the care farm intervention did. The data from the semi-structured interviews showed that access to open space (as opposed to confined space) and being able to physically move improved participants' classroom experiences and helped them to manage their behavioural and emotional difficulties.

In this study, the care farm intervention provided physical space (such as the Thinking Hill and big open fields), which allowed participants to take time out away from other people to self-calm. This finding corroborates Korpela et al's., (2001) who found that young people's favourite places in nature were the places they went to calm down and escape their problems. Understanding the calmness, which participants reported to have experience when in nature was significant to improving their well-being:

> 'The fresh air, there's more freedom. Like, if I am getting... in a classroom, if I am in the maths room and I'm getting annoyed with the boy sat next to me, like, the most I can do is literally go and sit at the other side of the room. But, here I can go off and I can get some fresh air to clear my head and I don't feel as angry and can then carry on with the activity' (Arthur: post-i).

At the post-intervention interviews, participants spoke about being able to transfer the 'sense of freedom' gained from the environment to other areas of their lives. This included being able to cope better with situations at home and in school, when they struggled to control their aggressive behaviours or occasional violence (e.g. throwing objects) or their emotions (e.g. shouting screaming and/or crying). The sense of physical freedom to roam provided participants with the opportunity to regulate their emotions, and therefore, learn to self-regulate more effectively. The physical aspects of the green space helped them also to improve their repertoire of coping skills, because they were physically able to take themselves away from their problems, creating a 'mental space' to consider the problem in a calmer manner, which contributed to the development of emotional intelligence.

> 'At home, when I can feel myself getting annoyed I use to get angry and start shouting, I've even thrown stuff at my bedroom wall, whereas now I go outside or go for a walk because then I don't feel trapped and my anger isn't getting worse. Once I'm outside I've got space to calm down' (Cecil: post-i).

In summary, the findings of this research indicate that participants found the impact of the space, provided by the natural environment of the care farm, to be autonomy supportive. The care farm provided a practical opportunity for participants to 'let off steam' in the natural rural environment. Participants enjoyed the opportunity to run around, to be noisy and experience a 'sense of freedom', which was a welcoming contrast to the formal classroom or difficult home life they had to cope with on a daily basis. The sense of freedom promoted by the physical space supported participants' learning to better manage their behavioural and emotional difficulties, which included feelings they were not use to experiencing, such as calmness.

Physical activity

The care farm is a physical activity based intervention that encourages physical activity through the daily tasks of helping to run the farm. At baseline, it was clear from the interviews and the observational data that being physically active was not a regular health behaviour for participants. In addition, many of the participants reported their dislike of physical education (PE) at school, which would increase their health risks associated with sedentariness. Pupil disengagement with PE at school is recognised by the World Health Organisation (WHO), who state that policymakers and practitioners should seek to identify what prevents and what motivates physical activity participation (Currie, Zanotti & Morgan, 2012). Only a minority of pupils are intrinsically motivated to take part in PE, because the majority of pupils are either externally motivated (e.g. for a reward) or amotivated (e.g. do not want take part at all) (Noutomanis, 2002). Therefore, factors that contribute to young peoples' motivation towards physical activity needs to be identified.

For participants in this study, the dislike of PE was based on feelings that they were being forced to participate in activities that they did not fundamentally enjoy or did not have the skills for. They complained about their teachers taking any sense of fun away from playing sport, because they were too strict with the rules. In addition, participants reported that there was a lack of opportunity to be physically active within the home environment. Reasons cited ranged from barriers such as, living in a housing estate in a rural area and not being allowed outside due to perceived dangers; having no peer group to be outside participating in physical activity with; and/or because there was no transport or parental/financial support to commute to a location to participate in physical activity.

> 'I don't really do a lot, physically. I don't enjoy PE [school] and when I'm at home there is no where I can get to near-by to run about or walk' (Cooper: baseline).

The findings of this study indicated that participants needed to enjoy the activity if they were to be motivated to continue. Although enjoyment of activity has been consistently recognised as a factor in participation in physical activity, there is limited research into what factors make physical activity enjoyable for the young person (Lewis, 2014). This study identified that the enjoyment of being able to look after and care for the animals, perceptions of competency combined with control over activities and exertion were important factors to participants' enjoyment of being physical active. These findings are consistent with SDT theory, which suggests that individuals need to feel self-determined, competent and related to others. Furthermore, there is strong evidence to support that physical activity/exercising is linked to feeling good through the release of endorphins (Crosby & Lippert, 2017). In this study, participants often appeared happier and more vitalised after an active session involving physical activity/work on the farm.

The physical tasks, such as mucking out the barns, clearing up the muck heaps, changing and carrying water buckets needed to be completed daily. From the beginning of the intervention participants' were keen to engage in these tasks. It often surprised the researcher that on cold and rainy days, participants never appeared to complain or resist getting their coats and wellington boots on to go outside in the natural elements to get the work done. Conversations between the researcher and participants revealed that their engagement with farm tasks (even on really cold or rainy days) was motivated by their understanding that jobs were essential for the animals' wellbeing and health.

Participants learnt about the importance of the animals receiving a balanced diet and the need for exercise in order to remain healthy. It was the mentors' intention that on some level this knowledge was transferred to participants' awareness of their own health and wellbeing. Although there is no evidence to directly link the acquired knowledge with any behavioural changes, by mid-term of the intervention, participants began to acknowledge that attending the care farm had encouraged and enabled them to increase their levels of physical activity. This provided positive physical outcomes, which was reported by participants as feeling physically fitter (e.g. being able to run faster, to push heavier wheelbarrows of hay) during observations sessions from month two of the intervention. By month four of the intervention, participants associated their increased physical fitness with enhancing their enjoyment of attending the farm, because they felt more competent and efficient at completing farm tasks. These factors had a wider impact on the participants' well-being and their ability to concentrate in general and at school. They reported to feel happier, because they could see their progress and were gaining confidence in their abilities to perform tasks at the farm.

A study by Taylor, Kuo and Sullivan (2001) showed that young people diagnosed with ADHD were better able to concentrate and engage in both school work and other activities when in 'green settings'. Their study recommended that before young people with attention deficits engage in tasks that demand high levels of concentration (e.g. schoolwork or homework), time should be spent physically active in 'green settings' to enhance their attention duration and ability (Taylor et al., 2001). By the end of the intervention, participants acknowledged being physically active at the farm helped them to manage their daily activity patterns at home and at school.

> 'Because obviously all the physical side has helped me a lot because before
> I wasn't really a physical person, so it [being physically active in the farm
> environment] gave me more energy to do other things' (Audrey: post-i).

> 'It makes it a lot easier to focus at school and at home because I've not got
> all this energy and all that built up. I can release it when I'm here [farm]. I can
> run around in the fields and that makes me feel happy' (Cooper: post-i).

Audrey and Lillian voiced in their narratives that they found some of the tasks physically demanding, but any notion of 'giving up' was overridden by a stronger sense of perseverance, because of the team ethos and team work they had developed with their peer group.

> 'Lifting stuff is probably the hardest thing for me because I'm not that strong but you know, I'm not going to let that stop me from doing it and helping out' (Audrey: post-i).

However, none of the male participants spoke about the physical challenges of the farm tasks. It was unclear if they simply did not find the tasks as physically demanding as the females, or if there were other reasons, such as the stereotyped notions of 'masculinity' stopping them from admitting to experiencing any difficulties with the physical demands of the work.

By the end of the intervention Arthur and Cecil confirmed the positive benefits they felt from spending more time outside being physically active on both their physical and mental health:

> 'I used to spend all my time on like my Xbox before I started coming here. I had a break [excluded] from school before I came here, as well and I used to spend all my time on my Xbox, and I used to, like, spend loads of money on that. But, about, what, four months ago, I sold it. And ever since then I have just been out more, I walk my dog a couple of times a day. I've got a puppy. I feel better and fitter for it and I'm happy when I'm outside walking my dog' (Arthur: post-i).

The quantitative data did not yield statistically significant findings of participants' satisfaction with where they lived (BMSLSS-PTPB). However, there was a tendency for increased satisfaction. Although the scale item 'satisfaction with where they lived' included more than just the physical environment, data from observations and interviews confirmed participants' increased physical activity and access to outside spaces were key factors in exploring and seeking out physically active opportunities in green spaces close to where they lived.

Data from this PhD thesis demonstrated that the natural environment can help motivate pupils to engage in physical activity. The natural environment helped participants' to develop behavioural and life skills, because the care farm intervention used green space and farms activities to create a range of appropriate challenges relevant to the young person's physical capabilities and aptitudes (Flintoff & Scraton, 2010).

Experiences with animals

In this study, the experience of interacting with the farm animals had an important impact on participants because the animals served as a unique source of need fulfilment for participants, which will be discussed in the following section.

The observational notes and the triangulation of various data indicated that all participants formed immediate attachments with the farm animals. This was already witnessed during the first observation session. According to research, which is consistent with the findings of this PhD thesis, a quick formation of a relationship between the farm animals and participants occurred at the start of the intervention, because of an organic connection that enabled rapport and empathy to develop at a rapid rate (Chandler, 2005). The animals displayed predictable behaviours (Melson, 2001), which made it easier for participants to connect with them and to receive the unconditional 'love' for the care they began to provide for the animals. Participants thus viewed the animals as dependable and non-judgemental towards them. Many of the young people who attended the care farm had parents who were not a constant or stable presence in their lives and who disappeared on a regular basis for unspecific reasons.

> 'It's just that they're [animals] always going to be there [farm]. Because obviously every week I come and there's always the animals here. It's not like they're all going to disappear' (Lillian: baseline).

> 'I just feel safer with the animals than I do with people, if you know what I mean. They're not judging me, they like me for me' (Audrey: baseline).

The farmer believes that the farm animals are an integral part of the young people's experience. Some of the animals on the farm are there for the duration of their life, so participants can build relationships with them, while other animals are part of the farm business and are used as a food source. All of the participants were aware of the animals' status. The primary role of the animals who reside at the farm for the duration of their lives is to help build relationships with the participants who have attachment disorders. The majority of the participants with BESDs typically display symptoms of attachment disorder when they first arrive at the farm. Such symptoms include issues surrounding behavioural control, problems with anger and a difficulty in showing affection to people and animals.

> 'I do think the animals are amazing for those that have attachment disorders, those young people that have been abused, and those with certain family problems, definitely the animals work brilliantly with them' (Farmer).

This last quote from the farmer can be explained more accurately through the use of the concept, 'the common third' (Cameron & Moss, 2012). The fundamental concept of 'the common third' supports the building of a trustful relationship with others, by creating opportunities for young people to explore new ways of interacting with adults. A neutral 'activity' is chosen, which provides the reason for the contact between the adult and the young person within a safe environment. Drawing upon the researchers' observations, the 'common third' can help to explain developmental experiences where the mentors and the participants interact and work in the shared space of the farm with the farm animals. This teamwork fostered the development of a relationship between the mentor and the participant. Caring for the farm animals as a team provided a space for participants and the mentors to engage in conversations, whilst they completed a much needed and useful task. Thus, the animals were the 'common third' because they served the purpose of building a relationship between team members (Braun et al., 2009) free from dominance, scrutiny or authority by the mentor.

A 'common third' example was first observed in week two, when participants had begun to engage in conversations with the mentors with whom at this early stage of the intervention they had only previously exchanged greetings (e.g. 'Morning, how are you today?') and 'small talk' (e.g. asking general facts about each other such as 'What's your name?'). Friendships and social bonds formed during the time spent with the animals, which were observed from as early as week three. As the intervention progressed on week six, it was observed that the animals facilitated positive conversations and the start of a friendship between two participants who had not spoken for several weeks because of a disagreement. Although it took some time, the two participants managed to resolve their differences in the care farm space. The animals therefore had a clear role within the intervention as social relationship facilitators.

Early observations revealed that the relationship between a participant and an animal initially was based on companionship. Participants found at least one animal to be appealing and this encouraged them to try to care for and learn about the animal(s) and ultimately (especially for those participants with attachment issues) to use the animal(s) as a 'tool' to help understand their own feelings. At the beginning of the intervention participants were not mentally ready to look at themselves or the negative aspects of their lives. Instead they were taught to see their and other people's conduct through the eyes of animals, making it easier for them to begin talking and explaining the issues related to a particular animal. Over time (week 6) participants were able to switch the conversation to talk about their own problems. These conversations generally focused on the cause and the consequence of the problem(s), which typically included behavioural difficulties, problems with emotional regulation and other associated problems, such as being excluded by their peer groups.

'To describe relationships which then they [participant] can relate to. There's all sorts. We've got an abused donkey and a baby donkey that was rejected by its mum. We've got bullying cows and bossy cows. But you can easily bring up and say all of those sorts of things, 'Well what do you think is going on' and 'what's going to make this different'? 'What's going to make these cows accept this cow'? The answers they come up with are brilliant. Perfect. And then when you turn it around and say, would that make a difference to you, you can see the smile. You can see the realisation' (Farmer).

Initially, participants began to make contact and build relationships with the mentors. The mentors at this early stage of the intervention were not familiar fully with the participants, but through jointly caring for the animals had an idea of what problems these young people might experience. While there was a recognised inequality in this aspect of the developing relationship, because the mentors had a greater knowledge base about the animals and how to care for them, many of the conversations were initiated by the participants to seek the mentor's knowledge about the animals giving a platform for building trust and supportive relationships between the parties. Conversations using the animals as a third party usually began by discussing the animals daily care needs. It was explained to participants that the animals need to be cared for and nurtured by providing for their basic needs (e.g. farm tasks such as feeding the animals and mucking out their living spaces) and at the same time they can interact and comfort them if they wanted to (e.g. the participants petting or brushing the animals). The physical care for the animals taught participants that the animals now trusted them. It was further explained, that if the animals were not given consistent nurturing and the care they need, they would likely to develop emotional fear of their human care givers. This fear will cause the animal to become withdrawn, displaying reactive behaviours (e.g. biting, kicking or making distress sounds) and the animal will be unable to form relationship based on trust and attachment with their human caregiver. Using the animals as a third party in conversations allowed the behaviours and feelings of the animals to be interpreted and transferred to the participants' own experiences, which can help them to gain insight into their attachment difficulties and why they may behave or react in certain ways in difficult situations. Participants typically developed reciprocated affection and empathy with the animals in this intervention. The quote below from the farmer explains that the cows at the farm are safe animals and would only typically react in a negative manner if they are made to feel fearful and their reaction is a response to trying to protect him/her-self and not to directly harm a human. Participants at the farm often behaved negatively as a response to feeling fearful.

'It's like the animals, they are not put on this planet, my cows, as I talk about them, they're not put here [earth] to hurt or kill people. The cows are here [farm] and they will protect and they will hurt people, but they wouldn't do it necessarily for any other reason than fear or being protective, and these

214

kids… I think most of these kids are the same, and actually linking that to the animals can be really, really powerful' (Farmer).

Another specific example used at the farm is the resident donkey family. The donkey family consists of father, mother and the foal. The mother donkey has a history of being treated badly before coming to live at the farm. After the mother gave birth to her foal she rejected him, because she was scared of him due to her lack of trust in unfamiliar beings. The foal didn't initially feel safe around those who were looking after him so he became aggressive. The mother and the foal were introduced again when he was older and they now happily share the paddock together and have a better relationship.

> 'It might sound daft but the donkey and his Mum the way she treated him, it made me think about the situation with my Mum and Dad' (Cecil: post-i).

The findings of evaluation indicated that spending time with the animals provided participants with the opportunity to learn about how they should behave around the animals and the consequences of their own behaviours for the animals. Conversations around how the animals should be cared for opened up discussions about their own self-care and experiences of care. For example, when young people were stroking the animals, they were taught to recognise and how to respond to signs of affection, or if an animal went to slaughter participants' were helped to deal with the reality of death and the emotions associated to coping with death. Ultimately, the animals helped to teach participants life lessons (George, 1988), which may help them throughout their lives in numerous situations. Lillian frequently mentioned during her baseline and post-interviews that she had always found interacting with people difficult and was often referred to as 'Miss Antisocial' by her peers. In the post-interview Lillian described developing a spiritual connection with the farm animals and how in times when she experienced behavioural or emotional difficulties she used the interaction with animals and the natural environment as a productive coping mechanism. Lillian had previously mentioned in her baseline interview that she did not access green space at all other than when she was at the farm.

> 'I've never been a people person. Everyone used to call me Miss Anti-Social because I've never mixed with people. I enjoy spending more time with animals. If I've gone off in a strop or something I'll go down the trail-way now, go see the cows or something. I just have like a sense of, I don't know how to explain it, like a spiritual thing with animals. I have so much love for animals. I just love animals' (Lillian: post-i).

Participants like Lillian found talking to the animals easier than talking to mentors (Levinson & Mallon, 1997) at the beginning of the intervention, but by four months into the intervention these

participants were talking more frequently to the mentors. Levinson & Mallon (1997) suggests that children who are socially disadvantaged, withdrawn and/or have OCD, (traits that are typically displayed by young people with BESDs and the participants in this study) respond well to interventions, which incorporate the use of animal-assisted psychotherapy.

Similar to Leck's (2013) study, animals were the individual 'environmental' element that were most frequently described as being liked, and perceived as providing value by the participants. All participants described the animals as emotionally pleasing and restorative with varying benefits to their own well-being. For Lillian, emotional enjoyment was gained from spending time with the animals.

> 'I really enjoy being with all the animals. They're just so nice to be with. Like
> the sheep are one of my favourite animals here and so are the rabbits'
> (Lillian: post-i).

Participants in general found that caring for the animals provided them with a break from their everyday stressors and induced a sense of inner calm and relaxation.

> 'When I'm sat with the lambs and the way they just behave, they make me
> laugh and feel quite comfortable because, I don't know, to be with animals
> calms me down quite a lot' (Cooper: post-i).

Data from the researcher's observations also confirmed the calming effect the animals appeared to have on participants even when they were in a hyperactive state.

Reflective note – Week 7: *A week has gone by since the last observation and 4 new lambs had been born. There was a great deal of excitement amongst the participants at the news. The lambs were in the sheep barn sectioned by metal fencing into safe areas with their mothers. There was a mixture of white and black lambs, all with equal cuteness. William [Mentor] told three of the boys they could climb into the penned areas and help feed the lambs with bottles, which contained milk. The boys were all typically quite loud and boisterous in sessions. I was quite surprised how keen they were to feed the lambs, which they had been clearly told required calmness, patients and minimal noise. As the boys clambered over the fencing I felt like I was watching some sort of animal magic working. The loud, hyperactive boys turned into passive, quiet and gentle people, literally from the moment their feet hit the hay on the floor of the lamb's pen. Each boy listened carefully to William's instructions about how to get hold of the lamb, how to position the lamb and how to keep the bottle upright. The boys sat calmly focusing only on the task at hand. William had to frequently remind the boys to keep tipping the bottle upwards, but otherwise the task was completed successfully. Once the lambs had finished being bottled fed I expected the boys to become bored and jump straight out of the penned area. However, the three boys remained sat on the floor of the*

barn and simply watched the lambs, occasionally exchanging conversation or laughing about something 'cute' the lamb was doing like trying to escape into the next pen along. I was taken aback by the calming effect these tiny animals had on the boys'.

The intervention was dominated by male participants and there was an element of the young men trying to exert their masculinity within the group and to not 'lose face' during the banter and jokes. Spending time with the animals appeared to be an important factor for many of these young men. It was one way in which they could develop nurturing behaviours (a sense of touch and affection) without 'losing face' to their peers (Mallon, 1993; Beck & Katcher, 1996), because caring for animals was considered to be a gender-neutral task and allowed the young men to establish themselves as caretakers (Wishon, 1987).

The animals served as another 'mechanism' to create a sense of 'freedom' in addition to the physicality of the farm environment, which participants had already identified as having a direct effect on relieving the difficulties they experienced when made to sit still.

> 'Yeah, I learnt that I can actually be quite calm and relaxed around animals and to sit still when I'm not…because normally I have got to be on the move and can't sit still very often. But when I'm with animals I've learnt, in myself, that when I'm with an animal I can stay in one position and be calm around them so I don't scare them' (Cooper: post-i).

The post-intervention interviews confirmed that by the end of the intervention, caring for the animals was another mechanism, which helped participants to develop a sense of responsibility. They were able to recognise and transfer this to other areas of their lives, including school and completion of homework. Audrey struggled with being responsible for completing her homework and her chores at home. This was a frequent source of tension with her parents and teachers. In response to disapproval from parents and teachers, Audrey often stormed out of the classroom/house or threw objects, which made her even more emotionally upset and stressed. Through the animal care duties at the farm Audrey began to understand and learn the importance of being responsible. This was a crucial experience that allowed her to learn self-regulatory skills. Audrey developed awareness and accepted that she had to complete the jobs at the farm without making any excuses for not doing so, because the animals needed to be cared for.

> 'It made me realise the animals are relying on me. I have to be responsible for their care and I am also being relied on by other people here [farm]. That made me realise that it doesn't matter if I am at home alone or whatever, I have to get on and do my homework. Otherwise I will just be behind on a lot of stuff and that was why sometimes my homework was not done on time. They [animals] have made me take a bit more responsibility' (Audrey: post-i).

217

The farm tasks encouraged participants who displayed a lack of empathy to spend extra time with the animals. Participants also found humour and delight in the situations they encountered with the animals. For example, they laughed when the pigs sat down on request in return for apples to eat. Although participants thought that catching the fast moving sheep was 'hard work', they spoke with joy about their frequent failed attempts. The joys of looking after the animals were instrumental to the mental and physical well-being of these young people.

> 'I love it so much. Like all the animals and being with them, it's like. Yeah, it's really fun and I forget about all the other stuff in my life that bothers me' (Lillian: post-i).

It was also apparent from the later observations that the animals on the farm as part of the farming business helped participants to understand better the 'food to fork' cycle and the importance of respecting the animals regardless of their purpose. The interactions with the farm animals served as additional opportunities for participants to learn about the natural environment and to develop positive environmental attitudes (Brien, Ambrose-Oji, Waite, Aronsson & Clark, 2016) and to acquire relevant farming skills, all of which were experiences that significantly contributed to their ability to achieve City & Guilds Awards in Land-based Operations Level 1.

> 'Most people see a cow as a bit of meat. But, everyone forgets that they actually have got lives, like, they have got minds, they've got feelings, you know. I've learnt a lot about food production coming here [farm] and I've learnt the importance of treating them [animals] with kindness no matter why they're here. A bit like how we should be with each other I suppose' (Arthur: post-i).

Participants' innate connection (Wilson, 1984) and care towards the animals facilitated the onset of these developments and the subsequent outcome of establishing and maintaining more supportive relationships with others.

Overall, nature relatedness and contact with the animals were important aspects of the care farm for participants. The SDT literature suggests that experiences with nature nurtures autonomous motivation (Ryan, Weinstein, Bernstein, Brown, Mistretta & Gagn´e, 2010). Autonomous motivation is facilitated by autonomy support from other individuals (e.g. the farmer and the mentors) in a 'challenging' environment (e.g. risks are higher in a farm environment because of the open land and water, the farm machinery and the animals), which requires collaboration/communication between individuals (e.g. working as a team with the animals) and improves human relationships in the environment (Ryan, 2010). Thus, engagement with the green environment provided participants with a break from their difficult and stressful everyday lives, while the environmental stimulus helped them to think through their current and past skills and showed them ways of responding to

environmental challenges in a more skilful way. Weinstein et al., (2009) in their study found that nature encouraged a closer connection and focus on others. For participants in this study, this was true and was observed whilst they carried out farm tasks and worked with the animals in the green environment. Participants learnt how to respond to social expectations because the environment required co-operation and dependence on each other to safely complete tasks (Deci & Ryan, 2000a).

The impact of green environmental engagement

The key findings emerging from the quantitative and qualitative data from this PhD thesis suggests that participants' green environmental engagement increased during the intervention and that it had a positive and valuable impact on their physical health and mental well-being (Peacock et al., 2007; Barton, Wood, Pretty & Rogerson, 2016; Wood, Bragg & Pretty, 2016).

In this study, the animals were identified as an extremely powerful resource for helping participants with attachment disorders. The animal as the third party helped participants to understand relationships with specific people in their lives, which many had never previously understood or spoken about. Caring for the animals by tending to their basic needs (e.g. feeding, mucking out) encouraged the participants to develop a sense of responsibility for the well-being of others (Raina, Waltner-Toews, Bonnett, Woodward & Abernathy, 1999; Casciotti & Zuckerman, 2016). The time spent with the animals provided participants with a break from the constant negative environmental pressures at home, at school, from relationship difficulties with parents, teachers and/or peers. Nature and the green space helped them to re-evaluate their life experiences and the associated stressors, which in turn enabled them to experience feelings of calmness and happiness. Based on the evidence presented in this PhD thesis, it is questioned whether the impact of a natural environment intervention would be as effective if there were no animals present?

There is a growing body of evidence that animals/pets can have a positive physiological impact, especially for individuals dealing with difficulties or challenges in their lives (Friedmann & Thomas, 1995; Allen, Shykoff & Izzo, 2001). Some research findings suggested that viewing animals as non-judgmental facilitated young peoples' psychological development and well-being (Archer, 1997), which appears to be the case in this study too. Self-determination theory provides further support to the findings of this study, in that the animals helped to satisfy participants' relatedness needs, because they were allowed to care for (e.g. tending to their daily needs) and show affection (e.g. concern) for the animals. Previous studies have demonstrated that individuals typically describe and experience a relationship with an animal a resource of acceptance, support and love (Kurdek, 2008; Zilcha-Mano, Mikulincer, & Shaver, 2011). This sense of belonging has been linked to a decline in psychological stress and enhanced well-being (McConnell et al., 2011).

The findings of this PhD study relating to the impact of the green environment can be explained by the SDT framework. The break from the stressful elements of participants' lives meant that social expectations and overwhelming pressure from home and school were reduced. The care farm intervention provided participants with the opportunity to pursue activities of their interest at the farm (Weinstein., et al. 2009). Thus, participants' autonomous motivation was enhanced by an increasing understanding of their own interests, values and needs (Weinstein., et al. 2009). Accordingly, nature prompted participants to develop improved consideration for and a closer relationship with others, namely their mentors and peers (Weinstein., et al. 2009). In this study, taking care of the animals appeared to encourage a greater responsibility in work-orientated tasks, which towards the end of the intervention transferred to other areas of their lives, such as completing their school home-work or chores at home without expecting a reward. Participants understood that tasks are inherently rewarding and they need to respond to the animals' needs, as they cannot do it for themselves. The sense of freedom and the physical activity also contributed towards participants' enjoyment and engagement with the environment. These components also helped participants to manage their negative behavioural and emotional responses more effectively and they seemed to have developed the ability to use significantly less non-productive coping skills and more productive coping skills both in and outside of the farm environment. All participants reported an increase in their physical activity levels and their desire to spend time in green spaces as a result of attending the care farm intervention. This evaluation of the care farm model confirmed the positive impact the natural environment had on these young people's behaviours and life skills, and the subsequent benefits to their behavioural, psychological and social outcomes.

7.6 REAIM: Maintenance, the long term impact of the care farm intervention

This PhD work evaluated the limited data available on the long term impact of the care farm intervention.

The field work lasted one academic year, and its limitation is that within this PhD thesis, the impact of the intervention on the long term outcomes of the participants could not be ascertained. However, it is known that all participants, except one, have remained in education, employment or training since the end of the intervention (Table 22), thus significantly reducing the risk of participants becoming NEET. The 'unknown' participant was part of a traveller family and there was no further record of him after he left the intervention.

Table 8: Participant's education, employment and/or training status (6 months post intervention)

Post-intervention engagement	Count	%
Continuing with City & Guilds at the farm	13	52%
Farming apprenticeship with full-time job	4	16%
Animal Care, college	3	12%
Catering, college	2	8%
Plumbing apprenticeship	1	4%
Life Skills (agricultural), college	1	4%
Not known	1	4%
Total	25	100%

The care farm family approach reassured participants that they were always welcome at the farm, if they wish to visit and can re-engage with its activities at any time after their intervention has stopped. Many former service users return to the farm ten years on from having attended the intervention, while those who are unable to physically visit the farm, keep in contact with the farmer and the mentors through telephone calls and social media. Participants learned to love nature through their time spent at the farm. Many participants spoke about continuing to seek out similar nature related experiences in future, as they recognised the positive impact nature and green space had on their behavioural, psychological and social outcomes.

7.7 Barriers to engagement

There were a number of barriers, which affected current and potential service user access to the care farm as an intervention resource. These areas were identified as a lack of social funding, a lack of funder knowledge about the benefits of care farms, and limited transport provision to enable service users to access the care farm. While this was not a direct problem for current service users, it was acknowledged that there were many young people in the county who would be eligible to come to the farm, but there is no funding and/or transport available. This study's finding indicate that there will be a wider detrimental effect (on an individual and a societal level) on young people's physical, psychological, and social difficulties if they are prevented to access appropriate service provision. This will be discussed in more detail in Chapter 8 under the recommendation section.

7.8 Summary

This chapter has provided a detailed understanding of the meaning and the impact of attending the care farm for pre-NEET young people with BESDs. The triangulation of the qualitative and quantitative data obtained through semi-structured interviews, observations and the questionnaire pack has been supplemented with the researcher's reflections in addition to the perceptions of the

farmer and former service users providing a more detailed understanding of the farm's impact. The care farm intervention was evaluated according to the principles of the RE-AIM evaluation framework. The meaning and the impact of the intervention has changed for participants as the duration of the intervention increased, as demonstrated in the discussion of the findings. Being able to use a combination of quantitative and qualitative research techniques and to monitor the impact of changes over the nine-month duration of the intervention confirmed the need for longitudinal data as presented in this PhD study.

The findings from this PhD thesis demonstrated that spending time at the farm allowed participants to connect with themselves through their experiences with the green environment and the animals, which helped to promote their health and well-being. The intervention also created opportunities for them to develop transferable skills (Sempik et al., 2010; Leck et al., 2014).

At the beginning of the intervention many of the participants reported to have very stressful lives, which indicated a serious mental health risk (Splanger & Grossmann, 1993; Hertsgaard et al., 1995). They also reported problems with behavioural regulation, which included difficulties controlling their negative emotions (van IJzendoorn et al., 1999). Their self-reported behaviours prior to the care farm intervention were often hostile and/or aggressive (SolomonJ, et al., 1995; Lyons-Ruth & Block, 1996; Greenberg, Speltz & DeKlyen, 1993; Lyons-Ruth, 1996; Lyons-Ruth, Easterbrooks & Cibelli, 1997). There was evidence from social services and school reports that many of them were maltreated by their parents and others in their home environments (Cicchetti & Barnett, 1991; Lyons-Ruth et al., 1991; Lyons-Ruth et al., 1987). Furthermore, poor engagement at school demonstrated by social and behavioural difficulties in the classroom was evident in participants, which were also associated with their reported low self-esteem and self-confidence (Jacobvitz & Hazan, 1999; Goldwyn, Stanley, Smith & Green, 2000; Green & Goldwyn, 2002).

However, this study presented evidence, which supports that if young people can detach themselves from negative relationships, their chances of turning their lives around can significantly increase (Brodsky, 1996; Winter, 2015). Participants in this study were able to establish and maintain positive relationships at the farm, initially with the farm animals then with the farmer, their mentor and peers, which provided the foundation to changing their ability to cope with their lives (Quinton and Rutter, 1998). Participants' experiences with the farm staff were instrumental to the success of the intervention. One of the biggest challenges faced by the farm staff was to determine the start of behaviour change for each participant at the beginning of the intervention. This was crucial to keeping participants engaged in the intervention and ultimately achieving any type of success. Supportive relationships with mentors meant participants were able to talk about emotionally complex events in a coherent manner (e.g. often through the animals as the third party), which attributed to helping participants establish a sense of connectedness back to real life and to regulate their emotions and behaviours (Oppenheim et al., 1997).

The structure of care farms has been defined as typically falling into one of two categories: care farms where there is an absence of formal 'care' and the primary focus is the daily work undertaken on a farm and the relationships with the farmer and staff; and care farms where 'care' (using nature as a co-therapist through activities such as walking outside, planting seeds and wood craft activities) (Hegarty, 2010) dictates the structure and agricultural activities for the benefit of the service user, rather than for commercial farming production (Hassink et al, 2007). It is apparent from the study data the care farm model in this intervention successfully used a combination of these two approaches. The farm used a balance of daily work in combination with 'care', which allowed mentors to focus on one approach over the other depending on the individual's changing needs.

The care farm provided a flexible work-orientated environment, where participants were able to work at their desired pace (Elings & Hassink, 2008; Hassink, et al., 2010) and were given the opportunity to switch between activities relevant to their interests and functional capability (Iancu, Zweekhorst, Veltman, et al., 2014; Elings & Hassink, 2008). The green environment and the animals provided meaningful activities that allowed participants to develop and use expressive behaviours, which began to have a positive impact on their well-being. Meaningful activities are thus reflective of the 'true self' (Ryan & Deci, 2001; Waterman, 2013) and involves personal and universal potentials, which when developed through activities that provide personal fulfilment provide a sense of well-being and supportive social relationships (Waterman, 2008; Camfield, Streuli & Woodhead, 2009). The meaningful activities enabled participants to build skills, which had a positive impact on their social and personal functioning, personal development and other areas of personal potential, which lead to a changing but positive reflection of their 'true self' (Murray, Elsey & Gold, 2016). Participants showed signs of becoming agents in their own lives and in changing their BESDs, highlighted by them expressing hope for the future, which included securing relevant qualifications and thus a place at college and/or an apprenticeship. The intervention ultimately promoted autonomy, allowing participants to become a causal agent of their own life and to act in harmony with their integrated self (Hemingway et al., 2016; Ellingsen-Dalskau et al., 2016).

In this study, participants' optimism about their future training and employment opportunities and improved family and peer relationships were linked to an increased sense of life satisfaction, and reduced their symptoms of self-reported mental health risks and behavioural regulation difficulties because they were no longer feeling pessimistic about their life chances (Baily et al, 2007).

The care farm offered valuable vocational education, which prepared participants for work in a trade/craft based on manual or practical activities. Thus, demonstrating the care farm can provide an interesting and supportive intervention that works to re-engage pre-NEET young people in learning and reducing their chances of becoming NEET. One-to-one mentoring and peer support were key to the success of the intervention to engage participants in learning who were at risk of becoming NEET (Allen, 2014). The intervention outcomes showed that the care farm intervention

was an effective vocational education that nurtured the talents of non-academic pupils and ensured that their talents were identified and nurtured (Ofsted chief Sir Michael Wilshaw (BBC News, 2016).

Although this study was unable to monitor participants beyond the duration of the intervention, it is clear from the findings of this study that the value of this care farm intervention goes beyond the benefits to participants and provides social and economic benefit to the farm, the local community, service providers and commissioners (Care Farming West Midlands, 2015).

This PhD research builds on the current evidence base of research on care farming and green care/ecopsychology. Presenting the mechanisms and the outcomes of the care farm model demonstrates to policy makers, social and youth services the need for pre-NEET young people with BESDs to engage with alternative educational provision, such as this care farm intervention that ultimately can help disengaged young people move towards positive re-engagement with their physical, educational and social environments.

Chapter 8: Critical evaluation and conclusions

This final chapter will conclude the findings of this PhD thesis. A reflexive account of this study will be detailed before consideration will be given to a broader impact of the evaluation and implications for care farming as an intervention for pre-NEET young people with BESDs. The contribution this study has made to current scientific evidence base will be discussed, followed by recommending future areas of research to develop based on the findings of this pilot study.

8.1 Reflexivity

This section draws on my field-notes to provide a reflexive account of the research processes and working with the young people attending the care farm. In doing so, I attempt to demonstrate a better understanding of the overall research by using reflexivity to expand my frame of reflection through critical analysis of my fundamental assumptions which inevitably shaped interactions in the care farm setting (Rothman, 1997). The first section provides my reflexive account of working with the young people over the nine month period of the intervention. The information has been taken from my reflexive field-notes and is contextualised by the information and feedback provided to me by the young people attending the care farm and the farmer.

The relationship I established with the young people as individuals and as a group was critical to their participation in the research and the quality of data obtained. All the young people had experienced negative/volatile relationships with adults (i.e. parents, adult family members and/or teachers) so there was potential that I would be viewed as an 'outsider' in the care farm setting and they would feel no obligation to interact with me or at worst acknowledge my presence. This issue was identified during early conversations with the farmer; that participation by the young people in the research would only happen if the young people viewed me as part of the care farm team and as someone they could trust.

Establishing my role in the care farm setting was something I was mindful of before the first care farm sessions began. I knew I had to strike the balance between building trust with the participants, while maintaining a transparent role to why I was present. I believe the following actions were critical to building a relationship of trust with the young people and developing their willingness to engage in the research: I was consistent with my attendance (i.e. I was present at every session I was scheduled to attend) and I ensured I arrived before the young people so I was with the care farm staff to greet them on their arrival. I stayed with the young people during tea and lunch breaks and I did not leave the farm until the young people had all departed. I allowed conversations to start naturally, instead of forcing conversation and I helped out when I could see help was required (physically or verbally), but the rest of the time I allowed the dynamics of the group to unfold without

my direct intervention. Typical to most social groups, I found that relationships were easier to build with some young people while other relationships were more difficult to establish. I found two females in one of the groups particularly hard to develop a relationship with. However, as their group became more cohesive and friendships began to develop their confidence with their peers grew and so too did their frequency to converse with me which ultimately lead to their agreement to participate in the research. Establishing a relationship with the most socially reserved young people provided me with a real sense of trust between myself and the young people. The farmer reflected at the end of the study that had the young people not trusted me it was highly likely they would have been abusive towards me and I would never have gained the insightful data presented in this PhD thesis. This feedback highlighted the rewards that working closely with young people with BESDs can bring the researcher both personally and professionally if time is taken to establish a relationship built on trust. Any future study would benefit from the researcher spending time with participants before any data collection is introduced, where time and cost allows.

A weekly challenge faced during the observation sessions was which participants to observe. How did I decide as a researcher regarding which participant or sub-group to follow? In previous research projects observations had been undertaken in one room (i.e. a group of people participating in a group activity in a community hall). In this type of one-room setting It is easier to observe the entire group, and if permission has been sought to video record the session. The recording can be viewed afterwards to note any missed interactions or to validate previously noted observations. However, the farm is not a 'contained' setting and young people would continually be in different locations of the farm and undertaking a variety of tasks. I had to make a decision on the spot when deciding whom to observe. However, I tried to inform the decision based on the individual, the dynamics of the sub-group/staff and the tasks being undertaken. I will now detail an example to highlight the decision making processes I went through: one of the participants, a young man who was a lively member of the group, he was typically social, confident and appeared to be seen as 'popular' and perhaps influential to other group members. However, in one particular session I could tell from the moment he arrived that his usual happy-go-lucky demeanour had changed to unhappy, aggressive and withdrawn. I was interested to observe him during the session to try to understand why there was a change in his behaviour and if the care farm or the staff had any effect on his behaviour during the session. Early in the session, out in the cow yard the young man became verbally and physically aggressive towards another male participant and so he was taken aside by a member of staff to help pacify him and to find out what was wrong. It was at this point (I could see how distressed the young man was) that I knew I had to part-withdraw from the immediate situation. I found a neutral spot where I could still observe the situation, but I was not interfering with their interaction. While I was unable to hear all of the conversation because of the distance created, it was more important to prioritise the young person's wellbeing over gaining additional observation notes/insight.

As part of my research design I had anticipated conducting interviews with the care farm staff. The staff members interact with the young people on a daily basis and could provide vital insight into the young people's experiences at the care farm, which may have enriched the PhD study findings. However, I had scheduled to conduct the interviews post-intervention (as to not bias my observations from the content of the staff interviews) but at this time a member of the care farm staff unexpectedly died. This came as a great shock and was an extremely emotional time for all members of staff, and in addition to their extremely busy work schedules it was deemed inappropriate to conduct the interviews. While the staff interview data was missed from this study, it will be beneficial to any future research to consider collecting the views of staff members.

Finally it should be noted that I am a young, white female researcher and all the participants in the research were from white British backgrounds. I considered if a different researcher/participant relationship would have existed if I had been male (the male group members often exerted their masculinity towards each other, so would this have been aimed at a male researcher?) or if I or any members of the group were from a different ethnic background? Any future study should consider the geographical location of the farm(s) to include a county which is more ethnically diverse than Dorset. Understanding if care farms are an appropriate intervention for all types of young people with BESDs is critical to the development of care farming as a solution for those at risk of becoming NEET.

I found the care farm model to be extremely positive in both its relevance and delivery in helping the young people progress in various areas of their lives because the components of the model can be utilised when appropriate to do so for an individual, and not at prescribed times. However, I believe the implementation of the model would be more effective if group sizes were smaller (or if less young people per member of staff were allocated) and if those young people most in need could attend the intervention during school holidays and beyond one academic year. This was a concern raised by the farmer and was largely due to a lack of funding being available to employ more staff/extend the intervention to the school holidays/beyond an academic year. While staff were coping with the high group numbers I wonder where is the tipping point which could perhaps lead to less positive results in the participants progression?

A stipulation of the funded PhD was that it must seek to evaluate the care farm intervention, thus narrowing the approach that formed the framework for the conduct of this study. However, had this study not focused on evaluating the care farm model and primarily focused on the experiences of the young people attending the care farm I would have considered (and recommend a future study to consider) Participatory Action Research (PAR). PAR is a suitable approach to 'real world' studies (Robson 2011) because it can go beyond describing or explaining a situation to facilitate action to change and/or influence policy or practice (Schneider 2012). PAR focuses on knowledge generation by the participants of the research to promote change in their lives, their cultures and

their communities (Schneider 2012) by allowing participants as collaborators to have a voice, rather than simply regarding the researcher as the expert.

A specific form of PAR is critical action research which aims to help disadvantaged groups identify problems and empowers them to improve their conditions and environment (Kemmis 2008). This approach would allow the research to be developed with the participants, providing them with a level of control over the research aims, design and procedures, thus allowing participants to be active agents in creating and promoting social change (Lykes and Mallona 2008). A PAR approach ensures that the knowledge created between the researcher and the participants is contextualised within the environment where it was established so the interpretation of any data and findings is holistic and relevant to the participant's 'community' (Swantz 2008). This aspect of the approach would allow the researcher an in-depth understanding of the cultural context of the farm environment for the young people, which is important for any future implementations of a care farm intervention for young people with BESDs. Examples of how I would have embraced PAR included walking interviews around the farm site and Photovoice (providing participants with a camera to capture images related to the research topic from their perspective which is then used as a prompt to help the participant express themselves or to help tell their story). Use of PAR in future studies should ensure the participants are consulted on the use of methods, while ensuring there are no personal or environmental issues that may affect the quality of the data collection (i.e. if conducting walking interviews can all participants physically complete this, and would the background noises of the farm such as tractors and animals effect the audio recording or the researchers ability to clearly listen to the responses?).

In this section I have provided an overview of the young people who participated in this study alongside a reflexive account of my role working with them during the research process. I also detailed how a future study might use PAR to empower the young people as active participants in the research process. I had a range of successes through the course of this study but developing a strong relationship with the young people, enabling me to transform from an 'outsider' to an 'insider' as a researcher, was both personally and professionally my greatest achievement. I learnt it was impossible not to care for the young people and I often found myself wondering how they were getting on during the week and rooting for them during their examinations, but as a researcher (and specifically through developing my skills using IPA) I have become much more competent at being able to recognise and 'bracket' my personal and emotional feelings/views to ensure I provide an accurate and honest account as a researcher of the complex lives these young people lead and their desire to create a brighter future for themselves.

8.2 Concluding remarks: general conclusion

The literature review for this study identified that current interventions supported by the government for disengaged young people are failing to reduce the number of young people becoming NEET

(Imputes, 2014; Office for National Statistics, 2016). However, previous research findings indicate that the health and wellbeing of disadvantaged groups of people in society, which includes young people, can be significantly affected through green care (Care Farming UK, 2016; Bragg et al., 2016). The elements identified throughout this PhD study indicate that the care farm provides an intervention for young people disengaged with mainstream education that offers a more positive and effective alternative to current government and local authority strategy.

The evaluation of the care farm model intervention in this PhD study found that it was able to support pre-NEET young people with BESDs, who are currently excluded from mainstream education, to return and re-engage with formal schooling. Based on the mechanism and the processes that were discussed in Chapter 7, the care farm intervention was effective through maximising opportunities for young people to access green space, increase nurturing contact with animals/human-beings, and involving them in a variety of engaging tasks that were suited to their abilities and providing unique experiences (e.g. helping to deliver a cow or bottle feed lambs). The impact measures indicated that all of the above described elements positively impacted young people's physical, mental and social functioning. The scientific evaluation of the core elements of the care farm model ('basics', 'belonging', 'learning', 'coping' and 'core-self') confirmed that this structure enabled participants to develop resilience and thrive, despite their on-going difficulties in their home and school environment. Both qualitative and quantitative evidence regarding the impact of the care farm intervention indicated that access to green space and nature, building of trust and fostering a sense of belonging set a course of restoration, and ultimately improved the sense of inclusion and well-being of participants attending the care farm intervention.

The evaluation of the care farm model using the RE-AIM framework (Glasgow et al., 1999) confirmed that the farm tasks provided participants with an opportunity to engage in meaningful activities, which enhanced their career and life skills, improved their confidence and started and/or strengthened their connection to nature. This was also evident from the participants' future career choices that often related to farming, attending animal care or land based/farming courses at college or a farming apprenticeship. The findings from reach, effectiveness and implementation dimensions of the RE-AIM evaluation indicated that the start of engagement for all participants was the opportunity to interact and care for farm animals. The evidence presented illustrates that this feature of the care farm intervention was an integral part of participants' journey. The 'Basic' and 'Belonging' components of the intervention worked through this animal interaction process, and data showed that often, as the first 'being' the young person learnt to trust and show care towards, were animals. It is thus questioned how effective any other care farm intervention would be without the inclusion of animal-assisted engagement. The evaluation of the care farm model in this study showed that other key elements of the intervention were equally essential for this group of young people. For example, the 'hug in a mug' nurturing element, and continuous access to physical activity and fresh air in the outdoors enabled participants to calm themselves leading to more

effective emotional self-regulation. These elements also provided a sense of routine and security for participants who benefited from structure and procedure, which were often not present in their everyday lives. These aspects were discussed in more detail in Chapter 7.

8.3 How effective this care farm intervention was for participants in relation to social exclusion?

Many of the young people experienced social exclusion in their lives before attending the farm (such as rejection from their parents at a very young age). Because of their BESDs, many participants in this study reported further rejection by teachers and their peers in their respective schools. The geographical location of their homes also contributed towards feelings of social exclusion because of the lack of rural services and transport and/or finances to join or participate in social activities (Natural England: Access to Nature, 2012). Participants were used to experiencing social rejection in their lives, so being made to feel welcome was an important element of the care farm intervention. Work undertaken by Crow & Allan, (1994) and Crow (2004) suggests that researchers have to find out precisely what passes along the lines of social connections to understand its significance before pronouncements about the nature of the network can be made. The evaluation for this PhD study showed that participants' strong connection to, and engagement with, the care farm helped them to re-shape their social identity. Therefore, it was important to foster connectedness, an element of the intervention that needs to be present in future care farm models to ensure service users feel welcomed and received autonomy supportive social support from the start of the intervention. The natural environment acted as a social facilitator from the beginning of the intervention by supporting the development and maintenance of relationships between participants, the animals, farm staff and their peers. The animals acted as the 'common third' (Cameron & Moss, 2012) to facilitate trust and conversation between mentors and participants. By the end of the intervention participants were active members of the care farm family who had established close friendships with farm staff and their peers. From the evaluation of the care farm model, it can be concluded that the intervention almost unanimously reversed participants' feelings and experiences of social exclusion. The intervention was deemed to be effective to re-engage the participating young people with others in their social environments, other than care farm staff and peers.

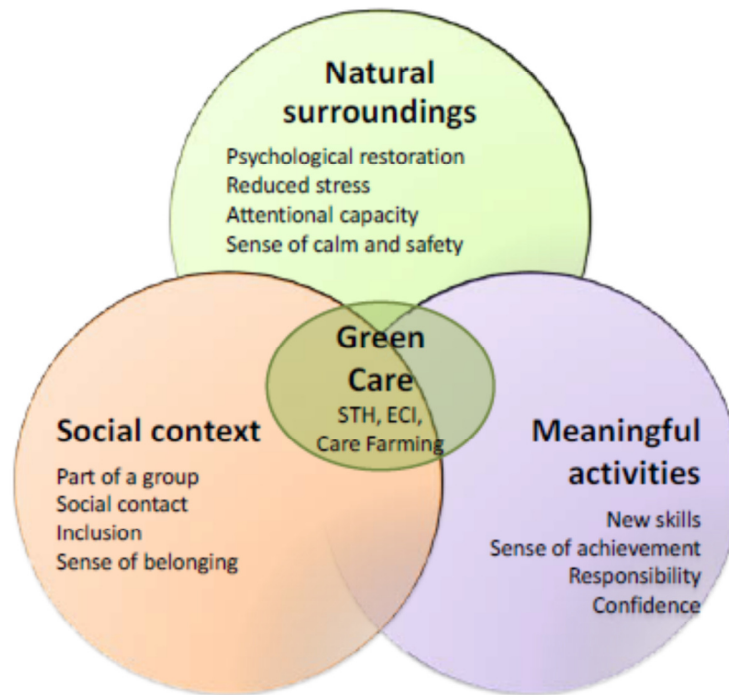## 8.4 How has the care farm intervention impacted on participant's physical, mental and social health?

The health care sector is attempting to deal with the increased prevalence of mental health issues and rising rates of obesity in children and young people (Bedell, 2016; Mental Health Network: NHS Confederation, 2016; HM Government: Childhood Obesity A Plan for Action, 2016). Furthermore, children and young people have become increasingly disconnected from nature due to factors such

as safety fears and the rise in mobile technology use (Pretty, 2002; Moss, 2012). The negative effect on individuals' physical, social, and psychological well-being when they become disconnected from nature is discussed in more detail in Chapter 3 of this PhD thesis. However, there is increasing evidence and acknowledgement in government policy to support the social and health benefits of reconnecting with nature for children and young people, and in particular those who have conditions such as BESDs, ADHD and autism (RSPB: Every child outdoors, 2010). Indeed, the findings of the PhD work confirm that the care farm intervention enabled young people to re-connect with the natural environment, which provided them with physical activity opportunities. While any physical health benefits in this study were self-reported, the findings from this study support that the care farm was successful in increasing levels of physical activity and reducing the behavioural, emotional and social difficulties experienced by the young people. The reduction of BESDs was discussed in Chapter 7 with specific reference to (but not exclusive to) reduced mental health risks, which included depression, stress, anxiety, hyperactivity, coping and conduct problems. The reduction of BESDs in conjunction with gaining improvements to their emotional regulation and identity development supports the health and well-being improvements gained from attending this care farm are relevant to the public health sector and multifunctional agriculture, which was previously discussed in the literature review in Chapter 2.

8.5 How the Care Farm Model (Bragg & Atkins, 2016) could be improved?

A strength of the (original) care farm model (as proposed by Bragg & Atkins, 2016) is its ability to combine a number of elements, such as natural settings enriched with social interaction opportunities (e.g. animals, farm staff, peers), and meaningful farm activities that enhance life skills into one intervention. These elements are recognised as useful components in a green care intervention for disengaged young people, but many care farm interventions reviewed previously were unable to do so (see Chapter 2). The main contribution of the evaluation of the care farm intervention in this PhD is the identification of two key structures that must provide the foundation of any such interventions for this population in the future. These were: 'Trust' and 'Unconditional acceptance of the person'. A more detailed discussion of these two aspects of the intervention can be found in Chapter 7. The components described in Figure 10 in general reflect the findings of this PhD, but careful orchestration of the physical aspect of the care farm setting (e.g. thinking hill) also must be included and considered as a vital aspect of inducing behaviour change in this population.

Figure 11: Interaction of the three key elements within green care

Natural surroundings
Psychological restoration
Reduced stress
Attentional capacity
Sense of calm and safety

Green Care
STH, ECI,
Care Farming

Social context
Part of a group
Social contact
Inclusion
Sense of belonging

Meaningful activities
New skills
Sense of achievement
Responsibility
Confidence

(Bragg & Atkins, 2016)

Although the model in Figure: 10 seems complex, it describes the essential elements that were deemed to be effective for re-engaging young people with their physical and social environment. However, sometimes it was difficult for the researcher to distinguish if an outcome such as a change in a participant's behavioural conduct occurred because of one distinct element of the care farm intervention or if it was a result of interacting influences. However, the triangulation of the data suggested the change was due to a number of elements interacting to facilitate the observed positive outcomes for participants. It is recommended that the key intervention components (e.g. physical and behavioural) of the currently evaluated care farm model will be adapted by others, because the variety of interacting elements made it adaptable for all participants whom had very different needs and capabilities.

8.6 Evaluation of the care farm model intervention as a potential effective approach to re-engage pre-NEET young people with BESDSs with their physical and social environments.

The findings of this PhD thesis have successfully answered the research questions proposed for this study to demonstrated that the care farm model intervention evaluated is an effective alternative educational approach for pre-NEET young people and that it created positive outcomes for these previously disengaged individuals. Care farming is growing in popularity in the UK, but it is still currently an under-researched and poorly evaluated area, which may explain the lack of

service-prescribing and funding. Commissioners are keen to use evidence base before they purchase publicly funded alternative education (Department for Education: A guide to new alternative provision free school revenue funding 2016 to 2017, 2016). Therefore, there is significant scope to develop the research conducted in this pilot study, to further improve the evidence base. The current UK Government appear to recognise the benefits of engagement with the natural environment for children and young people and the support it can provide to enhance learning (Natural Connections Project, 2016).

In the future, the Government may be forced to take more progressive action in response to The Princes Trust (2017) eighth Youth Index Report, which has revealed that the overall wellbeing of young people in the UK has dropped to its lowest level since the study was launched in 2009. The report confirmed that unemployment has the most detrimental impact on well-being scores of young people who are not in education, employment or training (NEET) who was identified as the least happy or confident in their lives (The Prince's Trust, 2017). It recommends young people need practical experience that will improve their job prospects and increase their confidence and self-worth. The findings from this PhD thesis confirm the care farm model evaluated in this intervention is capable of meeting these needs. Achieving the aims and objectives of this study have been met, but further studies are required to enhance the evidence base.

This PhD thesis utilised the Self-Determination Theory (SDT; Deci & Ryan, 1985b) to contextualise the mechanism of the care farm as an intervention for pre-NEET young people. The findings of this PhD study provides direct evidence that the care farm intervention through its design satisfies participants' basic psychological needs for autonomy, competence, and relatedness (e.g. see discussion for Basic Needs Theory in Chapter 2). The structure of the intervention also embeds effective mechanisms by which care farm staff and the farmer are able to offer autonomy support for the activities and behaviours of participants. Providing such autonomy support, and satisfying of participants' basic psychological needs positively affected their thoughts, emotional regulations, problems solving abilities, and behaviours (and thus improved their respective levels of happiness and well-being). Socio-contextual and environmental factors, such as access to physical green space and elements of the participant/farmer & staff relationships (e.g. sense of belonging, trust), positively influenced the identification, internalisation and integration processes of new behaviours that enhanced participants' ability to self-regulate and improve their motivation to re-engage with their social and physical environments. The intervention was found to be an inclusive environment that had some therapeutic effect, but also provided skill-learning support to participants, which ultimately enhanced their physical, mental and social development and meet their needs.

The evidence that this PhD work yielded suggests that participants in this study moved towards positive self-actualisation, where they were taught to make more difficult choices of accepting for example their parents, regardless of their ability to change their relationships with them. Participants

were taught to be honest, and take responsibility for their choices, including mistakes. They were coached to develop their strengths and potentials. They were taught to be more resilient through farm activities and interactions, which focused on identifying and giving up psychological defences of hopelessness. They also had peak experiences, such as being allowed to learn to drive the tractor or some difficult task working with animals. Further evidence for personal growth was documented in Chapter 7.

8.7 Limitations of the study

There continues to be a deficit in empirical, long-term research within the field of care farming as an effective intervention for young people who are pre-NEET with BESDs. The nature of the research design, which evaluated this specific care farm model, meant it was only possible to recruit young people from one care farm. This resulted in a small sample size and therefore the results yielded from quantitative data should be viewed with caution because it may not be generalisable to the wider population of pre-NEET young people with BESDs.

Although this study was longitudinal in nature, it did not include any follow-up interviews with the young people after they had left the 9-month intervention, which would have strengthened the findings of this PhD (Vincent, Kasperski, Caldeira, Garnier-Dykstra, Pinchevsky, O'Grady & Arria, 2013). The financial and time resources needed to extend the study beyond the timeframe of the intervention made it difficult to include any follow-up work. Although the PhD work reports how young people's education, employment or training activities were six months after the 9-month intervention this information cannot be projected to any potential on-going or long-term impact on their NEET status. It is also unclear to what extent the acquired farming and life skills and personal development transferred across different contexts of their lives. The care farm intervention cannot be singled out for the changes described in this study, but the data and the evaluation of the intervention indicates that the intervention appears to be an effective alternative educational platform for young people in this study.

Therefore, there is a need for extended longitudinal data to take this research even further. A future study could explore the transferability of the evaluated care farm model to other care farm settings and to ascertain the care farm intervention's impact over a longer period of time, across different types of care farms and other life contexts in relation to academic, behavioural, emotional, and social development.

The RE-AIM framework is a systematic and appropriate guide to determine the public health impact and translatability of outcomes of interventions, and was used in this research as a secondary tool to guide the evaluation of the study. However, there were limitations of the use of RE-AIM in this study. This study did not look in detail at the financial costs of the implementation and the

maintenance of the intervention. Although scientific evidence exists to support the financial costs of care farm interventions (Leck, 2013; Care Farming UK, 2016), a future study could consider the associated cost for this specific group of service users to support the increasing interest in referring/social prescribing this type of service from commissioners (Mind, 2013; Bragg et al., 2015; Bragg & Leck, 2017). Cost could be examined across multiple RE-AIM dimensions (e.g. adoption, implementation, and maintenance; Glasgow, et al., 1999).

Another limitation of this research's findings is due to PhD procedural delays. The researcher began the data collection (e.g. the baseline interviews, observations and the completion of the questionnaire packs) six weeks after the participants first began attending the farm. Although, during this time the care farm model is not utilised in the delivery of the intervention (as discussed in Chapter 3), it is a critical time for participants to familiarise themselves with the care farm environment and the mentors. The researcher attended the farm during this time, but did not collect data. It would therefore be recommended that future studies would capture participants' experiences on arrival at the farm to ensure any critical data is not missed during the early stages of the care farm experience.

8.8 Strengths of the study

A key strength of this study is it being the first in the UK which has attempted to longitudinally evaluate a care farm intervention for addressing the behavioural, emotional and social needs of pre-NEET young people. While the sample size for this study is small the findings provide an immediate solution for social providers (e.g. educators, social services, youth teams) and policy makers to help disengaged young people remain in education, employment or training until further evidence (from an extended study) is available. A report published by the Royal College of Paediatrics and Child Health (RCPCH; 2017) reaffirms that child inequalities have widened in the last five years and the UK urgently needs to do more to immediately improve child health and wellbeing:

> "'We are terribly concerned… there is such wide health disparity between the most advantaged and the least advantaged children. The shocking thing is that we know what's wrong, we know where we stand, we've known this for some time but we seem to be absolutely stuck… Children are a low priority. In this country children are still not seen. They are not visible…Poor health in infancy, childhood, and young adult life will ultimately mean poor adult health, and this in turn will mean a blighted life and poor economic productivity.
>
> (The Guardian, 2017, p.1).

The data described in Chapter 7 supports how the care farm can improve attending young people's physical, mental and social development which lead to continued engagement with education and securing of further training (e.g. apprenticeship or similar). This PhD study, the RCPCH report (2017) and the State of Rural Services Report (Rural England, 2017) all provide evidence which calls for the well-being and health of children to be addressed by government policy, as a cross-agency issue to ensure the improved delivery of appropriate services and interventions.

The evidence from this study would support the development of a child health and wellbeing strategy, as called for by the RCPCH report. Undertaking a mixed-method pragmatic approach in a real-world setting yielded different types of data from a variety of perspectives: the young people, the farmer/mentors, former service users and the researcher. This approach enabled the triangulation of the collected data (Flick, 2014) to produce a more robust evaluation of the care farm intervention. Furthermore, using the RE-AIM framework for evaluation has meant that a more detailed insight was gained into the delivery process and the impact of the model for pre-NEET young people with BESDs. The findings of this PhD work addressed an important aspect of research literature, which is currently not available on the benefits of care farming for a specific user group.

8.9 Contributions of the research to the wider evidence base

This research contributes to the growing body of literature that continues to develop understanding and aims to investigate the benefits of community green care and ecopsychosocial initiatives for disadvantaged groups. The specific focus of this study was whether the care farm intervention was an effective alternative educational approach for young people with BESDs. It aimed to identify why and how participants could benefit from such interventions. At present, this research is in its infancy regarding the impact of care farms for pre-NEET young people with BESDs. Current pupil referral units and other interventions have, so far, failed to make any significant reduction in the number of young people becoming NEET; Ofsted have warned the government that vocational training should not be a 'one-size fits all' model used as a dumping ground for the disaffected (BBC News, 2016). The evaluation of the care farm intervention shows that the flexible and outcome driven approach is effective in reducing the risks of becoming NEET within the attendees of this intervention, therefore this PhD makes a significant contribution to existing knowledge to support theoretical assumptions and previous research findings.

The practical contributions of this PhD work include offering systematic, longitudinal, and scientific evidence into the process of the care farm intervention delivery and identification of the active mechanisms within it that facilitated the various impact of the intervention for young people with BESDs. The findings of this study provide practitioners with an in-depth understanding of the evaluated green space intervention, which can be applied or adjusted to their own practice of care farming practices. This study identified that care farming includes animal assisted therapy, green

exercise, and social and therapeutic horticulture aspects of Bragg and Atkins' (2016) model, and suggest this to be reflected in their work (see Figure 11). As it can be seen in Figure 1 (Chapter 2) their model did not connect these elements. Therefore, a revision of the current Green Care Model (Figure 1) (Bragg & Atkins, 2016 Adapted from Hine et al., 2008; Bragg et al., 2013, Bragg 2014) is recommended to recognise the significant connections between treatment options because it strengthens the variety of purposeful activities that care farming can and does provide.

Figure 11: The range of nature-based interventions in the green care sector
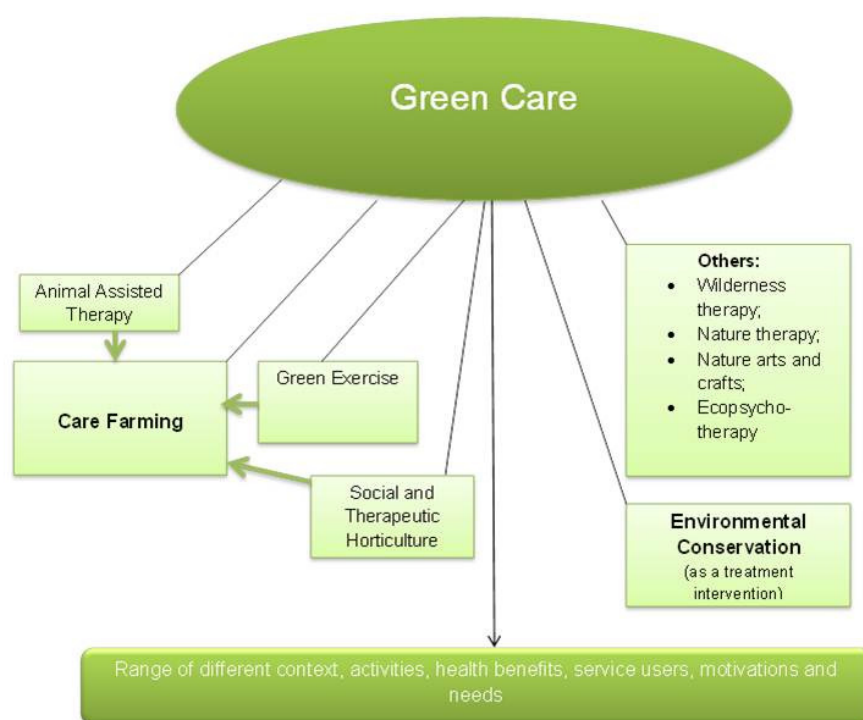
(Adapted from Hine et al., 2008; Bragg et al., 2013, Bragg 2014 Bragg & Atkins, 2016)

However, further research is needed to inform Government policies on how to create similar care farm interventions that can make a significant impact on disadvantaged young people's well-being and health. It is anticipated this pilot study will be the foundation to a follow-on study to assess the cost-effectiveness of care farms in improving the physical, mental and social health of disadvantaged children with pre-NEET status. Although Bragg, et al (2016) have suggested that practitioners' awareness and interest towards care farms as a viable intervention for disadvantaged groups is slowly growing, this was not observed in the present study. The evaluation data showed that the referral process and agency support for young people wanting to attend this care farm

intervention is still very problematic. The findings of this study suggest that more awareness of such alternative green care interventions should be raised.

The evaluation confirmed that young people who attended this care farm successfully re-engaged with their social environments and were able to gain significant additional and vital sources of social support for their endeavours. This is a significant learning point for those setting up or considering setting up similar care farm interventions. It is critical to ensure that the focus would be on the farmer (and mentors) to be passionate, well trained, acceptant and emphatic to young people, which ensured the effective delivery of the intervention for the target population rather than being driven by financial incentives (Care Farming UK, 2016).

8.10 Key recommendations and future research

In this section, the key recommendations from the research for academics and policy makers are presented that will enable further developments within the green care and ecopsychology area of study.

Recommendations for academics

Academics who wish to influence practice would be advised to:

- Explore the impact of care farms for pre-NEET young people with BESDs on a national scale. This research provides a detailed evaluation of the multiple impact and structure of a care farm intervention in one rural location. The methodology used to evaluate both impact and structure in this PhD could be replicated in future studies. The needs of young people who are pre-NEET with BESDs need to be examined in more detail, which will ensure that similar care farm interventions will be developed specifically to meet the needs of this target population.
- Future research should consider expanding the findings of this pilot study by replicating the care farm intervention within other care farm settings for pre-NEET young people. This will allow researchers to consider:
    - If the intervention is transferrable and when implemented will it yield similar outcomes for young people with BESDs in the UK. Fidelity should be documented.
    - To systematically examine the impact of each component of the care farm intervention alone (e.g. physical environment, farmer's and staff attitude, animal interaction) on young people's self-actualisation and behaviour change process observed in this study.
- Any future research should be longitudinal in nature with at least a 5-year follow up built in to investigate the long-term effects and transferability of the care farm intervention's impact on physical, mental and social well-being of young people. Future research would benefit

from capturing more precisely the time-point(s) at which the behavioural, emotional and social changes become effective.

- Present findings from the research in a clear and concise manner (Bragg, 2016) that can be compared and contrasted with other green care research and disseminated to a wider population of people (Bragg, 2016), including other academics, practitioners and commissioners. Research findings that demonstrate care farming as a (cost) effective intervention for disadvantaged people needs to be disseminated better so the findings reach a wider audience. This will help to increase the number of referral sources, which needs to include GPs who can offer care farming on a social prescription (Bragg & Leck, 2017).

Recommendations for policy makers

Policy makers who wish to influence practice would be advised to:

- Give consideration to the complex and changing rural environments in the UK, and the benefits and challenges they provide for young people with BESDs when attempting to re-engage them with education. Developing a green care agenda will help to advance care farm interventions designed to engage these young people. It is argued here that policy makers need to recognise that policies need to be adjusted to suit populations living in rural environments (since policies developed for urban environments may be problematic to implement in rural contexts).

- Promote the use of green care and ecopsychology interventions to pre-NEET young people with BESDs. However, appropriate funding needs to be made available to support these interventions. For example, consider appropriate funding for transport and/or ensure improved and reliable public transport is available in rural areas. This will enable young people (and any other disadvantaged members of rural communities) to have autonomy and choice regarding green space access. Resolving access problems and barriers will also facilitate social inclusion and improve participation rates for health and well-being, such as visiting green and blue spaces. Funding would also help the agricultural community to remain viable while promoting and facilitating public interaction with the natural environment (Hine et al., 2008; Leck at al., 2014).

- The consequence of social and youth service budget cuts means the various agencies do not have adequate staff resources and the capacity to communicate with each other in order to provide a seamless and joined up service for children and young people (Department of Education, 2013). Disaffected young people are falling through the gaps left by a lack of co-ordinated care services, which has serious consequences on young people's life chances (Unison, 2016) in rural communities. Future governmental policies need to focus on providing integrated and coordinated educational and social services for

young people to ensure they are not 'lost' in the social system. Coordinated services would ensure that young people can access with ease the services they need to help reduce their risk of becoming NEET.

- Careers advice is currently managed by schools and has been criticised both in terms of the quality and quantity of guidance available to young people (Langley et al., 2014), especially those with BESDs and living in rural areas of the UK. Consideration should be given to changing the current management and structure of careers advice to ensure that every young person receives independent and on-going advice that supports them in identifying their skills and interests and helping them to secure appropriate education, employment or training post-16 years old.

8.11 Closing statement

The findings of this PhD work makes an original contribution to knowledge about the benefits of a care farm intervention by presenting data, which support it as a practical and purposeful alternative approach to traditional classroom-based learning. The researcher in this study gained a unique insight into how to work closely with young people with BESDs. More importantly, the researcher learnt that young people, who were mislabelled as 'bad' prior to the intervention and who were passed from one social service to another until they have reached sixteen years of age, have been able to initiate changes for positive self-actualisation. The researcher's relationship with these young people was positive and found that her personal experiences also reflected the findings of this PhD work, which is that young people when provided with the right environment and support they will become motivated individuals who want to better themselves. The provision of a care farm as an intervention helped to reduce the risks of becoming NEET in young people with BESDs. The use of a care farm for these individuals is not a solution for all the difficulties they experience, but the intervention impact was on the development of attachment and relationship building skills of the participants, with a particular focus of establishing supportive social relationships. This study's findings also demonstrated that the care farm intervention can reduce conduct problems and hyperactivity, increase the use of non-productive coping skills and satisfaction with school in addition to increases in social and personal functioning of participants, whilst providing the relevant foundations to re-engage with learning.

The findings of this research indicate that the difficulties endured by these young people when attempting to navigate into adulthood can be minimised through the evaluated care farm intervention. While the evidence base for care farm interventions still needs to increase, it is hoped that this research will contribute to a wider evidence base that supports these young people to uphold their rights to access education employment or training tailored to their needs in rural communities in the UK.

References

Achenbach, T. M. (1991a). Manual for the Child Behavior Checklist/4-18 and 1991 Profile. Burlington, VT: University of Vermont, Department of Psychiatry.

Achenbach, T. M. (1991b). *Manual for the Teacher's Report Form and 1991 Profile*. Burlington, VT: University of Vermont, Department of Psychiatry.

Achenbach, T. M. (1991c). *Manual for the Youth Self-Report and 1991 Profile*. Burlington, VT: University of Vermont, Department of Psychiatry.

Acton, J. & Carter, B. (2016). The Impact of Immersive Outdoor Activities in Local Woodlands on Young Carers Emotional Literacy and Well-Being. *Comprehensive Child and Adolescent Nursing*. pp. 1-3.

Ainsworth, M. D. S., & Bell, S. M. (1970). Attachment, exploration, and separation: Illustrated by the behavior of one-year-olds in a strange situation. *Child Development*, 41, 49-67.

Adler, A. (1927). *Understanding human nature*. New York: Greenburg.

Allderidge, P. H. (1991). A cat, surpassing in beauty, and other therapeutic animals. *Psychiatric Bulletin*, 15, 759-762.

Allen, M. (2014). *Local Action on Health Inequalities: Reducing the Number of Young People Not in Employment, Education or Training (NEET)* (Health Equity Evidence Review 3: September 2014). London: Public Health England [online]. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/356062/Review3_NEETs_health_inequalities.pdf. Accessed 23rd March, 2016.

Allen, K., Shykoff, B. E. & Izzo, J. L. (2001) Pet ownership, but not ACE inhibitor therapy, blunts home blood pressure responses to mental stress. *Hypertension*. 38:815– 820.

ALT The Education Union (2013). *Lack of transport blights lives of poor children in the countryside*. Available at: https://www.atl.org.uk/search/node/school%20transport%20in%20rural%20areas. Accessed 28th December 2016.

American Institute for Research. (2005). *Effects of Outdoor Education Programmes for Children in California.* Available at: http://www.seer.org/pages/research/AIROutdoorSchool2005.pdf. Accessed 28th February 2015.

Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology*, 84(3), 261-271.

Anderson, S. M., Chen, S., & Carter, C. (2000). Fundamental human needs: Making social cognition relevant. *Psychological Inquiry*, 11, 269–318.

Archer, J. (1997). "Why do people love their pets?" *Evolution and Human Behavior* 18(4): 237-259.

Athay, M.M., & Bickman, L. (2012). *Development and psychometric evaluation of the youth and caregiver Service Satisfaction Scale*. Administration and Policy in Mental Health and Mental Health Services Research.

Auerbach, C. F. (2007). *An Introduction to Qualitative Research Methods for Studying Trauma.* Available at: http://www.istss.org/source/stresspoints/index.cfm?fuseaction=Newsletter.showThisIssue&Issue_ID =73&Article_ID=1232. Accessed 20th March 2015.

Auzoult, L., Kubiszewski, V. & Hardy-Massard, (2016). Perseverance in the effort: A new standard of self-regulation associated to private self-consciousness. *Sandrine Swiss Journal of Psychology*, Vol 75(4), Oct, 182-187.

Axline, V. (1971). *Dibs In Search Of Self*. London: Penguin

Bailey, T., Eng, W. & Frisch, M. B. (2007). Hope and optimism as related to life satisfaction. *The Journal of Positive Psychology*, Vol 2(3), Jul 2007, 168-175.

Barnardo's. (2010). *Lost in transition: the urgent need to help young school leavers into employment.* Available at: http://www.barnardos.org.uk/lost_in_transition_mar_2010_update-2.pdf. Accessed 15 September 2015.

Bandura, A. (1982) Self-Efficacy Mechanism in Human Agency. *American Psychologist*, 37 (2): 122-147.

Bandura, A. (1997). Self-efficacy and health behaviour. In A. Baum, S. Newman, J. Wienman, R. West, & C. McManus (Eds.*), Cambridge handbook of psychology, health and medicine* (pp. 160-162). Cambridge: Cambridge University Press.

Bandura, A., (2001). Self-efficacy and health. In N. J. Smelser & P. B. Baltes (Eds.*), International encyclopaedia of the social and behavioural sciences* (Vol. 20, pp. 13815-13820). Oxford: Elsevier Science.

Barron, R.G., Castilla, I.M., Casullo, M.M., & Verdu, J.B. (2002). Relationship between coping strategies and psychological wellbeing in adolescents. *Psicothema-Oviedo*, 14(2), 363- 368.

Barton, J., Wood, C., Pretty, J. & Rogerson., M. (2016). Green exercise for health: a dose of naure. In Barton, J., Bragg, R., Wood., C. and Pretty, J. (Eds), *Green Exercise Linking Nature, Health and Well-being* (pp. 53-68). New York, America: Routledge.

Baumeister, R.F. and M.R. Leary, (1995) The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychol Bull*. 117(3): p. 497-529.

Bauwens, A. (2010). The use of the triangulation method in probation research. *European Journal of Probation*, 2, 39-52.

BBC News. (2016). *Ofsted warns on poor vocational choices*. Available at: http://www.bbc.co.uk/news/education-35343671. Accessed 5th January 2017.

Beck, A.T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961) An inventory for measuring depression. *Archives of General Psychiatry*, 4, 561-571.

Beck & Katcher. (1996). *Between Pets and People*. USA: Purdue University Press.

Beck, A. T., & Steer, R. A. (1987). *Manual for the revised Beck Depression Inventory*. San Antonio, TX: Psychological Corporation.

Becker, S. & Bryman, A. (2004). *Understanding Research for Social Policy and Practice: Themes, Methods and Approaches*, The Policy Press and Social Policy Association, Bristol.

Bedell, G. (2016). *Teenage mental-health crisis: Rates of depression have soared in past 25 years.* Available at: http://www.independent.co.uk/life-style/health-and-families/features/teenage-mental-health-crisis-rates-of-depression-have-soared-in-the-past-25-years-a6894676.html. Accessed 28th December 2016.

Begley, M., & Quayle, E. (2007). *The lived experience of adults bereaved by suicide: A phenomenological study.* Crisis, 28, 26-34.

Beilock, S. L., & Willingham, D. T. (2014). *Ask the Cognitive Scientist. American Educator.* Available at: https://hpl.uch-iago.edu/sites/hpl.uchicago.edu/files/uploads/American%20Educator,%202014.pdf. Accessed 15th February 2015.

Bell, A. C. & Dyment, J. E. 2006. *Grounds for Action: Promoting Physical Activity through School Ground Greening in Canada*, Toronto, Ontario: Evergreen.

Belza, B., Toobert, D. J., & Glasgow, R. E. (2007). 'Re-Aim for Programme Planning: Overview and Applications'. *Center for Healthy Aging Issue Brief*. Center for Healthy Aging,

Berger, R. and McLeod, J. (2006) Incorporating Nature into Therapy: A Framework for Practice. *Journal of Systemic Therapies*, 25 (2): 80-94.

Bergman, M. M. (2008). *Advances in mixed methods research: Theories and applications.* Thousand Oaks, CA: SAGE.

Berk, L.E. (2000). *Child Development*. 5th ed. Massachusetts: Ally and Bacon.

Berridge, D., Brodie, I., Pitts, J., Porteous D. & Tarling, R., (2001). *The Independent Effects of Permanent Exclusion from School on the Offending Careers of Young People* (RDS Occasional Paper No 71). Research, Development and Statistics Directorate.

Besculides, M., Zaveri, H., Farris, R., & Will, J. (2006). Identifying best practices for WISEWOMAN programmes using a mixed-methods evaluation. *Preventing Chronic Disease*, 3(1), A07.

Betts, J., Watson, S. & Gaynor, C. (2005). Department for International Development: *DFID Global Social Exclusion Stocktake Report.* Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/67708/annxs-glob-soc-excl-stcktke-rpt.pdf. Accessed 18th July 2014.

Bickman, L., Cathay, M.M., Riemer, M., Lambert, E.W., Kelley, S.D., Breda, C., Tempesti, T., Dew-Reeves, S.E., Brannan, A.M. & Vides de Andrade, A.R. (2010). *Manual of the Peabody Treatment Progress Battery*, 2nd ed. Nashville, TN: Vanderbilt University.

Bingley A & Milligan C., (2004). *Climbing Trees and Building Dens: Mental health and well-being in young adults and the long-term effects of childhood play experience.* Institute for Health Research, Lancaster University, Lancaster.

Black, A. E., & Deci, E. L. (2000). *The effects of instructors' autonomy support and students' autonomous motivation on learning organic chemistry: A self-determination theory perspective.* Science Education, 84, 740–756.

Blaikie, N. (2007). *Approaches to Social Enquiry* (2nd edn). Cambridge: Polity.

Bird, W. (2007). *Natural thinking: investigating the links between the natural environment, biodiversity and mental health.* Report for the Royal Society for the Protection of Birds (RSPB). Available at: http://www.rspb.org.uk/Images/naturalthinking_tcm9-161856.pdf. Accessed 15th September 2015.

Boekaerts, M. (1993). Being concerned with well-being and with learning. *Educational Psychologist, 28*, 149-167.

Borgers, N., de Leeuw, E., & Hox, J. J. (2000). Children as respondents in survey research: cognitive development and response quality. *Bulletin de Methodologie Sociologique* (BMS), 66, 60-75.

Bouchard, T. J. (1976). "Unobtrusive measures: An inventory of uses." *Sociological Methods and Research,* 4:267-300.

Bowlby, J. (1969). *Attachment. Attachment and loss*: Vol. 1. Loss. New York: Basic Books.

Bowlby, J. (1973). *Separation: anxiety and anger,* vol. 2 of Attachment and loss. London: Hogarth Press.

Bowlby, J. (1980). *Loss: sadness and depression*, vol. 3 of Attachment and loss. London: Hogarth Press.

Bowlby, J. & Ainsworth, M. (1965). *Child Care and the Growth of Love*, 2nd Ed., Penguin Books: Harmondsworth.

Bowler. D., Buyung-Ali, L., Knight, T, & Pullin, A. (2010). A systematic review of evidence for the added benefits to health of exposure to natural environments. *BMC Public Health* 10:456.

Braastad, B., and Bjornsen, B. (2006). *Proposal: COST Action 866: Green Care in Agriculture. Technical Annex EU Framework Programme,* European Science Foundation.

Bragg, R., Wood, C., Barton, J. & Pretty, J. (2013a). *Measuring connection to nature in children aged 8-12: A robust methodology for the RSPB* A short report for RSPB. Available at: https://www.rspb.org.uk/Images/methodology-report_tcm9-354606.pdf. Accessed 28th December 2016.

Bragg, R., Wood, C. & Barton, J., (2013b). *Ecominds: Effects on Mental Wellbeing*. London: Mind

Bragg R (2014). *Nature-based interventions for mental wellbeing and sustainable behaviour: the potential for green care in the UK.* A thesis submitted for the degree of Doctor of Philosophy in Environmental Sciences.

Bragg, R., Egginton-Metters, I., Elsey, H. and Wood, C. (2014). *Care farming: Defining the 'offer' in England*. Natural England Commissioned Reports, Number 155.

Bragg, R., Egginton-Metters, I., Leck, C. & Wood, C. (2015). *Expanding delivery of care farming services to health and social care commissioners.* Natural England Commissioned Reports, Number194.

Bragg, R. and Atkins, G. (2016). *A review of nature-based interventions for mental health care.* Natural England Commissioned Reports, Number 204.

Bragg, R. (2016). Care Farming UK Conference 2016. *Green care for health and wellbeing.* Available at: http://www.trellisscotland.org.uk/files/research/greencaretrellisconf2016.pdf. Accessed 28th December 2016.

Bragg, R. & Leck, C. (2017). *Good practice in social prescribing for mental health: The role of nature-based interventions.* Natural England Commissioned Reports, Number 228. York.

Brannen, J., (2003). Towards a typology of intergenerational relations: continuities and change in families. *Sociological Research Online, 8, 2.*

Bratman, G. N., Hamilton, J. P., & Daily, G. C. (2012). The impacts of nature experience on human cognitive function and mental health. *Annals of the New York Academy of Sciences,* 1249, pp.118-136.

Braun, C., Stangler, T., Narveson, J. & Pettingell, S. (2009). Animal-assisted therapy as a pain relief intervention for children. *Complementary Therapies in Clinical Practice,* 15(2), 105-109.

Bridgeland, M. (1971). Pioneer work with maladjusted children, London: Staples Press.

Bruni, C., & Schultz, P. W. (2010). Implicit beliefs about self and nature: Evidence from an IAT game. *Journal of Environmental Psychology*, 30, 95-102.

Britton, J., Gregg, P., Macmillan., L. and Mitchell, S. (2011) The Early Bird. *Preventing Young People from becoming a NEET statistic.* Department of Economics and CMPO, University of Bristol. Available at: http://www.bristol.ac.uk/media-library/sites/cmpo/migrated/documents/earlybirdcmpo.pdf. Accessed 27th December 2016.

British Medical Journal., (2015). *Longitudinal studies.* Available at: http://www.bmj.com/about-bmj/resources-readers/publications/epidemiology-uninitiated/7-longitudinal-studies. Accessed 10th September 2015.

Brodsky, A.E. (1996). Resilient single mothers in risky neighborhoods: Negative psychological sense of community. *Journal of Community Psychology*, 24, 347-363.

Bruni, L. & Porta, P. L. (Eds.). (2007). *Handbook on the economics of happiness.* Cheltenham: Edward Elgar.

Bryman, A. (1988). *Quantity and Quality in Social Research*. New York: Routledge.

Bryman A. *Integrating Quantitative and Qualitative Research: How Is It Done?* Qualitative Research. 2006;6:97–113.

Bryman, A. (2008), *"The end of the paradigm wars?"*, in Alasuutari, P., Bickman, L. & Brannen, J. (Eds), The SAGE Handbook of Social Research Methods, Sage, London, pp. 13-25.

Butler and Green. (1998). *The Child Within*, Oxford: Butterworth Heinemann.

Burdette, H. L., & Whitaker, R. C. (2005). Resurrecting free play in young children. *Archive of Pediatric and Adolescent Medicine*, 159, 46-50.

Byng-Hall, J. (2008). The crucial roles of attachment in family therapy. *Journal of Family Therapy.* Volume 30, Issue 2, pp. 129–146.

Bynner, J. (2012). Policy Reflections Guided by Longitudinal Study, Youth Training, Social Exclusion, and More Recently Neet. *British Journal of Educational Studies,* 60, 1, 39-52.

Cabinet Office: Exclusion Task Force. (2012). *Families at risk: Background on families with multiple disadvantages.* Available at: http://webarchive.nationalarchives.gov.uk/20100416132449/http:/www.cabinetoffice.gov.uk/media/cabinetoffice/social_exclusion_task_force/assets/families_at%20_risk/risk_data.pdf. Accessed 3rd January 2017.

Cameron & Moss (2011) *Social Pedagogy and Working with Children and Young People: Where Care and Education Meet*, London: Jessica Kingsley.

Camfield, L, Streuli, N. & Woodhead, M. (2009). What's the use of 'well-being' in contexts of child poverty? Approaches to research, monitoring and children's participation. *International Journal of Children's Rights* 17 pp. 65-109.

Cantor N. & Sanderson C.A. (1999) 'Life task participation and well-being: The importance of taking part in daily life' in Kahneman D, Diener E and Schwarz N (eds) *Well-Being The Foundations of Hedonic Psychology* (New York: Russell Sage Foundation)

Capaldi C. A., Dopko R. L. & Zelenski J. M. (2014). The relationship between nature connectedness and happiness: a meta-analysis. *Frontiers in Psychology*, 5.

Care Farming UK. (2015) Available at: http://www.carefarminguk.org/. Accessed 7th May 2015.

Care Farming UK. (2016) *Care Farming in the UK and Ireland: State of Play 2015.* Available at: http://www.carefarminguk.org/sites/carefarminguk.org/files/web%20admin/Care%20farming%20in%20UK%20and%20Ireland%20-%20State%20of%20Play%202015%20-%20CFUK%20Final%20February%202016%202.pdf. Accessed 27th December 2016.

Carlson, V., Cicchetti, D., Barnett, D., & Braunwald, K. (1989). Disorganized/Disoriented Attachment Relationships in Maltreated Infants. *Developmental Psychology*, 25(4), 525-531.

Carpenter, H., Papps, I., Bragg, J., Dyson, A., Harris, D., Kerr, K., Todd, L. and Laing, K., (2013). *Evaluation of Pupil Premium Research Report* July 2013. Department for Education. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/243919/DFE-RR282.pdf. Accessed 8th September 2015.

Carruthers, C. & Hood, C., (2004). The power of the positive: Leisure and well-being. *Therapeutic Recreation Journal*: Special Issue on Health and Health Promotion, 38, 225-245.

Carter, S.M. & Little, M. (2007). Justifying knowledge, justifying method, taking action: epistemologies, methodologies and methods in qualitative research. *Qualitative Health Research*; 17(10).

Carter, E. W., Lane, K. L., Crnobori, M., Bruhn, A. L. & Oakes, W. P. (2011). Self-Determination Interventions for Students with and at Risk for Emotional and Behavioural Disorders: Mapping the Knowledge Base. *Behavioural Disorders*, 36 (2), 100-116.

Cartwright, T. & Torr, R. (2005). "Making Sense Of Illness: The Experiences Of Users Of Complementary Medicine". *Journal of Health Psychology* 10.4: 559-572.

Casciotti, D. & Zuckerman, D. (2016). *The benefits of pets for human health*. The National Center for Health Research. Available at: http://center4research.org/healthy-living-prevention/pets-and-health-the-impact-of-companion-animals/#wsa-endnote-10. Accessed 28th December 2016.

Cathey, M.M., Kelley, S.D., & Dew-Reeves, S.E. (2012). Brief multidimensional students' life satisfaction scale – ptpb version (BMSLSS-PTPB): psychometric properties and relationship with mental health symptom severity over time. *Mental Health*, 39, 30-40.

Cervinka, R., Roderer K., & Hefler, E. (2012). Are nature lovers happy? On various indicators of well-being and connectedness to nature. *Journal of Health Psychology 17*(3), 379-388.

Chadderton, C. & Colley, H. (2012) School-to-work transition services: marginalising 'disposable' youth in a state of exception? Discourse: *Studies in the Cultural Politics of Education*, 33, 3, 329-343.

Chandler, C. (2005) *Animal Assisted Therapy in Counselling*. New York and Hove: Routledge.

Chapman, E. & Smith, J.A. (2002) Interpretative phenomenological analysis and the new genetics. *Journal of Health Psychology*, 7, 125-130.

Charles, C., & Wheeler, K. (2012). *Children & Nature Worldwide: An Exploration of Children's Experiences of the Outdoors and Nature with Associated Risks and Benefits*. Children and Nature

Cheng, J.C. & M.C. Monroe. (2010). *Connection to nature: Children's affective attitude toward nature.* Environment & Behavior. Network and the IUCN's Commission on Education and Communication.

Chow, W. S. & Priebe, S. (2013). Understanding psychiatric institutionalization: a conceptual review. *BMC Psychiatry*. 2013; 13: 169.

Choudhary, G. B. (2014). *Adolescence education*. PHI Learning: New Deli.

Chur-Hansen A, Stern C, Winefield H. (2010). Gaps in the evidence about companion animals and human health: some suggestions for progress. *International Journal Evidence Based Healthcare* 8: 140–146.

Cicchetti, D., & Barnett, D. (1991). Attachment organization in maltreated preschoolers. *Development and Psychopathology*, 3, 397-411.

Clayton, S., & Opotow, S. (2003). Introduction: Identity and the natural environment. In S. Clayton & S. Opotow (Eds.), *Identity and the natural environment: The psychological significance of nature* (pp. 1–24). Cambridge, MA: MIT Press.

Cloke, P., Marsden, T., & Mooney, P. (Eds.). (2006). *Handbook of rural studies.* London: Sage Publications Ltd.

Clough, P. & Nutbrown, C. with Atherton, F. (2013). (2nd edition). *Inclusion in the Early Years*. London, United Kingdom: Sage.

Coe, R., Aloisi, C., Higgins, S & Major, L.E. (2014). *What makes great teaching?* Review of the underpinning research. Available at: http://www.suttontrust.com/wp-content/uploads/2014/10/What-Makes-Great-Teaching-REPORT.pdf. Accessed 28th December 2016.

Cogan, N., & Schwannauer, M. (2011). Understanding adolescent risk-taking behaviour: Exploring the motivations, personalities and coping styles of young people in a school- based population. In Series on *Stress and Coping in Education, Personality and Coping* (pp. 91-110). Greenwich, CT: Information Age Publishing.

Cohen, J. W. (1988). *Statistical power analysis for the Behavioural Sciences* (2nd ed.). Hillsdale, New Jersey: Lawrence Erlbaum Associates.

Cohen, S., Underwood, L. G. & Gottlieb, B.H. (2000). *Social support measurements and nterventions, A guide for health and social scientists.* New York: Oxford university press.

Cole, T. (1989) *Apart or a Part ?: Integration and the Growth of British Special Education* Maidenhead: Open University Press.

Cole, T. (2015). *Mental Health Difficulties and Children at Risk of Exclusion from Schools in England: A review from an educational perspective of policy, practice and research, 1997 to 2015.* Available at: http://www.education.ox.ac.uk/wordpress/wp-content/uploads/2015/02/MENTAL-HEALTH-AND-EXCLUSION-FINAL-DIGITAL-13-06-15.pdf. Accessed 28th December 2016.

Cole, T & Knowles, B. (2011). *How to Help Children and Young People with Complex Behavioural Difficulties*, London, Jessica Kingsley Publishers.

Collins, K. M. T., Onwuegbuzie, A. J. & Jiao, Q. G., (2007). A Mixed Methods Investigation of Mixed Methods Sampling Designs in Social and Health Science Research. *Journal of Mixed Methods Research*, 1 (3), 267-294.

Compas, B. E., & Boyer, M. C. (2001). Coping and attention: Implications for children's health and pediatric conditions. *Journal of Developmental and Behavioral Pediatrics*, 22, 1-11.

Connell, J. P., & Wellborn, J. G. (1991). Competence, autonomy, and relatedness: A motivational analysis of self-system processes. The Minnesota Symposia on Child Development: *Self-Processes and Development*, 23, 43-77.

Connelly, R., Sullivan, A., & Jerrim, J. (2014). *Primary and secondary education and poverty review*. Joseph Rowntree Foundation.

Conners CK. (2001) Development of the CRS-R. In: Conners CK, (ed). *Conners' Rating Scales-Revised*. North Tonawanda, NY: Multi-Health Systems. 83-98.

Conroy, M. A., Davis, C. A., Fox, J. J., & Brown, W. H. (2002). *Functional assessment of behaviour and effective supports for young children with challenging behaviours*. Assessment for Effective Intervention, 27 (4), 35–47.

Cooper, P. Smith, C. and Upton, G. (1994) *Emotional and Behavioural Difficulties: Theory to Practice*. London: Routledge.

Copps, J., Keen, S. 2009 *Getting Back on Track: Helping Young People Not in Education, employment or Training in England*, New Philanthropy Capital, London.

Creswell, J. W. (2013). *Qualitative Inquiry and Research Design Choosing Among Five Approaches* (3rd ed., p. 472). Los Angeles, CA: SAGE Publications.

Creswell, J. W., & Miller, D. L. (2000). *Determining validity in qualitative inquiry. Theory into Practice,* 39, 124–134.

Creswell, J.W., Fetters, M., & Ivankova, N.V. (2004). Designing a mixed methods study in primary care. *Annals of Family Medicine* 2 (1), 7-12.

Creswell, J. W., & Clark, V. L. P. (2007). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage Publications, Inc.

Creswell JW & Plano Clark VL. (2011). *Designing and Conducting Mixed Methods Research*. Thousand Oaks, CA: Sage Publications, Inc.

Crosby, G., & Lippert, T. K. (2017). *Transforming ADHD: Simple, Effective Attention and Action Regulation Skills to Help You Focus and Succeed*. New Harbinger Publications.

Crow, G & Allen, G. (1994). *Community life: an introduction to local social relations*, New York, USA, Harvester-Wheatsheaf.

Crow, G (2004): Social networks and social exclusion: an overview of the debate, in Phillipson, C, Allan, G and Morgan, D (eds.): *Social Networks and Social Exclusion: Sociological and Policy Perspectives* (Aldershot) Ashgate, pp 7-19.

Cuaresma, J. (2008)." *Learning style preferences and academic performance of PHEM majors at the University of the Cordilleras*," Unpublished Undergraduate Thesis. University of the Cordilleras, Baguio City,

Cunningham, P. (2005). "*If they don't read much, how they ever gonna get good*?" The Reading Teacher, 59 (1), 9-11.

Currie. C., Zanotti. C. & Morgan, A. (2012). *Social determinants of health and well-being among young people. Health Behaviour in school-aged children (HBSC) study: international report from the 2009/10 survey.* Copenhagen: EHO Regional office for Europe; Health Policy for Children and Adolescents, No.6.

Daly, B. & Morton L.L. (2006). An Investigation Of Human-Animal Interactions And Empathy As Related To Pet Preference, Ownership, Attachment And Attitudes In Children, *Anthrazoos*, 19 (2) pp. 113-127.

Davis, S. (1998). Development of the profession of horticultural therapy. In S.P. Simson & M. C. Straus (Eds.), *Horticulture as therapy: principles and practice* (pp. 3-20). New York: CRC Press.

de Boer, B., Hamers, J.P.H., Beerens, H.C., Zwakhalen, S.M.G., Tan, F. E. S. & Verbeek. (2015). Living at the farm, innovative nursing home care for people with dementia – study protocol of an observational longitudinal study. *BMC Geriatrics*: 144.

de Bruin, S., Oosting, S., Anders-Slegers, M. and Schols, J. (2010) The concept of green care farms for older people with dementia: An integrative framework. *Dementia* 9(1) 79–128.

DeCharms, R., (1968) *Personal causation*. 1968, New York: Academic.

Deci, E. L. (1975). *Intrinsic motivation*. New York: Plenum.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior.* New York: Plenum.

Deci, E.L., & Ryan, R.M. (1985b). The general causality orientation scale: Self determination in personality. *Journal of Research in Personality*, 19, 109-134.

Deci, E. L., & Ryan, R. M. (1991). *A motivational approach to self: Integration in personality. Nebraska Symposium on Motivation: Perspectives on Motivation*, Lincoln, NE. , 38 237-288.

Deci, E.L., Vallerand, R.J., Pelletier, L.G., & Ryan, R.M. (1991). Motivation in education: The self-determination perspective. *The Educational Psychologist*, 26, 352-346.

Deci, E. L.; Eghrari, H.; Patrick, B. C. & Leone, D. R. (1994). Facilitating internalization: The self-determination theory perspective. *Journal of Personality*. 62: 119–142.

Deci, E. L., Koestelr, R., & Ryan, R. M. (1999). A nieta-anualytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin*, 125, 627-668.

Deci, E. & Ryan, R. (2000a) The "What" and "Why" of Goal Pursuits: Human Needs and the Self-Determination of Behavior. *Psychol Inquiry*, 11(4): p. 227–268.

Deci, E. L. & Vansteenkiste, M. (2004). "Self-determination theory and basic need satisfaction: Understanding human development in positive psychology". *Ricerche di Psicologia*. 27: pp. 17–34.

Deci, E., La Guardia, J. G., Moller, A.C., Scheiner, M. J. & Ryan, R. M. (2006) On the benefits of giving as well as receiving autonomy support: Mutuality in close friendships. *Personality and Social Psychology Bulletin*; 32(3):313-27.

Deci, E. & Ryan, R.M. (2008) Facilitating optimal motivation and psychological well-being cross life's domains. *Canadian Psychology* 49(1):14-23.

Deci, E., & Ryan, R. (2009). Self-determination theory: A consideration of human motivation universals. In P. J. Corr & G. Matthews (Eds.), *The Cambridge handbook of personality psychology* (pp. 441–456). New York, NY: Cambridge University Press.

Deci, E., & Ryan, R. (2014). *Autonomy and Need Satisfaction in Close Relationships: Relationships Motivation Theory.* Human Motivation and Interpersonal Relationships, pp.53-73

DEFRA. (2011). *The natural choice: securing the value of nature.* Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/228842/8082.pdf. Accessed 28th December 2016.

de Leeuw, E. D. (2011). *Improving Data Quality when Surveying Children and Adolescents: Cognitive and Social Development and its Role in Questionnaire Construction and Pretesting.* Available at: http://www.aka.fi/globalassets/awanhat/documents/tiedostot/lapset/presentations-of-the-annual-seminar-10-12-may-2011/surveying-children-and-adolescents_de-leeuw.pdf. Accessed 28th February 2014.

Department for Business Innovation & Skills. (2013). *Motivation and Barriers to Learning for Young People not in Education, Employment or Training.* Available at:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/70141/bis-13-548-motivation-and-barriers-to-learning-for-young-people-not-in-education-employment-or-training.pdf. Accessed 18th February 2014.

Department for Children, Schools and Families (DCSF), (2008) *The Education of Children and Young People with Behavioural Emotional and Social Difficulties as a Special Educational Need.* London: DCSF

Department for Children, Schools and Families (DCSF), (2010) *Inclusion Development Programme: Supporting children with Behavioural, Emotional and Social Difficulties*: London: DCSF

Department for Education. (1994). *Special Educational Needs: A Code of Practice*, London: HMSO.

Department for Education (2003) *Every Child Matters*, London: HMSO.

Department for Education. (2012). *Pupils behaviour in Schools in England. Education Standards Analysis and Research Division*. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/184078/DFE-RR218.pdf. Accessed 11th September 2015.

Department for Education. (2012). *Improving Alternative Provision.* Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/180581/DFE-00035-2012.pdf. Accessed 11th September 2015.

Department for Education (2013, updated March 2015). *NEET Data by Local Authority* [online]. Available at: https://www.gov.uk/government/publications/neet-data-by-local-authority-2012-16-to-18-year-olds-not-in-education-employment-or-training. Accessed 25th April 2016.

Department for Education. (2015). *Government policy: children outside mainstream education.* Available at: https://www.gov.uk/government/publications/2010-to-2015-government-policy-children-outside-mainstream-education/2010-to-2015-government-policy-children-outside-mainstream-education. Accessed 25th April 2016.

Department for Education (2016). *Mental health and behaviour in schools: Departmental advice for school staff.* Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/508847/Mental_Health_and_Behaviour_-_advice_for_Schools_160316.pdf. Accessed 28th December 2016.

Department for Education. (2016). *Permanente and Fixed Period Exclusions in England 2014 to 2015.* Available at: https://www.gov.uk/government/statistics/permanent-and-fixed-period-exclusions-in-england-2014-to-2015. Accessed: 3rd January 2017.

Department for Education. (2016). *Educational Excellence Everywhere*. Available at: https://www.gov.uk/government/publications/educational-excellence-everywhere. Accessed 3rd January 2017.

Department for Education. (2016). *A guide to new alternative provision free school revenue funding 2016 to 2017.* Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/516064/Alternative_provision_free_school_revenue_funding.pdf. Accessed 28th December 2016.

Department for Education. (2016). *Single Department Plan: 2015 to 2020.* Available at: https://www.gov.uk/government/publications/department-for-education-single-departmental-plan-2015-to-2020. Accessed 15th September 2016.

Department for Education and Employment. (2010). *What works re-engaging young people who are not in education, employment or training (NEET)? Summary of evidence from the activity agreement pilots and the entry to learning pilots.* Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/182022/DFE-RR065.pdf. Accessed 28th February 2014.

Department for Education and Skills (2001). *Special Educational Needs Code of Practice*. Available at: http://www.teachernet.gov.uk/_doc/3724/SENCodeOfPractice.pdf Retrieved on 20/6/2009. Accessed 28th February 2014.

Department for Education and Skills. (2006) *Learning outside the classroom manifesto*. Available at: http://www.thegrowingschoolsgarden.org.uk/downloads/lotc-manifesto.pdf. Accessed 28th February 2014.

Department for Education and Skills. (2007). *Policy review of children and young people*. Available at: http://dera.ioe.ac.uk/6553/1/cyp_policyreview090107.pdf. Accessed 28th February 2016.

Department for Education. (2012). *Barriers and facilitators to pro-social behaviour among young people.* Available at: https://www.gov.uk/government/publications/barriers-and-facilitators-to-pro-social-behaviour-among-young-people-a-review-of-existing-evidence. Accessed 25 January 2016.

Department of Health (2005). *Mental Capacity Act*. London, HMSO.

Dessein, J. (Ed.). (2008). *Farming for health. Proceedings of the community of practice farming for health,* 6-9 November 2007. Merelbeke: ILVO.

Dessein, J., Bock, B. B., & de Krom, M. P. (2013). Investigating the limits of multifunctional agriculture as the dominant frame for Green Care in agriculture in Flanders and the Netherlands. *Journal of Rural Studies*, 32, 50-59.

Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin,* 125, 276-302.

Diener, E., & Seligman, M. (2002). Very happy people. *Psychological Science*, 13(1), 81-84.

Dietz. T., Rosa. E. A. & York. R. (2012). Environmentally efficient well-being: is there a Kuznets curve? *Journal Applied Georophy.* 32 21–8.

Di Iacovo, F., & O'Connor, D. (Eds.). (2009). *Supporting policies for social farming in Europe: progressing multifunctionality in responsive rural areas.* Florence: Arsia. Available at: http://sofar.unipi.it/index_file/arsia_So.Far-EU_def.pdf. Accessed 28th November 2014.

Dillon, J. & Dickie, I. (2012). *Learning in the Natural Environment: Review of social and economic benefits and barriers,* Natural England Commissioned Reports, Number 092

Dodge, R., Daly, A., Huyton, J., & Sanders, L. (2012). The challenge of defining wellbeing *International Journal of Wellbeing*, 2 (3), 222-235.

Dolan, P., Layard, R., & Metcalfe, R. (2011). *Measuring subjective well-being for public policy: recommendations on measures.* Office for National Statistics. Available at: http://cep.lse.ac.uk/pubs/download/special/cepsp23.pdf. Accessed 25th September 2015.

Dufour, M. H., Nadeau, L., & Bertrand, K. (2000). Factors in the resilience of victims of sexual abuse: An update. *Child Abuse and Neglect*, 24, 781–797.

DuBois D. L., Portillo, N., Rhodes, J.E., Silverthorn, N. & Valentine, J.C. (2011) How Effective Are Mentoring Programmes for Youth? A Systematic Assessment of the Evidence. *Psychological Science in the Public Interest*, 12, 2, 57–91.

Duncan, E. A. S. & Nicol, M. M. (2004). Subtle realism and occupational therapy: An alternative approach to knowledge generation and evaluation. *British Journal of Occupational Therapy*, 67, 453-456.

Dunn, E. W., Aknin, L. B. & Norton, M. I.(2008). *"Prosocial Spending and Happiness: Using Money to Benefit Others Pays Off."* Current Directions in Psychological Science. Available at: http://www.people.hbs.edu/mnorton/dunn%20aknin%20norton.pdf. Accessed 26 January 2015.

Dweck, C. S. (1986) *Motivational processes affecting learning. American Psychologist*, 41, 1040-1048.

Dwyer, K., Osher, D., & Warger, C. (1998). *Early warning, timely response: A guide to safe schools*. Wasington DC: US Department of education.

Eatough, V. & Smith, J.A. (2006). I feel like a scrambled egg in my head: An idiographic case study of meaning making and anger using interpretative phenomenological analysis. *Psychology and Psychotherapy: Theory, Research and Practice*, 79, 115–135.

Eisenberg, N., & Mussen, P. H. (1989). *The roots of prosocial behavior in children*. New York: Cambridge University Press.

Elias, M. J., Parker, S. J., Kash, M., Weissberg, R. P. & O'Brien, M. U. (2005). *Social and Emotional Learning, Moral Education, and Character Education: A Comparative Analysis and a View Toward Convergence.* Available at: https://www3.nd.edu/~dnarvaez/documents/Elias.pdf. Accessed: 28th December 2016.

Elings, M. (2012) *Effects of Care Farms: Scientific research on the benefits of care farms to clients*, Task Force Multifunctional Agriculture, Plant Research International, Trimbos Institute and Practikon/Radboud University. Wageningen UR.

Elings, M., & Hassink, J. (2008). Green care farms, a safe community between illness or addiction and the wider society. *Therapeutic Communities*, 29(3), 310-322.

Ellingsen-Dalskaua, L. H., Morkenb, M., Bergetb, B & Pedersena, I. (2014). Autonomy support and need satisfaction in prevocational programmes on care farms: The self-determination theory perspective. *Work* 53 (2016) 73–85

Ellingsen-Dalskau, L. H., Berget, B., Pedersen, I., Tellnes, G. & Ihlebæk, C. (2016). Understanding how prevocational training on care farms can lead to functioning, motivation and well-being. *Disability and Rehabilitation* Vol. 38 , Issue. 25.

England and Wales. Statutes (2012). *Education Act 2011*. Chapter 21. London: The Stationery Office.

Entin, E. (2011). *All Work and No Play: Why Your Kids Are More Anxious, Depressed*. Available at: http://www.theatlantic.com/health/archive/2011/10/all-work-and-no-play-why-your-kids-are-more-anxious-depressed/246422/. Accessed 25th July 2014.

Erikson, E. H. (1950). *Childhood and Society*. New York: Norton.

Ernst, J. & Theimer, S. (2011). *Evaluating the effects of environmental education programmeming on connectedness to nature*. Environmental Education Research.

European Centre for the Development of Vocational Training., (2010). *Guiding At-Risk Youth Learning to Work: Lessons from Across Europe* (Research Paper No. 3). Luxemburg: CEDEFOP; 2010. OpenURL.

Evans, J., Meyer, D., Pinney, D. & Robinson B., (2009). *Second Chances: Reengaging Young People in Education and Training.* Barnardos: Barkingside; OpenURL.

Evan, J., (2010). *Not present and not correct: Understanding and preventing school exclusion. Believe in children.* Barnardo's. Available at: http://www.barnardos.org.uk/not_present_and_not_correct.pdf. Accessed 30th December 2016.

Faber Taylor, A.F. & Kuo, F.E. (2008) 'Children with attention deficits concentrate better after a walk in the park', *Journal of Attention Disorders*, Vol 12, pp. 402-409.

Fakhourya, W & Priebe, S (2007). "Deinstitutionalization and reinstitutionalization: major changes in the provision of mental healthcare". *Psychiatry*. 6 (8): 313–316.

Farrall, S. and Calverley, A. (2006) *Understanding Desistance from Crime: Emerging Theoretical Directions in Resettlement and Rehabilitation.* Maidenhead: Open University Press.

Fattore, T., Mason, J. & Watson, E. (2017). *Self, Identity and Well-Being. Children's Understandings of Well-being* Volume 14 of the series Children's Well-Being: Indicators and Research pp 115-143.

Fawcett, N. R., & Gullone, E. (2001). Cute and cuddly and a whole lot more? A call for empirical investigation into the therapeutic benefits of human-animal interaction for children. *Behaviour Change*, 18, 124-133.

Fergusson, R. (2013): *Against disengagement: non-participation as an object of governance. Research in Post-Compulsory Education*, 18:1-2, 12-28.

Ferlie, E. Fitzgerald, L., McGivern, G., Dopson, S. and Bennett, C. (2011) 'Public Policy Networks and 'Wicked Problems': A Nascent Solution?', *Public Administration*, 89(2), pp. 307–324.

Fewings, J. (2016). *Brainboxx Learning Style Questionnaire.* Available at: http://www.brainboxx.co.uk/a3_aspects/pages/vak_quest.htm. Accessed 5th January 2016.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics.* Sage Publications Ltd.

Fiennes, C., Oliver, E., Dickson, K., Escobar, D., Romans, A. & Oliver, S. (2012). *The Existing Evidence Base about the Effectiveness of Outdoor Learning.* Available at: http://www.outdoor-learning.org/Portals/0/IOL%20Documents/Blagrave%20Report/outdoor-learning-giving-evidence-revised-final-report-nov-2015-etc-v21.pdf. Accessed 28th December 2015.

Fiese, B. H., & Wamboldt, F. S. (2003) Tales of pediatric asthma management: Family-based strategies related to medical adherence and health care utilization. *Journal of Pediatrics*. 2003;143(4):457–462.

Fiennes, C., Oliver, E., Dickson, K., Escobar, D., Romans, A., & Oliver, S. (2015) *The Existing Evidence-Base about the Effectiveness of Outdoor Learning.* Institute of Outdoor Learning.

Fine, A. H. (2010). *Handbook on Animal-Assisted Therapy: Foundations and Guidelines for Animal-Assisted Interventions.* Elsevier: London.

Finn, J. D. (1989). *Withdrawing from school.* Review of Educational Research, 59, 117-142.

Flintoff. A., & Scraton, S. (2010). Stepping into active leisure? Young women's perceptions of active lifestyles and their experiences of school physical education. *Sport Educucation Society* 6:5–21.

Fjeldavli, E. (2006). The lay beliefs about Farming for Health. In J. Hassink & M. van Dijk (Eds.), *Farming for Health: green-care farming across Europe and the United States of America* (pp. 73-90). Dordrecht: Springer.

Fjortoft, I. (2001). The natural environment as a playground for children: The impact of outdoor play activities in pre-primary school children. *Early childhood education journal*, 29(2), 111-117.

Friedmann, E. & Thomas, S. A. (1995). Pet ownership, social support and one year survival after acute myocardial infarction in the Cardiac Arrythmia Suppression Trial (CAST12). *American Journal of Cardiol.* 76:13–1217.

Freud, S., & Breuer. J. (1895). *Studies on hysteria.* In Standard edition (Vol. 2, pp. 1–335).

Frederickson, N. and Cline, T. (2009). *Special Educational Needs, Inclusion and Diversity: A Textbook.* Second Edition Buckingham: Open University Press.

Freiberger, V., Steinmayr, R., & Spinath, B. (2012). Competence beliefs and perceived ability evaluations: How do they contribute to intrinsic motivation achievement? *Learning and Individual Differences*, 22, 518-522.

Fromm, E. (1997). *On Being Human.* London: The Continuum International Publishing Group Ltd. p. 101

Frumkin, H. (2001). Beyond toxicity: human health and the natural environment. *American Journal of Preventive Medicine*, *20*(3), 234-240.

Frydenberg, E., & Lewis, R. (2009a). The relationship between problem-solving efficacy and coping amongst Australian adolescents. *British Journal of Guidance & Counselling*, 37(1), 51-64.

Frydenberg, E., & Lewis, R. (2009b). Relations among well-being, avoidant coping, and active coping in a large sample of Australian adolescents. *Psychological Reports*, 4(3), 745- 758.

Frydenberg, E., Care, E., Freeman, E., & Chan, E. (2009). Interrelationships between coping, school connectedness and wellbeing. *Australian Journal of Educational Research*, 53(3), 261-276.

Fuchs, M. (2005). Children and Adolescents as Respondents, Experiments on Question Order, Response Order, Scale effects and the Effect of Numeric Values Associated with Response Options. *Journal of Official Statistics* Vol. 21(4): 701-725.

Fuller, A., Belhouse, B. & Johnston, G. (2002). *The heart matters: A programme for the promotion of emotional intelligence and resilience for school children aged 12 to 14.* Bristol, UK: Lucky Duck.

Furnivall, J. (2011). *Attachment-informed practice with looked after children and young people.* Available at: https://www.iriss.org.uk/resources/insights/attachment-informed-practice-looked-after-children-young-people. Accessed 28th July 2014.

Future of Talent Institute. (2013). *What's the Difference Between Training, Education, Development and Learning?* Available at: http://futureoftalent.org/whats-difference-training-education-development-learning/. Accessed 28th December 2016.

Gailliot, M. T., Baumeister, R.F., DeWall, N.C., Maner, J. K., Plant, A. E. Tice, D. M., Brewer, L. E. & Schmeichel, B. J. (2007). Self-Control Relies on Glucose as a Limited Energy Source: Willpower Is More Than a Metaphor. *Journal of Personality and Social Psychology.* Vol. 92, No. 2, 325–336

Gallis, C. (2007). *Green Care in Agriculture: Health Effects, Economics and Policies.* University Studio Press.

Geddes, H. (2006) *Attachment in the Classroom*, London, UK: Worth Publishing.

George, H. (1988). Child Therapy And Animals. In C. Schaefer, (Eds). *Innovative Interventions in Child and Adolescent Therapy*, New York: Wiley.

Gentry, J. H. & Campbell, M. (2002). *A reference for professionals: developing adolescents.* American Psychological Association: Washington.

Gerlach-Spriggs, N., Kaufman, R., & Warner, Jr., S. (1998). *Restorative Gardens: The Healing Landscape.* New Haven, CT and London: Yale University Press.

Gilakjani, A., Ismail, N. & Gilakjani, P. (2012). Impact of teaching reading strategy on students` reading comprehension proficiency. *The international journal of language learning and applied linguistics world*, 23(1), 78-95.

Gill, T. (2011). *Children and Nature: a Quasi-systematic Review of the Empirical Evidence*, London: Sustainable Development Commission.

Gillet, N., Vallerand, R. J., & Lafreniere, M. A. (2012). Intrinsic and extrinsic school motivation as a function of age: The mediating role of autonomy support. *Social Psychology Education*, 15, 77-95.

Gilligan, T. (2000). Adversity, Resilience and Young People: The protective value of positive schools and spare time experiences. *Children and Society*, Vol 14, 37-47.

Gillison, F., Osborn, M., Standage., M. & Skevington, M. (2009). Exploring the experience of introjected regulation for exercise across gender in adolescence. *Psychology of Sport and Exercise* 10, 309–319.

Gilman, R., & Ashby, J. S. (2003). A first study of perfectionism and multidimensional life satisfaction among adolescents. *Journal of Early Adolescence*, 23, 218–235.

Giordano, P. C., Cernkovich, S. A. and Rudolph, J. L. (2002) 'Gender, Crime, and Desistance: Toward a Theory of Cognitive Transformation', *American Journal of Sociology,* 107(4), pp. 990-1064.

Glasgow, R. E., Vogt, T. M. & Boles, S. M. (1999). Evaluating the public health impact of health promotion interventions: The RE-AIM framework. *American Journal of Public Health*, 89(9), 1322-1327.

Glasgow, R.E. & Emmons, K. M. (2007). How can we increase translation of research into practice? Types of evidence needed. *Annual Review Public Health*. 2007;28:413-33.

Glasgow, R. E. (2013). What does it mean to be pragmatic? Pragmatic methods, measures, and models to facilitate research translation. *Health Education Behaviou*r ;40:257–265.

Goldman-Mellor, S., Caspi, A., Arseneault, L., Ajala, N., Ambler, A., Danese, A., Fisher, H., Hucker, A., Odgers, C., Williams, T., Wong, C. & Moffitt, T. E. (2015). Committed to work but vulnerable: Self-perceptions and mental health in the NEET 18-year olds from a contemporary British cohort. *Journal of Child Psychology and Psychiatry*, 57, 196-203.

Goldwyn, R., Stanley, C., Smith, V. & Green, J. (2000). The Manchester Child Attachment Story Task: relationship with parental AAI, SAT and child behaviour. *Attachment and Human Development*, 1, 71-84.

Goodenow, C. (1993a). The psychological sense of school membership among adolescents: Scale development and educational correlates. *Psychology in the Schools*, 30, 70-90.

Goodenow, C. (1993b). Classroom belonging among early adolescent students: Relationships to motivation and achievement. *Journal of Early Adolescence*, 13, 21-43.

Goodman R., (1997). The Strengths and Difficulties Questionnaire: A Research Note. *Journal of Child Psychology and Psychiatry*, 38, 581-586.

Goodman, R., Meltzer, H. & Bailey, V. (1998). The Strengths and Difficulties Questionnaire: A pilot study on the validity of the self-report version. *European Child and Adolescent Psychiatry*, 7, 125-130.

Goodman R (1999) The extended version of the Strengths and Difficulties Questionnaire as a guide to child psychiatric caseness and consequent burden. *Journal of Child Psychology and Psychiatry*, 40, 791-801.

Goodman R., Ford T. & Meltzer H., (2002). Mental health problems of children in the community: 18 month follow up. *British Medical Journal*, 324, 1496-7.

Gould, S. J. (1980) *The Panda's Thumb: More Reflections In Natural History*, London: WW Norton and Co.

Gould, D., & Carson, S. (2008). Life skills development through sport: current status and future directions. *International Review of Sport and Exercise Psychology*, 1, 58-78.

GOV.UK. (2016). *Children with special educational needs and disabilities (SEND)*. Available at: https://www.gov.uk/children-with-special-educational-needs/overview. Accessed 28th December 2016.

Green, J., & Goldwyn, R. (2002). Annotation: attachment disorganisation and psychopathology: new findings in attachment research and their potential implications for developmental psychopathology in childhood. *Journal of Child Psychology and Psychiatry*, 43, 835-846.

Green Care Coalition. (2015). Discussion from the Green Care Coalition Working Group. Personal communication: October 2015. In Barton, J., Bragg, R., Wood., C. and Pretty, J. (Eds), *Green Exercise Linking Nature, Health and Well-being* (pp. 100). New York, America: Routledge.

Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. Educational Evaluation and Policy Analysis, 11, 255-274.

Greene. J., Benjamic. I. & Goodyear, I. (2001). *The merits of mixing methods in evaluation. Evaluation* ;7(1):25–44.

Gross J J and John O P (2003) Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 85, 348-362.

Grind, B., & Patil, G. G. (2009). Biophilia: Does visual contact with nature impact on health and well-being? *International Journal of Environmental Research and Public Health,* 6(9), 2332-2343.

Grist M. & Cheetham P., (2011) *Experience Required: a Demos and v report on Capability Building and Work-readiness*. London: DEMOS; 2011. OpenURL

Grolnick, W. S. & Ryan, R. M. (1989). "Parent styles associated with children's self-regulation and competence in schools". *Journal of Educational Psychology*. 81: 143–154.

Gullone, E. (2000). The Biophilia Hypothesis and Life in the 21st Century: Increasing Mental Health or Increasing Pathology? *Journal of Happiness Studies*, Volume 1, Issue 3, pp 293–322

Gutherson, P., Davies, H. & Daszkiewicz, T. (2011). *Achieving successful outcomes through Alternative Education Provision: an international literature review*. Reading: CfBT Education Trust.

Gutman, L.M. & Feinstein, L., (2008). *Pupil and school effects on children's well-being*. London: DCSF.

Halstead, M., Johnson, S.B. & Cunningham, W. (1993). Measuring coping in adolescents: An application of the ways of coping checklist. *Journal of Clinical Child Psychology*, 22(3), 337-344.

Hammersley, M, (1992). Deconstructing the qualitative-quantitative divide. In: Brannen, Julia (ed.) (1992). *Mixing Methods: Qualitative and Quantitative Research*. Aldershot: Avebury. pp. 39-57.

Happer. H., McCreadie, J. & Aldgate, J. (2006). *Celebrating success: What helps looked after children succeed?* Edinburgh: Social Work Inspection Agency.

Harper, D. & Thomas, A. (2011). *Qualitative research methods in mental health and psychology. A guide for students and practitioners*. Wiley Publications.

Hart, A., Blincow, D., & Thomas, H. (2007). *Resilient Therapy: Working with children and families*. London: Brunner Routledge.

Hart, A., Blincow, D., & Thomas, H. (2008). 'Resilient Therapy: Strategic Therapeutic Engagement with Children in Crisis', *Child Care in Practice*, 14: 2, pp. 131- 145.

Hart, S., Drummond, M. & McIntyre, D. (2007) *Learning without limits*, in: L. Florian (Ed.) The Sage handbook of special education (London, Sage), 499–514.

Harter, S. (1990). Self and identity development. In S. S. Feldman & G. R. Elliot (Eds.), *At the threshold: The developing adolescent*. Cambridge, MA: Harvard University Press.

Harvard Health Publications. (2016). *Why it's hard to change unhealthy behavior — and why you should keep trying.* Available at: http://www.health.harvard.edu/staying-healthy/why-its-hard-to-change-unhealthy-behavior. Accessed 28th December 2016.

Hassink, J., & van Dijk, M. (Eds.). (2006). *Farming for Health: green-care farming across Europe and the United States of America*. Dordrecht: Springer.

Hassink, J., Zwartbol, C., Agricola, H. J., Elings, M., & Thissen, J. T. N. M. (2007). Current status and potential of care farms in the Netherlands. *Journal of Life Sciences*, 55(1), 21-36.

Hassink, J., Elings, M., Zweekhorst, M., van den Nieuwenhuizen, N., & Smit, A. (2010). Care farms in the Netherlands: attractive empowerment-oriented and strengths-based practices in the community. *Health and Place*, 16(3), 423-430.

Hassink, J., Grin, J., & Hulsink, W. (2012). Multifunctional agriculture meets health care: applying the multi-level transition sciences perspective to care farming in the Netherlands. *Sociologia Ruralis,* 77(4), 569–600.

Haubenhofer, D. K., Elings, M., Hassink, J. and Hine, R. (2010) The development of green care in Western European countries. *Explore*, 6**,** 106-111.

Hauge, H., Kvalem, I.L., Berget, B., Enders-Slegers, M.J., and Braastad, B.O. (2014). Equine-assisted activities and the impact on perceived social support, self-esteem and self-efficacy among adolescents - an intervention study. *International Journal Adolescent Youth*. 19 (1):1-21.

Hayes, A. M., Laurenceau, J. P., Feldman, G., Strauss, J. L. & Cardaciotto, L. (2007). Change is Not Always Linear: The Study of Nonlinear and Discontinuous Patterns of Change in psychotherapy. *Clin Psychol Rev.* Jul; 27(6): 715–723.

Headey, B. W. (2008). The set-point theory of well-being: Negative results and consequent revisions. *Social Indicators Research*, 85, 389–403.

Hegarty, J. (2010). *W.E.L.L.I.E.S: a project of fun, personal/social development activities with plants, animals and the countryside for people with mental health challenges.* External Evaluation Report.

Hegarty, J. (2014) *The SEEDS OF HOPE Project: A BIG LOTTERY-funded programme of vocational rehabilitation offering mental health support - Year 1 Report*. Staffordshire: Seeds of Hope.

Hemingway, A, Meek, R. & Ellis Hill, C. (2015). An Exploration of an Equine-Facilitated Learning Intervention with Young Offenders. *Society and Animals*, 23: 544-568.

Hemingway, A., Ellis-Hill, C. & Norton, E. A. (2016). What does care farming provide for clients? The views of care farm staff. NJAS - *Wageningen Journal of Life Sciences*, 79 (December), pp. 23-29.

Hennink, M. M., Kaiser, B. N. & Marconi, V. C. (2016). *Code Saturation Versus Meaning Saturation How Many Interviews Are Enough?* Qualitative Health Research.

Hertsgaard, L., Gunnar, M., Erickson, M., & Nachmias, M. (1995). Adrenocortical responses to the strange situation in infants with disorganized/disoriented attachment relationships. *Child Development*, 66, 1100-1106.

263

Hickman, C. (2009). Cheerful prospects and tranquil restoration: the visual experience of landscape as part of the therapeutic regime of the British asylum, 1800–60. *History of Psychiatry*, 20(4), 425-441.

Hine, R., Peacock, J., & Pretty, J. (2008). *Care farming in the UK: evidence and opportunities. Report for the National Care Farming Initiative.* Colchester: University of Essex. Available at : http://www.carefarminguk.org/sites/carefarminguk.org/files/Care%20Farming%20in%20the%20UK%20-%20Essex%20Uni%20Report.pdf 287. Accessed 15th September 2015.

Hine, R., Pretty, J., & Barton, J. (2009). *Social research project: social, psychological and cultural benefits of large natural habitat and wilderness experience.* Colchester: University of Essex. Available at:
http://www.sx.ac.uk/ces/occasionalpapers/Kerry/Literature%20Review%20for%20WF.pdf. Accessed 8th February 2014.

Hirvonen, R., Tolvanen, A., Aunola, K., & Nurmi, J. E. (2012). The developmental dynamics of task-avoidant behavior and math performance in kindergarten and elementary school. *Learning and Individual Differences*, (22), 712-723.

HM Government. (2015). *Working together to safeguard children. A guide to inter-agency working to safeguard and promote the welfare of children*. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/419595/Working_Together_to_Safeguard_Children.pdf. Accessed 15th December 2015.

HM Government. (2016). *Childhood Obesity: A Plan for Action.* Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/546588/Childhood_obesity_2016__2__acc.pdf. Accessed 28th December 2016.

Hodgins, H. S., Liebeskind, E., & Schwartz, W. (1996). Getting out of hot water: Facework in social predicaments. *Journal of Personality and Social Psychology*, 71, 300-314.

Homans, G.C. (1958). 'Social Behavior as Exchange'. *American Journal of Sociology*. Vol 63: 597-606.

Hornstra, L., van der Veen, I., Peetsma, T. & Volman, M. (2013). Developments in motivation and achievement during primary school: A longitudinal study on group-specific differences. *Learning and Individual Differences*, 23, 195-204.

Hudziak, J. J., Derks, E.M., Althoff, R.R., Copeland, W. & Boomsma, D. I. (2005). The genetic and environmental contributions to oppositional defiant behavior: A multi-informant twin study. *Journal of the American Academy of Child and Adolescent Psychiatry*; 44:907–914.

Huebner, E.S. (2004). Research on assessment of life satisfaction of children and adolescents. *Social Indicators Research*, 66, 3-33.

Hughes, D. (2006) *Building the Bonds of Attachment: Awakening Love in Deeply Troubled Children*, Lanham, USA: Jason Aronson Inc. Publishers

Huitt, W. & Dawson, C. (2011). *Social development: Why it is important and how to impact it.* Educational Psychology Interactive. Valdosta, GA: Valdosta State University. Available at: http://www.edpsycinteractive.org/papers/socdev.pdf. Accessed 15th December 2014.

Hunter, P. (2007).The human impact on biological diversity. How species adapt to urban challenges sheds light on evolution and provides clues about conservation. *Science and Society Analysis*, Apr; 8(4): 316–318. doi: 10.1038/sj.embor.7400951.

Iancu, S.C., Zweekhorst, M.B., Veltman, D,J., van Balkom, A.J., and Bunders, J.F. (2014). Mental health recovery on care farms and day centres: a qualitative comparative study of users' perspectives. *Disabil Rehabil.* 2014;36(7):573-83. doi: 10.3109/09638288.2013.804595.

Institute of Medicine (US). (2011). *The Science of Adolescent Risk-Taking: The Influence of Environment. Washington (DC):* National Academies Press (US). Available at: https://www.ncbi.nlm.nih.gov/books/NBK53409/. Accessed 25th July 2016.

Irons, A. (2008). *Enhancing Learning Through Formative Assessment and Feedback*. London & New York: Routledge; Taylor and Francis Group.

Iwaniec, D. (2006) *The Emotionally Abused and Neglected Child: Identification, Assessment and Intervention. A Practice Guide*. Chichester: John Wiley (2nd Edition).

Jacobvitz, D. & Hazan, N. (1999). *Developmental pathways from infant disorganization to childhood peer relationships.* In: Solomon J, George C, editors. Attachment Disorganization. New York: Guilford Press.

Jamison, J. (2006). *Research methods in psychology for high school students*. Universe: United States.

Jamshed, S. (2014). Qualitative research method-interviewing and observation. *Journal Basic Clinical Pharm.* September 2014-November 2014; 5(4): 87–88.

Jick, T. D. (1979). *Mixing qualitative and quantitative methods: Triangulation in action.* Administrative Science Quarterly, 24, 602 - 611.

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed Methods Research: A Research Paradigm Whose Time Has Come. *Educational Researcher*, 33(7), 14-26.

Johnson, R. B., Onwuegbuzie, A. J. & Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research*, 1(2), 112-133.

Johnson, R. & Christensen, L. B. (2014). *Educational Research: Quantitative, Qualitative and Mixed Approaches.* 5th Edition. Sage Publications.

Joussemet, M., Landry, R. & Koestner, R. (2008). A self-determination theory perspective on parenting. *Canadian Psychology*, Vol 49(3), Aug, 194-200.

Jyoti, D.F., Frongillo, E.A. & Jones, S.J. (2005). Food insecurity affects school children's academic performance, weight gain, and social skills. *J Nutr.* Dec;135(12):2831-9.

Judge, T. A., Locke, E. A., Durham, C. C., & Kluger, A. N. (1998).Dispositional effects on job and life satisfaction: The role of core evaluations. *Journal of Applied Psychology*, 83, 17-34.

Judge, T. A., Erez, A., Bono, J. E., & Thoresen, C. J. (2002). Are measures of self-esteem, neuroticism, locus of control, and generalized self-efficacy indicators of a common core construct? *Journal of Personality and Social Psychology*, 83, 693–710.

Judge, T.A. & Hurst, C. (2007). Capitalizing on one's advantages: Role of core self-evaluations. *Journal of Applied Psychology*, 92, 1212–1227.

Jung, C. G. (1964). *Man and his Symbols*, New York, N.Y.: Anchor Books, Doubleday.

Kaplan, S. (1995) The restorative benefits of nature: Toward an integrative framework. *Journal of Environmental Psychology*, 15: 169-182.

Kaplan, A. (2010). *Intrinsic and Extrinsic Motivation*. Available at: https://www.education.com/reference/article/intrinsic-and-extrinsic-motivation/. Accessed 28th February 2015.

Kaplan, R. & Kaplan, S. (1989). *The experience of nature: A psychological perspective.* Cambridge University Press, New York.

Kassel JD, Stroud LR, Paronis CA (2003) Smoking, stress, and negative affect: correlation, causation, and context across stages of smoking. *Psychology Bulletin* 129: 270–304.

Kasser, T. & R. M. Ryan: 1996, 'Further examining the American dream: Differential correlates of intrinsic and extrinsic goals', *Personality and Social Psychology Bulletin 22*, pp. 280–287.

Katcher, A. & Wilkins, G. (2000) The Centaur's Lessons: Therapeutic Education through Care of Animals and Nature Study. In Fine, A. (Ed.), *Handbook on Animal Assisted Therapy: Theoretical Foundations and Guidelines for Practice.* San Diego, Calif: Academic Press.

Katz, I., Kaplan, A., & Gueta, G. (2010). Students' Needs, teachers' support and motivation for doing homework: A cross sectional study. *The Journal of Experimental Education*, (78), 246-267.

Keating, D. P. (1990). Adolescent thinking. In S. S. Feldman & G. R. Elliot (Eds.), *At the threshold: The developing adolescent*. Cambridge, MA: Harvard University Press.

Kellert, S.R. (2005). *Building for Life: Designing and Understanding the Human-Nature Connection*, Washington DC, USA: Island Press.

Kellert, S. 2012. *Birth-right: People and Nature in the Modern World. New Haven*: Yale University Press.

Kellert, S. & Wilson, E. (Eds.) (1993) *The Biophilia Hypothesis*. Washington: Island Press

Kelly, K. M. (2001). *Individual differences in reactions to rejection.* In M. R. Leary (Ed.), (pp. 291-315). New York: Oxford University Press.

Kelly, M. P. & Barker, M. (2016). *Why is changing health-related behaviour so difficult*? July, Volume 136, Pages 109–116.

Keniger, L. E., Gaston, K. J., Irvine, K. N. & Fuller, R. A. (2013). What are the Benefits of Interacting with Nature? *Int J Environ Res Public Health*. Mar; 10(3): 913–935.

Kessler RS,. Purcell EP. & Glasgow RE. (2013). What does it mean to ''employ'' the RE-AIM model? *Eval Health Prof*; 36:44–66.

Kettlewell, K., Southcott, C., Stevens, E. & McCrone, T. (2012). *Engaging the Disengaged* (NFER Research Programme: From Education to Employment). Slough: NFER.

Keyes, L. M., Shmotkin, D. & Ryff, C. D., (2002). Optimizing well-being: The empirical encounter of two traditions. *Journal of Personality and Social Psychology*, 8, 6, 1007-1022.

Kahn, P.H., & Kellert, S.R. (2002). *Children and nature: Psychological, Sociocultural, and evolutionary investigations.* Cambridge, MA: MIT Press.

Kahneman, D. & Tversky, A. (1984). Choices, values, and frames. *American Psychologist*. 39:341–350.

Kanat-Maymon, Y., Roth, G., Assor, A., & Reizer, A. (2012). Conditional regard in close relationship. In Mikulincer, M., & Shaver, P. R., *The Social Psychology of Meaning, Morality, and Choice* (pp. 235-251). Washington, DC: American Psychological Association.

King D. K., Glasgow, R.E. & Leeman-Castillo, B. (2010). Reaiming RE-AIM: using the model to plan, implement, and evaluate the effects of environmental change approaches to enhancing population health. *Am J Public Health*. Nov; 100(11):2076-84.

Kirk,J. & Miller, M.L. (1986): *Reliability and validity in qualitative research*. Beverly Hills, Ca.: Sage Publications.

Koestner, R., Ryan, R. M., Bernieri, F., & Holt, K. (1984). Setting limits on children's behavior: The differential effects of controlling versus informational styles on intrinsic motivation and creativity. *Journal of Personality*, 52, 233–248.

Koestner, R., Bernieri, F., & Zuckerman, M. (1992). Self-regulation and consistency between attitudes, traits, and behaviors. *Personality and Social Psychology Bulletin*, 18, 52-59.

Korkmaz (2011) Theory of mind and neurodevelopmental disorders of childhood. *Paediatric Research*. 69(5), 101R-8R.

Korpela, K., Hartig, T., Kaiser, F. & Fuhrer, U. (2001) Restorative Experience and Self-Regulation in Favorite Places. *Environment and Behaviour,* 33: 572-589.

Kovacs, M. (1980). Rating scales to assess depression in preschool children. *Acta Paedopsychiatry,* 46, 305–315.

Kuo, F. E., & Faber Taylor, A. (2004). A potential natural treatment for Attention-Deficit/Hyperactivity Disorder: Evidence from a national study. *American Journal of Public Health*, 94, 1580-1586.

Kuhl, J., & Fuhrmann, A. (1998). Decomposing self-regulation and selfcontrol. In J. Heckhausen & C. Dweck (Eds.), *Motivation and self-regulation across the life-span* (pp. 15–49), New York: Cambridge University Press.

Kurdek, L.A. (2008). Pet dogs as attachment figures. *Journal of Social and Personal Relationships*, 25, 247-266.

La Guardia, J. G., Ryan, R. M., Couchman, C. E., & Deci, E. L. (2000). Within-person variation in security of attachment: A self-determination theory perspective on attachment, need fulfillment, and well-being. *Journal of Personality and Social Psychology*, 79, 367-384.

Laing, R. D. (1971). *The Politics of the Family, and Other Essays*. Psychology Press.

Langley, E., Hooley, T., & Bertuchi, D. (2014). *A career postcode lottery? Local authority provision of youth and career support following the 2011 Education Act.* Derby: International Centre for Guidance Studies.

Lanfranchi, M., Giannetto, C., Abbate. T. & Dimitrova., V. (2015). Agriculture and the social farm: Expression of the multifunctional model of agriculture as a solution to the economic crisis in rural areas. *Bulgarian Journal of Agricultural Science*, 21 (No 4) 2015, 711-718.

Layard, R. & Dunn, J. (2009). *A Good Childhood: Searching for Values in a Competitive Age*, Penguin.

Lazarus, R S. & Alfert, E. (1964). The short-circuiting of threat. *J. Abnorm. Soc. Psychol*, 69: 195-205.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.

Leck, C. (2013). *The impact of care farming in the UK*. PhD Thesis (unpublished). Worcester, University of Worcester.

Leck, C., Evans, N., & Upton, D. (2014). Agriculture - who cares? An investigation of 'care farming' in the UK. *Journal of Rural Studies, 34,* 313-325

Leck, C., Upton, D., & Evans, N. (2015). Growing well-beings: The positive experience of care farms. *British Journal of Health Psychology.* DOI:10.1111/bjhp.12138.

Lee, E. & Carey, T., (2013). *Eudaimonic well-being as a core concept of positive functioning.* MindPad, Winter 2013, 17-20.

Legislation.gov.uk (2016). *Children Act 1989*. Available at: http://www.legislation.gov.uk/ukpga/1989/41/contents. Accessed 28th February 2016.

Leon, K., & Jacobvitz, D. B. (2003). *Relationships between adult attachment representations and family ritual quality: A prospective, longitudinal study*. Family Process.

Levinson, B. M. & Mallon, G. P. (1997). *Pet-oriented child psychotherapy* (rev. ed.). Springfield, IL: Charles C. Thomas.

Lewis, K. (2014). *Pupils' and teachers' experiences of school-based physical education: a qualitative study.* BMJ Open 4:e005277 doi:10.1136/bmjopen-2014-005277.

Linden, S. & Grut, J. (2002) *The Healing fields: working with psychotherapy and nature to rebuild shattered lives.* London: Francis Lincoln.

Lippke, S., & Zieglemann, J. P., (2008). Theory-based health behaviour change: Developing, testing, and applying theories for evidence-based interventions. *Applied Psychology: An International Review,* 57 (4), 698-716.

Lipsett, A. (2009) *Rise in university gender pay gap.* The Guardian, 30 March. Available at: http://www.guardian.co.uk/education/2009/mar/30/rise-universities-gender-pay-gap. Accessed 28th February 2015.

Livheim, F., Hayes, L., Ghaderi, A., Magnusdottir, T., Högfeldt, A., Rowse, J., Turner, S., Hayes, S. C. & Tengström, A. (2015). The Effectiveness of Acceptance and Commitment Therapy for

Adolescent Mental Health: Swedish and Australian Pilot Outcomes. *Journal of Child and Family Studies* April, Volume 24, Issue 4, pp 1016–1030

Locke, E.A., & Latham, G.P. (1990). *A theory of goal setting and task performance.* Englewood Cliffs, NJ: Prentice-Hall.

Louv, R (2005), *Last Child in the Woods*, Chapel Hill, USA: Algonquin Books.

Lovelock, J. (1979) *Gaia: A New Look at Life on Earth.* New York; Oxford University Press

Lovibond, S.H. & Lovibond, P.F. (1995). *Manual for the Depression Anxiety Stress Scales.* (2nd. Ed.) Sydney: Psychology Foundation.

Lyons-Ruth, K., Connell, D., Zoll, D. & Stahl, J. (1987). Infants at social risk: Relations among infant maltreatment, maternal behavior, and infant attachment behavior. *Developmental Psychology*, 23, 223–232.

Lyons-Ruth, K., Repacholi, B., McLeod, S. & Silva, E. (1991). Disorganized attachment behavior in infancy: Short-term stability, maternal and infant correlates, and risk-related subtypes. *Development Psychology*, 3 (4), pp. 377-396.

Lyons-Ruth K & Block D. (1996). The disturbed caregiving system: Relations among childhood trauma, maternal caregiving, and infant affect and attachment. *Infant Mental Health Journal.* 17: 257–275.

Lyons-Ruth, K., Easterbrooks, M.A., & Cibelli, C.D. (1997). Infant attachment strategies, infant mental lag, and maternal depressive symptoms: Predictors of internalizing and externalizing problems at age 7. *Developmental Psychology.* 33:681–692.

Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin*, 131, 803–855.

MacBeath, J., Galton, M., Stewards, S., MacBeath, A., & Page, C. (2005). *The Costs of Inclusion, Cambridge, National Union of Teachers National College for Leadership of Schools and Children's Services, 2010, Achievement for All: Leadership Matters*, Nottingham, National College.

MacKeracher, D. (2004). *" Making sense of adult learning,*" (2nd ed.).Canada: University of Toronto Press Incorporated.

Madden, M., Lenhart, A., Cortesi, S., Gasser, U., Duggan, M., Smith, A., & Beaton, M. (2013, May 21). *Teens, social media, and privacy.* Pew Internet & American Life Project.

Mallon, G. P. (1993). *"A study of the interactions between men, women and dogs at the ASPCA in New York City."* Anthrozoos. 6 (1): 43-48.

Malone, K. (2008). *Every Experience Matters: An evidence based research report on the role of learning outside the classroom for children's whole development from birth to eighteen years,* Report commissioned by Farming and Countryside Education for UK Department Children, School and Families, University of Wollongong, Australia.

Manzi, T & Smith-Bowers, B (2010) "Partnership, Servitude or Expert Scholarship? The Academic Labour Process in Contract Housing Research" in C. Allen and R. Imrie (Eds.) *The Knowledge Business: Critical Perspectives on Contract Research*. London: Ashgate.

Marmot, M. Fair society, healthy lives (2010). T*he Marmot Review: strategic review of health inequalities in England post-2010.*

Marmot, M. & Bell, R. (2012). Fair society, healthy lives. *Public Health 2012*; 126 (Suppl 1): 4-10.

Marmot, M., Allen, J., Goldblatt P., Boyce, T., McNeish, D., Grady, M., & Geddes, I. (2010). *Fair society, healthy lives. The Marmot review: strategic review of health inequalities in England post-2010.* London: Department of Health. Available at: http://www.instituteofhealthequity.org/Content/FileManager/pdf/fairsocietyhealthylives.pdf. Accessed February, 2014.

Marsh, H. W., (2002). A multidimensional physical self-concept: A construct validity approach to theory, measurement and research. *Psychology*, 9(4): 459-493.

Maslow, A. H. (1943). <u>*A Theory of Human Motivation*</u>. *Psychological Review,* 50(4), 370-96.

Maslow, A. (1968). *Towards a Psychology of Being*. (2nd edn). New York: D. Van Nostrand Company.

Matthews, R. & Pitts, J. (2000) 'Rehabilitation, Recidivism and Realism: Evaluating Violence Reduction Programmes in Prison' in Jupp, V., Davies, P. and Francis, P. (eds.) *Doing Criminological Research*, pp. 128-141. London: SAGE .

Mavin, S., Lee, L. & Robson, F. (2010). *Higher Education Funding Council for England: The evaluation of learning and development in the workplace: A review of the literature.* Available at: https://www.northumbria.ac.uk/static/5007/hrpdf/hefce/hefce_litreview.pdf. Accessed 16th January 2014.

Mayer, F.S. & McPherson Frantz, C. (2004). The connectedness to nature scale: A measure of individuals' feeling in community with nature. *Journal of Environmental Psychology*, 24, 503-515.

Maynard, L. (2013). *Understanding the impact of Growing Well.* Kendal: Brathay Trust Research Hub.

McCombs, B. L., Daniels, D. H., & Perry, K. E. (2008). Children`s and teachers` perceptions of learner centered practices, and student motivation: Implications for early schooling. *The Elementary School Journal*, 109(1), 16-35.

McConnell, A. R., Brown, C. M., Shoda, T. M., Stayton, L. E., & Martin, C. E. (2011). Friends with benefits: On the positive consequences of pet ownership. *Journal of Personality and Social Psychology,* 101, 1239-1252

McCubbin, L. D. & H. I. McCubbin. (2005). "*Culture and ethnic identity in family resilience,*" *Handbook for Working with Children and Youth,* 27–44.

McGee, R., Williams, S., Bradshaw, J., Chapel, J. L., Robins, A. & Silva, P. A. (1985). The Rutter scale for completion by teachers: factor structure and relationships with cognitive abilities and family adversity for a sample of New Zealand children. *J Child Psychol Psychiatry.* 1985 Sep;26(5):727-39.

McKane M. & Tolson D (2000) Research, ethics and the data protection legislation. *Nursing Standard.* 14, 20, 36-41.

McNair, D. M., Lorr, M., & Droppleman, L. F. (1971). *Manual for the Profile of Mood States.* San Diego, CA: Educational and Industrial Testing Services.

McNall, L. A. & Michel, J. S. (2016). The relationship between student core self-evaluations, support for school, and the work–school interface. *Community, Work & Family*, September, pp 1-20.

McNeil, B., Reeder, R. & Rich, R. (2012). *A framework of outcomes for young people.* Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/175476/Framework_ of_Outcomes_for_Young_People.pdf. Accessed 28th December 2015.

Mayers, A. (2013). *Introduction to Statistics and SPSS in Psychology*. Pearson.

Melson, G. (1990) *Studying Children's Attachments to their Pets: A Conceptual and Methodological Review.* Anthrozoos, 4 (2): 91-99.

Melson, G.F. (2001), *Why the Wild Things Are: Animals in the Lives of Children*, London: Harvard University Press.

Mercogiano, C. (2007). *In defence of childhood: Protecting kids' inner wildness.* Boston MA: Beacon Press.

Michaelson, J., Abdallah, S., Steuer,. N Thompson., S. & Marks., N (2008). *National Accounts of Well-being: bringing real wealth onto the balance sheet.* Available at: http://www.nationalaccountsofwellbeing.org/public-data/files/national-accounts-of-well-being-report.pdf. Accessed 15th August 2015.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis: an expanded sourcebook*. London: Sage.

Milligan, C., Gatrell, A., & Bingley, A. (2004). 'Cultivating health': therapeutic landscapes and older people in northern England. *Social Science & Medicine*, 58, 1781-1793.

Mims, D. & Waddell, R. (2016). Animal Assisted Therapy and Trauma Survivors. *Journal of Evidence-Informed Social Work* Volume 13, Issue 5: Trauma-Informed Care: Intervening across Systems

Ministry of Education. (2013). *Supporting Minds: An Educator's Guide to Promoting Students' Mental Health and Well-being.* Available at: http://www.edu.gov.on.ca/eng/document/reports/health.html. Accessed 30 August 2015.

Mirza-Davies, J. (2014) *NEET: Young People Not in Education, Employment or Training.* SN/EP/06705, Economic Policy and Statistics, House of Commons Library, London

Mitchell F (2010) *Resilience: Concept, factors and models for practice, Scottish Child Care and Protection Network*, University of Stirling.

Moffatt, S., White, M., Mackintosh, J. & Howel, D. (2006). Using quantitative and qualitative data in health services research—what happens when mixed method findings conflict? *BMC Health Services Research*; 6:28.

Monahan, T., & Fisher, J. A. (2010). *Benefits of 'observer effects': Lessons from the field. Qualitative Research,* 10(3), 357-376.

Moreland, A., Felton, J. W., Hanson, R. F., Jackson, C. & Dumas, J. E. (2016). The Relation Between Parenting Stress, Locus of Control and Child Outcomes: Predictors of Change in a Parenting Intervention. *Journal of Child and Family Studies*, Volume 25, Issue 6.

Morgan, D. L. (2007). Paradigms lost and pragmatism regained: Methodological implications of combining qualitative and quantitative methods. *Journal of Mixed Methods Research*, 1, 48-76.

Morris, C., & Evans, N. (2004). Agricultural turns, geographical turns: retrospect and prospect. *Journal of Rural Studies*, 20, 95-111.

Morse, J. M. (1991). Approaches to qualitative-quantitative methodological triangulation. *Nursing Research, 40*, 120-123.

Moss, S., (2012). *Natural Childhood Report. National Trust.* Available at: https://www.nationaltrust.org.uk/document-1355766991839/. Accessed 15th August 2015.

Munoz, S. (2009). *Children in the outdoors: a literature review.* Forres, Scotland; Sustainable Development Research Centre. Available at: http://www.countrysiderecreation.org.uk/Children%200utdoors.pdf. Accessed 17 February 2014.

Murphy, D. & Lutze, F. (2009) 'Police-Probation Partnerships: Professional Identity and the Sharing of Coercive Power', *Journal of Criminal Justice*, 37(1), pp. 65-76.

Murray J, Elsey H, & Gold R. (2016) Care farming and probation in the UK. In Barton, J., Bragg, R., Wood., C. and Pretty, J. (Eds), *Green Exercise Linking Nature, Health and Well-being* (pp. 114-124). New York, America: Routledge.

Musa, R., Ramli, R., Abdullah, K., & Sarkarsi, R. (2011). Concurrent validity of the depression and anxiety components in the Bahasa Malaysia version of the Depression Anxiety and Stress scales (DASS). *ASEAN Journal of Psychiatry*, 12 (1), 66-70.

Nabhan, G., & S. Trimble. (1994). *The geography of childhood: Why children need wild places.* Boston: Beacon.

National Cancer Institute. (2007a). *Cancer trends progress report: 2007* update. Available at: http://progressreport.cancer.gov. Accessed 28th December 2014.

Natural England. (2009). *Childhood and Nature: a survey on changing relationships with nature across generations.* Warboys, Cambridgeshire: England Marketing.

Natural England. (2012). *Access to nature: Here to stay. Building a legacy from access to nature.* Available at: http://publications.naturalengland.org.uk/publication/10382390. Accessed 25th September 2015.

Natural England. (2016). *Natural Connections Demonstration Project, 2012-2016: Final Report.* Available at: http://publications.naturalengland.org.uk/publication/6636651036540928. Accessed 28th December 2016.

Neighbors, C., Vietor, N. A., & Knee, C. R. (2002). A motivational model of driving anger and aggression. *Personality and Social Psychology Bulletin,* 28, 324-335.

Nelson, J & O'Donnell, L., (2012). *Approaches to Supporting Young People Not in Education, Employment or Training: a Review* (NFER Research Programme: From Education to Employment). Slough: NFER.

Nevill, D. S. (2014). "*Positive Interventions: Developing a Theoretical Model to Guide Their Development and Use".* Master of Applied Positive Psychology (MAPP) Capstone Projects. 74.

NHS Confederation. (2016). *The Mental Health Network.* Available at: http://www.nhsconfed.org/resources/2016/03/key-facts-and-trends-in-mental-health-2016-update. Accessed 25th November 2016.

Niemiec, C. P., Ryan, R. M., & Deci, E. L. (2009). The path taken: Consequences of attaining intrinsic and extrinsic aspirations in post-college life. *Journal of Research in Personality*, 43 (3), 291-306.

Nisbet E. K. L., Zelenski J. M. & Murphy S. A. (2009). The nature relatedness scale: linking individuals' connection with nature to environmental concern and behaviour. *Environ. Behav.* 41, 715–740.

Nisbet, E. K., Zelenski, J. M., & Murphy, S. A. (2011). Happiness is in our nature: Exploring nature relatedness as a contributor to subjective well-being. *Journal of Happiness Studies*, 12, 303-322.

Nisbet, E. K. & Zelenski, J. M., (2013). The NR-6: A new brief measure of nature relatedness. *Frontiers in Psychology*, 4, p. 813.

Noutomanis, N. (2002). Motivational clusters in a sample of British physical education classes. *Psychology of Sport Exercise*; 3;177–94.

O'Brien, L & Murray, R., (2007). *Forest School and its impacts on young children: case studies in Britain. Urban Forestry and Urban Greening*, 6: 249-265.

O'Brien, L., Ambrose-Oji, B., Waite, S., Aronsson, J. & Clark, M. (2016). Learning on the move: green exercise for children and young people. In Barton, J., Bragg, R., Wood., C. and Pretty, J. (Eds), *Green Exercise Linking Nature, Health and Well-being* (pp. 53-68). New York, America: Routledge.

O'Cathain, A., Murphy, E., & Nicholl, J. (2007). Why, and how, mixed methods research is undertaken in health services research: A mixed methods study. *BMC Health Services Research*, 7, 85.

O'Cathain. A. (2009). Mixed methods research in the health sciences. A quiet revolution. Editorial. *Journal of Mixed Methods Reseach*; 3(1): 3-6.

O`Donnell, A. (2013). *Educational psychology: child and adolescent development.* John Wiley & Sons.

O'Dougherty, M., Wright, M. & Masten, A. S. (2005). *Resilience processes in development.* In S. Goldstein & R. B. Brooks (Eds), Handbook of resilience in children. pp. 17-37. New York: Kluwer Academic/Plenum.

Office for National Statistics. (2013). *UK Estimate of Young People Not in Education, Employment or Training.* Quarterly UK NEET estimate.

Office for National Statistics. (2016). *Statistical Bulletin Young People Not in Education, Employment or Training (NEET),* November 2016. Available at: https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment/bulletins/youngpeoplenotineducationemploymentortrainingneet/nov2016. Accessed 27th December 2016

Ofsted (2008). *Learning Outside The Classroom: How Far Should You Go?* London: Ofsted

Ofsted (2016). *Alternative Provision.* Available at: https://www.gov.uk/government/publications/alternative-school-provision-findings-of-a-three-year-survey. Accessed 28th December 2016.

O'Neill, M. & McCarthy, D. J. (2014) '(Re)negotiating Police Culture through Partnership Working: Trust, Compromise and the 'New' Pragmatism', *Criminology & Criminal Justice*, 14(2), pp. 143-159.

Ontario & Ontario. (2010). *Growing success: Assessment, evaluation and reporting in Ontario's schools: covering grades 1 to 12.* Toronto: Ministry of Education.

Onwuegbuzie, A. J., Jiao, Q. G., & Bostick, S. L. (2004). *Library anxiety: theory, research, and applications.* Lanham, MD: Scarecrow Press.

Onwuegbuzie, A. J. & Johnson, R. B., (2006). The validity issue in mixed research. *Research in the Schools,* 13 (1), 48-63.

Onwuegbuzie, A. & Leech, N. L., (2007). On Becoming a Pragmatic Researcher: The Importance of Combining Quantitative and Qualitative Research Methodologies. *International Journal of Social Research Methodology*, 8 (5), 375-387.

Oppenheim. D, Emde, R. N. & Warren, S. (1997). Children's narrative representations of mothers: Their development and associations with child and mother adaptation. *Child Development*; 68:127–138.

Osman, A., Wong, J. L., Bagge, C. L., Freedenthal, S., Gutierrez, P. M., & Lozano, G. (2012). The Depression Anxiety Stress Scales-21 (DASS-21): Further examination of dimensions, scale reliability, and correlates. *Journal of Clinical Psychology*, 68 (12), 1322-1338.

Osterman, K. F. (2000). Students' need for belonging in the school community. *Review of Educational Research,* 70, 323-367.

Parish-Plass, N. (2008). Animal-assisted therapy with children suffering from insecure attachment due to abuse and neglect: A method to lower the risk of intergenerational transmission of abuse? *Clinical Child Psychology and Psychiatry*, 13(7), 7-31.

Pashler, H., McDaniel, M., Rohrer, D., & Bjork, R. (2008). Learning styles: Concepts and evidence. *Psychological Science in the Public Interest*, 9, 105–119.

Patrick, H. & Williams, G.C. (2012). Self-determination theory: its application to health behavior and complementarity with motivational interviewing. *Int J Behav Nutr Phys* Act. 9: 18.

Patterson, J. M., & McCubbin, J. I. (1987). Adolescent coping style and behaviours: conceptualization and measurement. *Journal of Adolescence*, 10(2), 163-186.

Pawson, R. &Tilley, N. (1997) *Realistic Evaluation*. London: SAGE.

Peacock, J., Hine, R. & Pretty, J. (2007). *Got the blues then find some green space: The mental health benefits of green exercise activities and green care*. Colchester: University of Essex.

Pearson, D. A. S., McDougall, C., Kanaan, M., Bowles, R. A. & Torgerson, D. J. (2011) 'Reducing Criminal Recidivism: Evaluation of Citizenship, an Evidence-Based Probation Supervision Process', *Journal of Experimental Criminology*, 7(1), pp.73–102.

Pedersen, I., Ihlebæk, C., & Kirkevold M. (2012). Important elements in farm animal-assisted interventions for persons with clinical depression: a qualitative interview study. *Disabili Rehabil*. 2012;34:1526‑534.

Pedersen. I., Martinsen, E.W., Berget, B., & Braastad, B.O. (2012). Farm animal-assisted intervention for people with clinical depression: a randomized controlled trial. *Anthrozoos*.2012;25:149‑160.

Peeters, G. & Czapinski, J. (1990). Positive-negative asymmetry in evaluations: The distinction between affective and informational negativity effects. *European Review of Social Psychology*. 1:33–60.

Pemberton. S. 2008, 'Tackling the NEET generation and the ability of policy to generate a 'NEET' solution—evidence from the UK' Environment and Planning C: *Government and Policy* 26 (1) 243 – 259

Perry, B. & Szalavitz, M (2011) *Born for Love: Why Empathy is Essential and Endangered*, London: HarperCollins Books.

Phillips, R.F. (2010) Initiatives to support disadvantaged young people: enhancing social capital and acknowledging personal capital. *Journal of Youth Studies*, 13, 4, 489-504.

Porter, R. (2006). *Madmen: A Social History of Madhouses, Mad-Doctors & Lunatics* [originally published 1987]. Stroud: Tempus.

Premack, D. & Woodruff, G. (1978) Does the chimpanzee have a theory of mind? *Behav. Brain Sci.* 1, 515–526.

Pretty, J., Peacock, J., Sellens, M. & Griffin, M. (2005). The mental and physical health outcomes of green exercise. *International Journal of Environmental Health Research, 15*(5), 319-337.

Pretty, J. & Pencheon, D. (2016). The seven heresies of Asclepius: how environmental and social context shapes health and well-being. In Barton, J., Bragg, R., Wood., C. and Pretty, J. (Eds), *Green Exercise Linking Nature, Health and Well-being* (pp. 1-16). New York, America: Routledge.

Price, L., & Evans, N. (2009). From farming stress to distress. Journal of Rural Studies, 25, 1-11.

Princes Trust. (2010). *The cost of exclusion. Counting the cost of youth disadvantage in the UK.* Available at: http://www.princes-trust.org.uk/pdf/COE_full_report.pdf. Accessed 5th September 2015.

Princes Trust. (2017). *Youth Index 2017.* Macquarie: UK.

Prior, V. & Glaser, D. (2006) *Understanding Attachment Disorders: Theory, Evidence and Practice*, London: Jessica Kingsley.

Prior, J. & Van Herwegen. (2016). *Practical research with children.* Routledge: London.

Priory Education Services. (2014). *Behavioural, Emotional and Social Difficulties.* Available at: http://www.priorygroup.com/specialist-education/besd. Accessed 10th September 2015.

Prochaska, J. & DiClemente, C. (1983) Stages and processes of self-change in smoking: toward an integrative model of change. *Journal of Consulting and Clinical Psychology*, 5, 390–395.

Prochaska, J. O., Wright, J. A., & Velicer, W. F., (2008). Evaluating theories of health behaviour change: A hierarchy of criteria applied to the Transtheoretical Model. *Applied Psychology: An International Review*, 57 (4), 561-588.

Proctor EK, Landsverk J, Aarons G, Chambers D, Glisson C. & Mittman B., (2009). Implementation research in mental health services: An emerging science with conceptual, methodological, and training challenges. *Administration and Policy in Mental Health and Mental Health Services Research.* 2009;36(1):24–34.

Public Health England. (2014). *Local action on health inequalities: Reducing the number of young people not in employment, education or training* (NEET). Available at: https://www.google.co.uk/search?q=Preventing+young+people+from+becoming+NEET+is+the+most+successful+method+to+reduce+the+number+of+NEET+young+people+%28Department+for+Education%2C+2012%29.&ie=utf-8&oe=utf-8&aq=t&rls=org.mozilla:en-US:official&client=firefox-a&channel=fflb&gfe_rd=cr&ei=8ksJVuTNBcah7Aaw4IeoDg. Accessed 18th September 2015.

Quinton, D. & Rutter, M. (1988). *Parenting Breakdown*. Avebury: Aldershot.

Raina. P, Waltner-Toews. D, Bonnett. B, Woodward. C, & Abernathy, T. (1999). Influence of companion animals on the physical and psychological health of older people: an analysis of a one-year longitudinal study. *J Am Geriatr Soc*. Mar;47(3):323-9.

Rayner, S. (2007). A teaching elixir, learning chimera or just fool's gold? Do learning styles matter? Support for Learning, 22 (1) 24-30.

Reeve, J., Jang, H., Hardre, P. & Omura, M. (2002) 'Providing a rationale in an autonomy-supportive way as a strategy to motivate others during an uninteresting activity', *Motivation and Emotion* 26: 183–207.

Reeve, J., Deci, E. L., & Ryan, R. M. (2004). Self-determination theory: A dialectical framework for understanding the sociocultural influences on student motivation. In D. McInerney & S. Van Etten (Eds.), *Research on sociocultural influences on motivation and learning: Big theories revisited* (Vol. 4, pp. 31–59). Greenwich, CT: Information Age Press.

Reeve, J. (1996). *Motivating others*. Needham Heights, MA: Allyn & Bacon.

Reeve, J., Jang, H., Carrell, D., Barch, J., & Jeon, S. (2004). Enhancing high school students' engagement by increasing their teachers' autonomy support. Motivation and Emotion, 28, 147–169.

Reis, H. T., Sheldon, K. M., Gable, S. L., Roscoe, R., & Ryan. R. (2000). Daily well-being: The role of autonomy, competence, and relatedness. *Personality and Social Psychology Bulletin*, 26, 419-435.

Renting, H., Rossing, W., Groot, J., Van der Ploeg, J., Laurent, C. & Perraud, D. (2009). Exploring multifunctional agriculture. A review of conceptual approaches and prospects for an integrative transitional framework. *Journal of Environmental Management*, 90, 112-123.

Reynolds, C.R. & Richmond, B.O. (1978) "What I think and Feel: A Revised Measure of Children's Manifest Anxiety", *Journal of Abnormal Psychology*, vol. 6(2), pp. 271-280.

Rickinson, M, Dillon, J, Teamey, K, Morris, M, Choi, M.Y, Sanders, D, & Benefield, P. (2004). *A Review of Research on Outdoor Learning.* UK: National Foundation for Educational Research.

Rimel R., (2001). Longitudinal influences of knowledge and self – efficacy on exercise behaviour: tests of a mutual reinforcement model. *Journal of Health Psychology*. 6.31 – 46.

Robinson, N. S. (1995). Evaluating the nature of perceived support and its relation to perceived self-worth in adolescents. *Journal of Research in Adolescence*, 5,253-280.

Robinson-O'Brien, R., Story, M., & Heim, S. (2009). Impact of garden-based youth nutrition intervention programmes: A review. *Journal of the American Dietetic Association*, 109(2), 273-280.

Rogers, C. (1951*). Client-Centred Therapy*. Boston: Houghton Mifflin

Rogers, C. (1980). *A Way of Being*. Boston: Houghton Mifflin

Rose, E., Parfitt, G., & Williams, G. (2005). Exercise causality orientations, behavioural regulation for exercise and stage of change for exercise: Exploring their relationships. *Psychology Sport Exercise*, 6, 399–414.

Rosenbaum, P. R. (2002). *Observational Studies,* Second Edition. New York: Springer.

Roeser, R. W., Midgley, C., & Urdan, T. C. (1996). Perceptions of the school psychological environment and early adolescents' psychological and behavioral functioning in school: The mediating role of goals and belonging. *Journal of Educational Psychology, 88*, 408-422.

Roszak, T. (1992).*The voice of the earth: An exploration of ecopsychology*. New York: Simon & Schuster.

Roszak, T. (2001). *The voice of the earth*. Grand Rapids: Phanes Press.

Rotter, J. B. (1966). "Generalized expectancies for internal versus external control of reinforcement". *Psychological Monographs: General & Applied*. 80 (1): 1–28.

Royal College of Paediatrics and Child Health. (2017). *State of child health.* Available at: http://www.rcpch.ac.uk/. Accessed 19th January 2016.

RSPB. (2010). *Every Child Outdoors*. Available at: https://www.rspb.org.uk/Images/everychildoutdoors_tcm9-259689.pdf. Accessed 14th July 2015.

Rural England (2017). *State of Rural Services 2016.* Available at: https://ruralengland.org/the-state-of-rural-services-2016-report/. Accessed 18th January 2017.

Rush, B. (1812) *Medical Inquiries upon Diseases of the Mind, The History of Medicine Series,* No 15, New York: Hafner Publishing Company, 1962

RSPB. (2013). *Connecting with Nature*. RSPB. Available at: http://www.rspb.org.uk/Images/connecting-with-nature_tcm9-354603.pdf. Accessed: 14th July 2015.

Ryan, P. (2009). Integrated Theory of Health Behavior Change Background and Intervention Development. *Clin Nurse Spec.* May–Jun; 23(3): 161–172.

Ryan, M. (2012). *How to make relationships matter for looked after young people. A handbook,* London: National Children's Bureau.

Ryan, R. M., & Frederick, C. (1997). On energy, personality, and health: subjective vitality as a dynamic reflection of well-being. *Journal of Personality*, 65, 529–565.

Ryan, R. M., & Deci, E. L., (2000a). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25, 54-67.

Ryan, R. M., and Deci, E. L., (2000b). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, Vol 55(1), 68-78.

Ryan, R. M., and Deci, E. L., (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, 52, 141–166.

Ryan, R. M., & Deci, E. L. (2002). Overview of self-determination theory: An organismic dialectical perspective. In R. M. Ryan & E. L. Deci (Eds.), *Handbook of self-determination research.* Rochester, N.Y.: The University of Rochester Press.

Ryan, R. M., & Deci, E. L. (2004). Autonomy is no illusion: Self-determination theory and the empirical study of authenticity, awareness, and will. In J. Greenberg, S. L. Koole, & T . Pyszczynski (Eds.), *Handbook of experimental existential psychology* (pp. 449–479). New York: The Guilford Press.

Ryan, R.M. & Brown, K.W. (2005) 'Legislating competence: The motivational impact of high-stakes testing as an educational reform', in C. Dweck and A. Elliot (eds), *Handbook of Competence.* New York: Guilford Press.

Ryan, R. M., La Guardia, J. G., Solky-Butzel, J., Chirkov, V., & Kim, Y. (2005). *On the interpersonal regulation of emotions: Emotional reliance across gender, relationships, and cultures.* Personal Relationships, 12, 145–163.

Ryan, R. M., & Deci, E. L. (2006). Self-regulation and the problem of human autonomy: Does psychology need choice, self-determination, and will? *Journal of Personality*, 74, 1557-1586

Ryan, R. M., & Deci, E. L. (2007). Active human nature: Self-determination theory and the promotion and maintenance of sport, exercise, and health . In M.S. Hagger & N.L.D. Chatzisarantis (Eds.), *Intrinsic motivation and self-determination in exercise and sport* (pp. 1-19). Human Kinetics Europe Ltd.

Ryan, R. M., & Deci, E. L. (2008). From ego-depletion to vitality: theory and findings concerning the facilitation of energy available to the self. *Social and Personality Psychology Compass*, 2, 702–717

Ryan, R. M., Weinstein, N., Bernstein, J. H., Brown, K. W., Mistretta, L., & Gagné, M. (2010). Vitalizing effects of being outdoors and in nature. *Journal of Environmental Psychology*, 30, 159-168.

Ryff, C. D. (1985). Adult personality development and the motivation for personal growth. In D. Kleiber & M. Maehr (Eds), *Advances in motivation and achievement*: Vol. 4. Motivation and adulthood (pp. 55-92). Greenwich, CT: JAI Press.

Sandford, R.A., Armour, K.M. & Warmington, P.C. (2006). Re-engaging disaffected youth through physical activity programmes. *British Educational Research Journal* 32, no.2: 251-271.

Sandford, R.A., Duncombe, R. & Armour, K.A., (2008). The role of physical activity/sport in tackling youth dis-action and anti-social behaviour. *Educational Review*, 60 (4), pp. 419 - 435.

Sandelowski, M. (1995). Sample size in qualitative research. *Research in Nursing and Health, 18*(2), 179-183.

Scales, P. C., Benson, P. L., Leffert, N., & Blyth, D. A. (2000). Contribution of developmental assets to the prediction of thriving among adolescents. *Applied Developmental Science*, 4, 27-27.

Schaefer, K. (2002). Human-animal interactions as a therapeutic intervention. *Counselling and Human Development*, 34 (5), pp. 1-17.

Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self mastery, and self-esteem): *A re-evaluation of the Life Orientation Test. Journal of Personality and Social Psychology,* 67, 1063–1078.

Schleicher, A. (2015). *Schools for 21st-Century Learners: Strong Leaders, Confident Teachers, Innovative Approaches, International Summit on the teaching profession*, OECD publishing.

Schmidt, F. L., (1996). Statistical significance testing and cumulative knowledge in psychology: Implications for training of researchers. *Psychological Methods,* 1 (2), 115-129.

Schulz KF, Altman DG, Moher D, (2010). *CONSORT Group CONSORT 2010 Statement*: updated guidelines for reporting parallel group randomised trials. doi: 10.1016/j.jclinepi.2010.02.005.

Schwartz, D. & Lellouch, J. (2009). Explanatory and pragmatic attitudes in therapeutical trials. *Journal Clin Epidemiol*; 62:499–505.

Schwartz, S., & Pollishuke, M. (2013). *Creating the dynamic classroom: A handbook for teachers* (2nd ed.). Toronto, ON: Pearson Canada Inc.

Scott, J. (2008). Children as respondents, the challenge for quantitative methods. In P. Christensen & A. James (Eds), *Research with children* (pp. 87-108). New York: Routledge.

Scottish Government. (2015). *Feeling Safe and Nurtured in a Home Setting*. Available at: http://www.gov.scot/Publications/2007/01/15084446/7. Accessed 28th December 2016.

Sempik, J., Aldridge, J. & Becker, S. (2003). *Social and Therapeutic Horticulture: Evidence and Messages from Research*, Reading: Thrive and Loughborough: CCFR.

Sempik, J & Aldridge, J (2006) Care farms and care gardens - Horticulture as therapy in the UK. In Hassink, J and VanDijk, M (ed) 2nd Meeting of the Community-of-Practice on Farming for Health, Farming for Health*: Green-Care Farming Across Europe and the United States of America,* Wageningen, Netherlands, pp.147-161, ISBN: 1-4020-4540-9. DOI: 10.1007/1-4020-4541-7_12.

Sempik, J., Hine, R., & Wilcox, D. (2010). *Green care: a conceptual framework. A report of the working group on the health benefits of green care. COST Action 866, green care in agriculture.* Loughborough: Loughborough University.

Sempik, J. & Bragg, R. (2013). Green Care: origins and activities. In Gallis C. (Eds) 2013. *Green Care: for Human Therapy, Social innovation, Rural economy, and Education*. NOVA Science Publishers, New York.

Sempik, J. & Bragg, R. (2016). The benefits of greener and healthier economies. In Barton, J., Bragg, R., Wood., C. and Pretty, J. (Eds), *Green Exercise Linking Nature, Health and Well-being* (pp. 161-166). New York, America: Routledge.

Sheehan, B. (2012). Assessment scales. *The Advanced Neurological Disorder.* Nov; 5(6): 349–358.

Sheehy, K., Kumrai, R. & Woodhead, M. (2011) Young people's experiences of personal advisors and the Connexions service. *Equality Diversity and Inclusion: An International Journal*, 30, 3, 168-182.

Sheldon, K.M. & A.J. Elliot. (1999). Goal striving, need satisfaction, and longitudinal wellbeing: The Self-Concordance Model. *J Person Soc Psychol*, 1999. 76: p. 546–557

Sheldon KM, (2002). Psychological need-satisfaction and subjective well-being within social groups. *British Journal of Social Psychology* 41(1): 25-38.

Siebelt, L,. Morrison, E. & Cruickshank, C.A. (2008). *Caring about success: Young people's stories, Edinburgh: Who Cares?* Scotland.

Simmons, A. M. & Page, M. (2010). Motivating students through power and choice. *English Journal,* 100 (1), 65-69.

Sinclair, S. J., Siefert, C. J., Slavin-Mulford, J. M., Stein, M. B., Renna, M., & Blais, M. A. (2012). Psychometric evaluation and normative data for the depression, anxiety, and stress scales–21 (DASS–21) in a nonclinical sample of U.S. adults. *Evaluation and the Health Professions*, 35, 259–279.

Singer, E.R., Cosner-Berzin, S. & Hokanson, K. (2013). Voices of former foster youth: Supportive relationships in the transition to adulthood, *Children and Youth Services Review*, 35, 2110-2117.

Silverman, D. (2011). *Interpreting Qualitative Data*, 4th ed. London: Sage

Skinner, B. F. (1948). Superstition' in the pigeon. *Journal of Experimental Psychology, 38*, 168-172.

Skinner. (1988). *The Selection of Behaviour: The Operant Behaviourism of B F Skinner*, Cambridge: Cambridge University Press.

Skinner, E. A. & Zimmer-Gemback, M. J. (2007). The development of coping. *Annu. Rev. Psychol.* 58:119–44

Social Exclusion Unit. (1999). *Bridging the Gap: New Opportunities for 16–18 Year-Olds Not in Education Employment or Training*. London: The Stationery Office.

Social Exclusion Unit. (2000). *Report of Policy Action Team 12: Young People* London: HMSO.

Smith, J. A. & Osborn, M., (2003). Interpretive phenomenological analysis. In J. A. Smith (Ed.),*Qualitative psychology: A practical guide to research methods* (pp. 51–80). London: Sage.

Smith, J.A. & Osborn, M. (2007). Pain as an assault on the self: An interpretative phenomenological analysis of the psychological impact of chronic back pain. *Psychology and Health*, 22, 517–534.

Smith, K., & Christakis, N., (2008). Social Networks and Health. Annual Review of Sociology. 34:405–29.

Smith, J. A., Flowers, P. & Larkin, M. (2012). *Interpretative Phenomenological Analysis. Theory, Method and Research*. Sage Publications.

Sniezek, J. A. (1999). Issues in self-control theory and research: Confidence, doubt, expectancy bias, and opposing forces. In S. Wyer (Ed.). *Perspectives on behavioural self-regulation* (pp. 217–229). London, UK: Erlbaum.

Snyder, C. R. (2002). Hope theory: Rainbows of the mind. *Psychological Inquiry*, 13, 249–275.

Social Mobility Commission. (2016). *State of the Nation 2016.* Available at: https://www.gov.uk/government/publications/state-of-the-nation-2016. Accessed 3rd January 2017.

Solomon, J., George, C. and De Jong, A. (1995). Children classified as controlling at six: Evidence of disorganized representational strategies and aggression at home and at school. *Development and Psychopathology*, 7: 447–463.

Spangler, G. & Grossmann, K.E. (1993). Biobehavioral organization in securely and insecurely attached infants. *Child Development*, 64, 1439-1450.

Srivastava, K. (2009). Urbanization and mental health. *Ind Psychiatry J*. Jul-Dec; 18(2): 75–76.

Sroufe, L. A., & Waters, E. (1977). *Attachment as an organizational construct. Child Development*, 48, 1184-1199.

Statham, J. & Chase, E., (2010). Childhood wellbeing: a brief overview. London: *Childhood Wellbeing Research Centre, Briefing Paper 1*. Available at: http://www.cwrc.ac.uk/resources/documents/CWRC_State_of_Play_briefing_paper_for_DFE_websi te4Aug2010_%282%29.pdf. Accessed 8th September 2015.

Stoll, L., Michaelson, J. and Seaford, C., (2012). *Wellbeing evidence for policy: a review.* Available at: http://b.3cdn.net/nefoundation/10b8aabd90c5771ff9_a0m6bvv5a.pdf. Accessed: 18th September 2015.

Stone, D. N., Deci, E.L. & Ryan, R. M. (2009). Beyond talk: Creating autonomous motivation through self determination theory. *Journal of General Management*;34:75-91.

Strauss, J. & Ryan, R. M. (1987). Autonomy disturbances in subtypes of anorexia nervosa. *Journal of Abnormal Psychology*, 96, 254-258.

Strife, S & Downey, L. (2009). Childhood Development and Access to Nature. A New Direction for Environmental Inequality Research. *Organ Environ. Mar;* 22(1): 99–122.

Suarez-Orozco, C., Gaytán, F. X. & Kim, H. J. (2010). Facing the challenges of educating Latino immigrant origin youth. In *Growing up Hispanic: Health & Development of Children*. Susan McHale & Alan Booth (Eds.). (Washington, D.C: The Urban Institute), pp. 189-239.

Sunderland, M. (2007) *What Every Parent Needs To Know: The Incredible Effects Of Love, Nurture And Play*, London: Dorling Kindersley.

Sveinbjornsdottir, S. & Thorsteinsson, B. (2008). Personality and Social Sciences Adolescent coping scales: *A critical psychometric review Scandinavian Journal of Psychology*, 49, 533–548.

Svinicki, M., & Vogler, J. (2012). Motivation and Learning: Modern Theories. In N. Seel (Ed.), *Encyclopaedia of the Sciences of Learning* (pp. 2336-2339): Springer US.

Tanner, A. K., Hasking, P., & Martin, G. (2014). Non-suicidal self-injury and firesetting: shared and unique correlates among school-based adolescents. *Journal of Youth and adolescence*, 1-15.

Tashakkori, A, and Teddlie, C. (Eds.) (2003) *Handbook of Mixed Methods in Social & Behavioral Research*, Sage, California.

Tashakkori, A. and Teddlie, C. (2010) "Epilogue: current developments and emerging trends in integrated research methodology", in Sage *Handbook of Mixed Methods in Social & Behavioural Research,* Tashakkori, A. and Teddlie, C. (Eds) 2010, Sage, California, pp 803-826.

Taylor, F., Kuo, F. E. & Sullivan, W. (2001) Coping With ADD: The Surprising Connection To Green Play Settings. *Environment and Behaviour* 33(1) pp.54-77

Taylor, S. E., Lerner, J. S., Sherman, D. K., Sage, R. M., & McDowell, N. K. (2003). Portrait of the self-enhancer: Well-adjusted and well-liked or maladjusted and friendless? *Journal of Personality and Social Psychology*, 84, 165–176.

Taylor, F., Kuo, F.E. & Sullivan, W. (2001). Coping with ADD: the surprising connection to green play settings. *Environment and Behaviour*, 33(1): 54–77.

Taylor, C. (2006). *Young people in care and criminal behaviour*. London & Philadelphia: Jessica Kingsley.

Taylor, C. (2012). *Improving Alternative Provision*. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/180581/DFE-00035-2012.pdf. Accessed 28 November 2015.

Teddlie, C., & Tashakkori, A. (2011). Mixed methods research: Contemporary issues in an emerging field. In N. Denzin & Y. Lincoln (Eds.), *The Sage handbook of qualitative research,* (4th edition), (pp. 285-299). London: Sage.

Thayer, R. E. (1996). *The origin of everyday moods: Managing energy tension, and stress*. Oxford: Oxford University Press.

The Guardian. (2017). *Poverty in the UK jeopardising children's health, warns landmark report*. Available at: https://www.theguardian.com/society/2017/jan/25/poverty-in-the-uk-jeopardising-childrens-health-warns-landmark-report. Accessed 25th January 2017.

The Wolf Report. (2011*). Review of Vocational Education*. Available at: https://www.gov.uk/government/publications/review-of-vocational-education-the-wolf-report, March 2011. Accessed 29th November 2016.

Thogersen-Ntoumani, C., & Ntoumanis, N. (2006). The role of self-determined motivation in the understanding of exercise-related behaviours, cognitions and physical self-evaluations. *Journal of Sports Sciences*, 24(4), 393–404.

Tsai, Y., Kunter, M., Lüdtke, O., Trautwein, U. & Ryan, R. M. (2008) 'What makes lessons interesting? The role of situational and individual factors in three school subjects', *Journal of Educational Psychology* 100: 460–72.

Tully, M.A., Kee, F., Foster, C., Cardwell, C.R., Weightman, A.L., Cupples, M.E., (2013). *Built environment interventions for increasing physical activity in adults and children*. The Cochrane Library.

Tuke, D.H., (1882). *Chapters in the history of the insane in the British Isles*. Kegan Paul and Trench, London. Reprinted by E.J. Bonset, Amsterdam in 1968.

Ulrich, R.S. (1981). Natural versus urban scenes: Some psycho-physiological effects. *Environmental Behaviour.* 13:523–556.

Ulrich, R. S. (1984). View through a window may influence recovery from surgery. *Science,* 224: 420-421.

Ulrich, R. S. (1991). Effects of health facility interior design on wellness: theory and scientific research. Journal of Health Care Design, 3: 97-109. Reprinted in S. O. Marberry (Ed.), *Innovations in Healthcare Design* (pp. 88-104). New York: Van Nostrand Reinhold, 1995.

Ulrich, R. S. (1993). Biophilia, biophobia, and natural landscapes. In S. Kellert & E. Wilson (Eds.), The biophilia hypothesis (pp. 73-137). Washington DC: Island Press.

Umberson, D., & Montez, J. K. (2010). Social relationships and health: A flashpoint for health policy. *Journal of Health and Social Behaviour*, 51, S54–S66.

Unison Local Government (2016) *The Damage: A future at risk cuts in youth services*. Available at: https://www.unison.org.uk/content/uploads/2016/08/23996.pdf. Accessed 28th December 2016.

Usher, K. J. & Arthur, D. (1998). Process consent: a model for enhancing informed consent in mental health nursing. *Journal of Advanced Nursing*, Volume 27, Issue 4, April, pp. 692–697.

Vallerand, R. J. & Reid, G. (1984). "On the causal effects of perceived competence on intrinsic motivation: A test of cognitive evaluation theory". *Journal of Sport Psychology*. 6: 94–102.

Vallerand, R. J., Fortier, M. S., and Guay, F. (1997). Self-determination and persistence in a real-life setting: Toward a motivational model of high school dropout. *Journal of Personality and Social Psychology*, 72, 1161–1176

Vallerand, R. J., & Bissonnette, R. (1992). Intrinsic, extrinsic, and amotivational styles as predictors of behaviour: *A prospective study. Journal of Personality*, 60, 599–620.

Van den Berg, A. E., Hartig, T., & Staats, H. (2007). Preference for nature in urbanized societies: Stress, restoration, and the pursuit of sustainability. *Journal of Social Issues*, 63 (1), 79-96.

Van den Berg A.E. and M. H. G. Clusters (2011) Gardening promotes neuroendocrine and affective restoration from stress. *J Health Psychol.*, 16, 3-11.

Van IJzendoorn M.H., Schuengel C., & Bakermans-Kranenburg M.J. (1999). Disorganized attachment in early childhood: Meta-analysis of precursors, concomitants, and sequelae. *Development and Psychopathology*, 11 (2) : 225-249.

Vansteenkiste,M., Simons, J., Lens, W., Sheldon, K. M., & Deci, E. L. (2004). Motivating learning, performance, and persistence: the synergistic effects of intrinsic goal contents and autonomy – supportive contexts. *Journal of Personality and Social Psychology*, 87, 246 – 260

Vansteenkiste, M., Lens, W., & Deci, E. L. (2006). Intrinsic Versus Extrinsic Goal Contents in Self-Determination Theory: Another Look at the Quality of Academic Motivation. *Educational Psychologist*, 41 (1), 19-31.

Vik, J., and Farstad, M. (2009). Green care governance: between market, policy and intersecting social worlds. *Management,* 23(5), 539-553.

Vincent, K. B., Kasperski, S. J., Caldeira, K. M., Garnier-Dykstra, L. M., Pinchevsky, G. M., O'Grady, K. E. & Arria, A. M. (2012). *Maintaining superior follow-up rates in a longitudinal study: Experiences from the College Life Study. International Journal of Multiple Research Approaches.* 6:56–72.

Waite, S and Pratt, N. 2011. Theoretical perspectives on learning outside the classroom. In: Waite, S. ed. *Children learning outside the classroom from birth to eleven.* London: SAGE Publications Ltd. pp 1 - 18.

Walen, H. & Lachman, M. (2000). Social Support and Strain from Partner, Family, and Friends: Costs and Benefits for Men and Women in Adulthood. *Journal of Social and Personal Relationships.* 17:5–30.

Waldron, S. (2010). *Office for National Statistics: Measuring Subjective Wellbeing in the UK.* Office of Public Sector Information (OPSI).

Walker, J. & Donaldson, C. (2010). *Intervening to improve outcomes for vulnerable young people: a review of the evidence.* Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/182255/DFE-RR078.pdf. Accessed 26th January 2014.

Ward-Thompson. C., Roe, J., Aspinall, P., Mitchell, R., Clowd, A. & Miller, D. (2012). More green space is linked to less stress in deprived communities: Evidence from salivary cortisol patterns. *Landscape and Urban Planning*, 105: 221-229.

Warwick, J., Joseph, S., Cordie, C., & Ashworth, P. (2004). Social support for women with chronic pain: What is helpful from whom? *Psychology and Health.* 19. 117-134.

Weinstein, N., Przybylski, A. K. & Ryan, R. M. (2009). Can nature make us more caring? Effects of immersion in nature on intrinsic aspirations and generosity. *Personality and Social Psychology Bulletin*, 35, 10, 1315-1329.

Weinstein, N. & Ryan, R.M. (2010). When helping helps: autonomous motivation for prosocial behavior and its influence on well-being for the helper and recipient. *J Pers Soc Psychol.* Feb;98(2):222-44.

Weiten, W & Lloyd, M.A. (2008) *Psychology Applied to Modern Life* (9th ed.). Wadsworth Cengage Learning.

Wells, N.M. (2000). At Home With Nature: The Effects Of Nearby Nature On Children's Cognitive Functioning. *Environment and Behaviour*, 32, pp. 775-795.

Wells, N.M. & Evans, G.W. (2003). Nearby Nature: A Buffer Of Life Stress Among Rural Children. *Environment and Behaviour*, 35, pp. 311-330.

Wells, N.M. & Yang, Y. (2008). Neighborhood Design and Walking: A Quasi-Experimental Longitudinal Study, *American Journal of Preventive Medicine*, 34 (4), pp. 313–318.

Werner, E. E., & Smith, R.S. (2001). *Journeys from childhood to midlife: Risk, resilience and recovery*. Ithaca, NY: Cornell University Press.

White, R. W. (1959). "Motivation reconsidered: The concept of competence". *Psychological Review.* 66: 297–333.

White, R. & Heerwagen, J. (1998). Nature and mental health: Biophilia and Biophobia. In A. Lundberg (Ed), *The Environment and Mental Health: A Guide for Clinicians* (pp 175-192). New Jersey: Lawrence Erlbaum & Assoc.

World Health Organisation. (1946). *Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference*, New York, 19-22 June, 1946. Signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948. Available at http://www.who.int/about/definition/en/print.html. Accessed January 2014.

Wigfield, A., & Meece, J. (1988). Math anxiety in elementary and secondary students. *Journal of Educational Psychology*, 80 (2), 210-216.

Wigfield, A., & Eccles, J. (2000). Expectancy–value theory of achievement motivation. *Contemporary Educational Psychology*, (25), 68-81.

Willig, C. (2001*). Introducing Qualitative Research in Psychology: Adventures in Theory and Method.* Buckingham: Open University Press.

Wilkinson T. (2002). Last rights: the ethics of research on the dead. *Journal Applied Philosophy* 19:31–41.

Wilkinson, R. G., & Pickett, K. E. (2010). *The spirit level: why equality is better for everyone*. London: Penguin Books.

Wiles, R, Charles, V, Crow, G. & Heath S. (2006) *Researching researchers: lessons for research ethics.* Qualitative Research 6, 3: 283-299.

Williams, G. C., Deci, E. L. & Ryan, R. M. (1998). Building Health-Care Partnerships by Supporting Autonomy: Promoting Maintained Behavior Change and Positive Health Outcomes. In A. L. Suchman, P. Hinton-Walker, & R. Botelho (Eds.) *Partnerships in healthcare: Transforming relational process* (pp. 67-87). Rochester, NY: University of Rochester Press.

Williams, G.C., McGregor, H., Sharp, D., Levesque, C.S., Kouides, R.W., Ryan, R.M. & Deci, E.L (2006). Testing a self- determination theory intervention for motivating tobacco cessation: Supporting autonomy and competence in a clinical trial. *Health Psychology*. 25: 91-101.

Williams, J. (2011) Raising expectations or constructing victims? Problems with promoting social inclusion through lifelong learning. *International Journal of Lifelong Education*, 30, 4, 451-467.

Willis, D. A. (1997). Animal therapy. *Rehabilitation Nursing*, 22, 78-81.

Wilmot, A., (2005). *Designing sampling strategies for qualitative social research: with particular reference to the Office for National Statistics' Qualitative Respondent Register. Survey Methodology Bulletin:* Office for National Statistics, (56), 53-65.

Wilson, E.O. 1984. *Biophilia: The Human Bond with Other Species*. Cambridge, ma: Harvard Univ. press.

Wilson, G. (2007). *Multifunctional agriculture: a transition theory perspective*. Wallingford: CABI.

Wilson, J. (2014). *Closing the Gap with the New Primary National Curriculum*. Nottingham: NCTL. Available at: http://bit.ly/1BBIxxJ. Accessed 28th October 2014.

Wilson, P., & Rodgers, W. (2003). The relationship between perceived autonomy support exercise regulations and behavioural intentions in women. *Psychology of Sport and Exercise*, 5, 229–242.

Windhager, S., K. Atzwangera, F.L. Booksteina, & K. Schaefera (2011). Fish in a Mall Aquarium-An Ethological Investigation of Biophilia. *Landscape and Urban Planning*, 99, 23–30.

Winnicott, D. W. (1991) *The Child, the Family and the Outside World*, London:Penguin

Winnicott, D. W. (2005) *Playing and Reality,* London: Routledge.

Winter, K. (2015). *Supporting positive relationships for children and young people who have experience of care:* Insight 28. Available at: https://www.iriss.org.uk/resources/insights/supporting-positive-relationships-children-young-people-experience-care. Accessed 5th January 2017.

Wishon, P. (1987). An Examination Of Childhood-Companion Animal Interactions In Facilitating Physical, Emotional And Social Well-Being. *Early Child Development and Care*, 29, 417-433.

Wood, C., Bragg, R. & Pretty, J. (2016). The benefits of green exercise for children. In Barton, J., Bragg, R., Wood., C. and Pretty, J. (Eds), *Green Exercise Linking Nature, Health and Well-being* (pp. 53-68). New York, America: Routledge.

Yates, T.M., Egeland, B. & Sroufe, L.A. (2003) 'Rethinking resilience: a developmental process perspective', in S.S. Luthar (ed.) *Resilience and Vulnerabilities: Adaptation in the Context of Childhood Adversities*. New York: Cambridge University Press.

Yates, S., & Payne, M. (2006). Not so NEET? A critique of the use of 'NEET' in setting targets for interventions with young people. *Journal of Youth Studies*, 9(3), 329-344.

Zanko, (2012) *Community Garden RE-AIM*. Masters. (Unpublished). Virginia Polytechnic Institute and State University.

Zavaleta, D., Samuel, K., and Mills, C. (2014). *"Social Isolation: A Conceptual and Measurement Proposal".* OPHI Working Paper 67, Oxford University.

Zhao, Y. (2012). *World Class Learners: Educating Creative and Entrepreneurial Students.* Thousand Oaks, California: Corwin.

Zhu, R. J. & Argo. J. J. (2013). Exploring the Impact of Various Shaped Seating Arrangements on Persuasion. *Journal of Consumer Research* Vol. 40, No. 2, pp. 336-349.

Zilcha-Mano, S., Mikulincer, M., & Shaver, P. R. (2011). Pet in the therapy room: An attachment perspective on Animal-Assisted Therapy. *Attachment & Human Development*, 13(6), 541-561. doi:10.1080/14616734.2011.608987.

Zimmerman, M., Copeland, L., Shope, J., & Dielman, T. (1997). A longitudinal study of self-esteem: Implications for adolescent development. *Journal of Youth and Adolescence*, 26, pp. 117-142.

Appendix

Appendix 1: Participant questionnaire pack

SECTION 1

The following statements ask you to think about your behaviour. Please circle the most appropriate number to your experience.

	Not true	Somewhat true	Certainly true
I try to be nice to other people. I care about their feelings.	1	2	3
I am restless, I cannot stay still for long.	1	2	3
I get a lot of headaches, stomach-aches or sickness.	1	2	3
I usually share with others (food, games, pens etc.).	1	2	3
I get very angry and often lose my temper.	1	2	3
I am usually on my own. I generally play alone or keep to myself.	1	2	3
I usually do as I am told.	1	2	3
I worry a lot.	1	2	3
I am helpful if someone is hurt, upset or feeling ill.	1	2	3
I am constantly fidgeting or squirming.	1	2	3
I have one good friend or more.	1	2	3
I fight a lot. I can make other people do what I want.	1	2	3
I am often unhappy, down-hearted or tearful.	1	2	3
Other people my age generally like me.	1	2	3
I am easily distracted, I find it difficult to concentrate.	1	2	3
I am nervous in new situations. I easily lose confidence.	1	2	3
I am kind to younger children.	1	2	3
I am often accused of lying or cheating.	1	2	3
Other children or young people pick on me or bully me.	1	2	3
I often volunteer to help others (parents, teachers, children).	1	2	3
I think before I do things.	1	2	3
I take things that are not mine from home, school or elsewhere.	1	2	3
I get on better with adults than with people my own age.	1	2	3
I have many fears, I am easily scared.	1	2	3
I finish the work I'm doing. My attention is good.	1	2	3

The following statements ask you to think about your emotions and any emotional symptoms you have experienced. Please read each statement and circle the number which indicates which statement applied to you over the past week.

	Never	Sometimes	Often	Almost always
I found it hard to wind down	0	1	2	3
I was aware of dryness of my mouth	0	1	2	3
I couldn't seem to experience any positive feeling at all	0	1	2	3
I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
I found it difficult to work up the initiative to do things	0	1	2	3
I tended to over-react to situations	0	1	2	3
I experienced trembling (e.g. in the hands)	0	1	2	3
I felt that I was using a lot of nervous energy	0	1	2	3
I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
I felt that I had nothing to look forward to	0	1	2	3
I found myself getting agitated	0	1	2	3
I found it difficult to relax	0	1	2	3
I felt down-hearted and blue	0	1	2	3
I was intolerant to anything that kept me from getting on with what I was doing	0	1	2	3
I felt I was close to panic	0	1	2	3
I was unable to become enthusiastic about anything	0	1	2	3
I felt I wasn't worth much as a person	0	1	2	3
I felt that I was rather touchy	0	1	2	3
I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increased, heart missing a beat)	0	1	2	3
I felt scared without any good reason	0	1	2	3
I felt that life was meaningless	0	1	2	3

SECTION 3

In school and elsewhere (at the farm, at home, with friends, etc.), there are sometimes things that concern or bother people in general (for example, schoolwork, family, friends). Below is a list of ways in which people cope with concerns or problems. Please rate the items below based on how you would cope with various concerns or problems in **GENERAL.**

	Never	Seldom	Sometimes	Often	Very Often
Look for support and encouragement from others.	1	2	3	4	5
Work hard.	1	2	3	4	5
Worry about what will happen to me.	1	2	3	4	5
Wish a miracle will happen to make things turn out well.	1	2	3	4	5
Join with others to deal with the problem, e.g. organise a petition, attend a meeting.	1	2	3	4	5
Blame myself.	1	2	3	4	5
Don't let others know about my problem.	1	2	3	4	5
Pray for God to look after me.	1	2	3	4	5
Look on the bright side of things and think of all that is good.	1	2	3	4	5
Ask a teacher or other professional person for help.	1	2	3	4	5
Relax, e.g. watch TV, play computer games, go for a walk.	1	2	3	4	5
Keep fit and healthy, e.g. play sport.	1	2	3	4	5
Act up and make life difficult for those around me.	1	2	3	4	5
Try to be funny.	1	2	3	4	5
Get sick.	1	2	3	4	5
Accept things as they are, because I've done my best.	1	2	3	4	5
Shut myself off from the problem so I can try and ignore it.	1	2	3	4	5
Spend more time with a good friend.	1	2	3	4	5
Work out a way of dealing with the problem.	1	2	3	4	5
Find a way to let off steam, e.g. cry, scream, drink, take drugs.	1	2	3	4	5

SECTION 4

Please tick the box that best indicates how satisfied or dissatisfied you CURRENTLY are with each item below.

How satisfied are you with …?	Very dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Very satisfied
Your family life	1	2	3	4	5
Your friendships	1	2	3	4	5
Your school experience	1	2	3	4	5
Yourself	1	2	3	4	5
Where you live	1	2	3	4	5
Your life overall	1	2	3	4	5

The following statements describe the way people view their relationship with the natural world; please circle the number that corresponds with your opinion on how you view your relationship with the natural world.

	Disagree strongly	Disagree a little	Neither agree or disagree	Agree a little	Agree strongly
My ideal vacation spot would be a remote wilderness area.	1	2	3	4	5
I always think about how my actions affect the environment.	1	2	3	4	5
My connection to nature and the environment is a part of my spirituality.	1	2	3	4	5
I take notice of wildlife wherever I am.	1	2	3	4	5
My relationship to nature is an important part of who I am.	1	2	3	4	5
I feel very connected to all living things and the earth.	1	2	3	4	5

Survey End

Thank-you for your time and effort in completing this survey, your responses are very much appreciated.

Please feel free to contact the researcher for this project should you have any questions: Sarah Hambidge Email: shambidge@bournemouth.ac.uk

Appendix 2: Interview schedules

Where applicable, for each of these 5 RE-AIM dimensions participants' reflections (R) and/or visions (V) were probed in the interview schedule.

Participant pre-interview schedule

- [EFFECTIVENESS-R]: How long have you been coming to the farm?

- [EFFECTIVENESS-R]: Can you describe your day at the farm?

- [REACH-R]: What motivated you to attend the farm?

- [EFFECTIVENESS-R]: What do you enjoy the most when you are at the farm?

- [EFFECTIVENESS-R]: What do you enjoy least when you are at the farm?

- [EFFECTIVENESS-R]: What new skills do you think you've learnt at the farm?

- [EFFECTIVENESS-R]: Who are the people you feel the closest to at the farm and why?

- [EFFECTIVENESS-R]: Do you consider any of these people as friends?

- [EFFECTIVENESS-R]: What activities are you most proud of whilst being at the farm?

- [EFFECTIVENESS-R]: What farm activities do you find the most challenging?

- Is there anything that you want to change about yourself/in your life?

- What do you think prompted you to think of this change?

- [EFFECTIVENESS-R]: Do you trust people at the farm (both staff and fellow students). If yes, what is it that makes you trust them?

- [EFFECTIVENESS-V]: Is there anything you would like to change at the farm to improve your experience?

- [EFFECTIVENSS-R]: How confident are you in the farm environment?

- [EFFECTIVENESS-R]: How your confidence has changed since you've been attending the farm.

- [EFFECTIVENESS-R]: How has, if at all, your life outside of the farm changed as a result of attending the farm?

- [EFFECTIVESS-R]: How has your relationship with others outside of the farm environment changed since you've been attending the farm?

- How do you think you cope with problems?

- [EFFECTIVENESS-R]: To what extend do you think being in the farm helped you to cope better, if they say yes.

- What would you like to do after you have left the farm?

- [EFFECTIVENESS-V]: In what way, if any has your decision been influenced by your experiences at the farm?

Participant post-interview schedule

- [EFFECTIVENESS-R]: Tell me about your experiences of the farm in the last 9 months?

- [EFFECTIVENESS-R]: What do you most like about coming to the farm?

- [EFFECTIVENESS-R]: What do you enjoy doing the most when you are at the farm?

- [EFFECTIVENESS-R]: What do you enjoy least when you are at the farm?

- [EFFECTIVENESS-R:]: What new skills do you think you've learnt at the farm?

- [EFFECTIVENESS-R]: Do you use any of these new skills outside of the farm environment? Example(s).

- [EFFECTIVENESS-R]: When given a task at the farm how able do you feel to complete the task?

- [EFFECTIVENESS-R]: Has your ability to complete a task changed since you first started attending?

- [EFFECTIVENESS-R]: What motivates you to complete the task?

- [EFFECTIVENESS-R]: How does it make you feel when you have successfully completed a task?

- [EFFECTIVENESS-R]: Has this motivation helped you to complete tasks at home and at school?

- [EFFECTIVENESS-R]: What changes, if any, have you noticed within yourself since you have been coming to the farm? [PROMPT]: Examples.

- [EFFECTIVENESS-R]: Have you noticed any of these changes when you are at school?

- [EFFECTIVENESS-R]: Have you noticed any of these changes when you are at home?

- [EFFECTIVENESS-R]: Have you noticed any of these changes when you are with your friends?

- [EFFECTIVENESS-R]: What activities are you most proud of while being at the farm?

- [EFFECTIVENESS-R]: What farm activities do you find the most challenging?

- Is there anything that you want to change about yourself/in your life?

- What do you think prompted you to think of this change?

- [EFFECTIVENESS-R]: You said in your last interview that you trusted both the staff and your peers at the farm. Can you give an example of this trust?

- [EFFECTIVENESS-R]: Has this helped you to trust people at home and at school? How has it helped?

- [EFFECTIVENESS-R]: Has this ability to trust people improved your feelings of closeness and belonging to an individual or social group at the farm? Outside of the farm environment?

- [EFFECTIVENESS-R]: You said in your last interview that your confidence had started to improve since you began attending the farm. Has your confidence continued to improve and if so how?

- [EFFECTIVENESS-R]: What effect has your increase in confidence had on your life overall?

- In your last interview and in your questionnaire responses you mentioned experiencing feelings of negative emotions. Can you describe what negative emotions you most frequently experience?

- How do you manage your feelings of negative emotions?

- [EFFECTIVENESS-R]: Has the way you managed your feelings of negative emotions changed since attending the farm?

- [EFFECTIVENESS-R]: Has the frequency of feeling these negative emotions increased or decreased since coming to the farm?

- [EFFECTIVENESS-R]: How has your relationship with others outside of the farm environment changed since you've been attending the farm?

- Overall how would you describe your behaviour on a day-to-day basis?

- [EFFECTIVENESS-R]: Has your behaviour on a day-to-day basis improved since attending the farm?

- [EFFECTIVENESS-R]: What social skills have you learnt from attending the farm that have helped improve your relationship with others?

- How do you think you cope with problems?

- [EFFECTIVENESS-R]: How do you cope with problems differently since attending the farm compared to how you use to deal with problems?

- [EFFECTIVENESS-R]: To what extend do you think attending the farm helped you to cope better?

- [EFFECTIVENESS-R]: In your last interview you spoke a lot about the farm animals having a positive impact on your experience of the farm. Why do you enjoy the interaction with the farm animals?

- [EFFECTIVENESS-R]: How does your interaction with the farm animals make you feel?

- [EFFECTIVENESS-R]: Have you learnt anything about yourself from spending time with the farm animals?

- [EFFECTIVENESS-R]: What elements of being outside in the farm environment do you enjoy?

- [EFFECTIVENESS-R]: What impact does being outside in the farm environment have on you?

- [EFFECTIVENESS-R]: What impact does being outside in the farm environment have on how you feel about yourself?

- [EFFECTIVENESS-R]: Has spending time at the farm increased your participation in outdoor activities when you are not at the farm?

- [EFFECTIVENESS-R]: How has, if at all, your life outside of the farm changed as a result of attending the farm?

- [EFFECTIVENESS-R]: Are you happier with your life in general since you started attending the farm? [PROMPT]: Why?

- [EFFECTIVENESS-R]: At what point did you realise that you are happier with your life and what made you realise this?

- [EFFECTIVENESS-R]: Since coming to the farm do you feel you are better able to help someone else if they had a problem? [PROMPT]: Why?

- How do you feel about leaving the farm?

- What are your aspirations for the future?

- [EFFECTIVENESS-R]: In what way, if any has your aspirations for the future been influenced by your experiences at the farm?

- [REACH-R]: How easy or difficult did you find it to access the farm? Did you have support to help you attend when you first started coming to the farm?

- [ADOPTION-R]: Have you attended any other interventions before coming to the farm? If yes, what was the intervention and how was your experience at the farm different?

- [IMPLEMENTATION-R/V]: Is there anything you would like to change at the farm to improve your experience?

- [MAINTENANCE-ORGANISATIONAL/V]: What would you say to someone else who has an opportunity to attend the farm, but who is unsure?

- [MAINTENANCE-INDIVIDUAL/V]: Do you think you will be involved with the farm in the future? If yes …

- [MAINTENANCE-INDIVIDUAL/V]: How would you like to be involved with the farm?

- [MAINTENANCE-INDIVIDUAL/V]: Why do you want to be involved with the farm in the future?

Farmer interview schedule

- [IMPLEMENTATION-R]: How did you become aware of care farming?

- [IMPLEMENTATION-R]: Why did you decide to set up a care farm?

- [ADOPTION-R]: What is your role within ████████?

- [ADOPTION-R]: What is the overall philosophy of '████████?

- [ADOPTION-R]: What is the care farm model you decided to use?

- [ADOPYION-R]: What influenced your decision to use this model?

- [REACH-R/V]: In what way do you think care farming is suitable for young people with behavioural, emotional and social difficulties?

- [EFFECTIVENESS-R/V]: How do you think the care farm model helps young people to cope with the difficulties they face in their life?

- [IMPLEMENTATION-R/V]: What would a typical session at ██████████ for the young people with behavioural, emotional and social difficulties look like?

- [IMPLEMENTATION-R]: What are the key components of ██████████ which are particularly salient to work for the young people with behavioural, emotional and social difficulties?

- [EFFECTIVENESS-R]: What are the benefits young people get from attending ██████ ██████?

- [EFFECTIVENESS-R]: What changes (if any) do you observe in the young people who attend ██████████?

- [EFFECTIVENESS-R]: How long do you think before these changes start to occur?

- [EFFECTIVENESS-R]: In your view is there any evidence of transference between their farm experiences and home life?

- EFFECTIVENESS-R/V]: For how long do you think the changes last after leaving the care farm? What makes you think this is so?

- EFFECTIVENESS-R]: What do the young people who have attended '██████████ typically go on to do when they have left the farm?

- [Maintenance- individual/R]: "What are the most important factors that will determine the young person to remain at the care farm?

- [Maintenance – organizational/R]: How will the care farm be sustained over the next year? Over the next three years?

- [Maintenance – organizational/R/V]: If someone else wanted to develop and implement a care farm, what are the three pieces of advice that you would suggest to promote their success?

- Is there anything you would like to talk about in relation to this interview?

Assent Form ~ ▮▮▮▮▮▮▮▮ Project

Please tick or initial each box if you agree to the statement:

1. I confirm that I have read and understood the information sheet for the above study and that I have been able to ask questions.	
2. I understand that my participation is voluntary and I am able to withdraw from the study at any time without giving any reason, but the information I provide cannot be withdrawn once the data is anonymised (when the interviews are transcribed).	
3. I understand that all information, including interview responses, will be kept confidential.	
4. I agree that audio recordings may be taken.	
5. I agree that the data can be used on condition that they are kept confidential and anonymised (this means that all identifying features about you will be removed).	
6. I understand that all raw data will be stored safely, and only seen by members of the research team.	
7. I agree to take part in the above study.	

Please print, sign and date below:

_____ _____ _____

Participant Name   Signature   Date

_____ _____ _____

Researcher Name   Signature   Date

If you have any queries, please do not hesitate to contact:

Sarah Hambidge at ████████████████████████ or speak to a member of the ██████████ team.

If at any time you wish to make a complaint, you may do so by Professor ██████████ (Deputy Dean of Research and Professional Practice, Faculty of Science and Technology) on ██████████ or ████████████████████████.

BU
Bournemouth University

PhD Research

INFORMATION SHEET FOR YOUNG PEOPLE

████████████ **Project**

You are being invited to take part in a research study as part of a student project. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the information with a member of staff from ██████████ and discuss it with them if you wish. Please ask if there is anything you do not understand.

What is the aim of the research?

The study will look at young people's experiences of attending the farm to evaluate if care farming may be one solution to strengthening people's connection to nature and improving the lives of young people. To do this the researcher would like to monitor any progress you make whilst attending the farm and to speak with you about your experiences of the farm. This will tell us what you find beneficial, what services/activities you enjoy and what other services/activities you would find useful or fun.

Why have I been chosen?

You have been invited to take part because you attend ██████████ care farm.

What do I have to do?

You will be asked to complete 3 questionnaire packs within a six month period. The researcher or a member of the ██████████ team will work

with you to help you answer the questions. The questionnaire will tell us how well you are doing in various areas of your life since you started attending the farm.

The researcher may also invite you to talk about your experiences of attending the care farm. The one-to-one discussion will last no longer than an hour.

Do I have to take part?

Your participation is voluntary: you can choose whether or not to take part. If you do not wish to participate or if you change your mind before or during the one-to-one discussion you do not have to continue or give a reason. If you decide to withdraw during the one-to-one discussion, data collected up to that point may still be used unless you say otherwise. It will not be possible to withdraw completely from the project once the audio recordings have been written down because the information given will be anonymised at this point.

What are the possible benefits of taking part?

The study may not benefit you directly, but it is hoped the findings will help to develop and support similar services which will be of benefit to other people in the future.

Will my taking part in this project be kept confidential?

All the information collected will be treated in confidence, and accessed only by the researcher and the Bournemouth University supervision team. Raw data will be stored securely according to Bournemouth University Data Policy in a secure password protected electronic drive. Audio recordings of the one-to-one discussion will be deleted after transcription and all other data will be stored for a maximum of 5 years. If you are not comfortable with this, but would still like your child to comment on the project, let us know and I can write their comments down.

Participants can be withdrawn from the study up until the point of anonymisation of the data, which will happen when the one-to-one discussions are transcribed.

What will happen to the results of the research project?

The findings from the research will be part of the completed report and other publications. Quotes you provided may be used to illustrate points. Only anonymous quotes will be used to ensure no-one is identified.

The recipient of the collected data and results will be the researcher and Bournemouth University.

Contact for further information
Should you wish to discuss the project further before making a decision then you or your parent(s)/guardian can contact me by e-mail or telephone:

Sarah Hambidge
Email: ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮

If at any time you wish to make a complaint, you may do so by contacting Professor ▮▮▮▮▮▮▮ (Deputy Dean Research and Professional Practice, Faculty of Science and Technology) on ▮▮▮▮▮▮▮ or ▮▮▮▮▮▮▮▮▮▮▮▮▮▮

Thank you for taking the time to read this information sheet. If you are happy to take part in this project please sign the consent form.

Sarah Hambidge

BU
Bournemouth
University

Parent/Guardian Agreement Form

████████████ **Project**

Please tick or initial each box if you agree to the statement:

1. I confirm that I have read and understood the information sheet for the above study and that I am able to contact the researcher or ████████ to ask questions.	
2. I understand that my child's participation is voluntary and I am able to withdraw him/her from the study at any time without giving any reason, but the information my child provides cannot be withdrawn from the study once the data is anonymised (when the interviews are transcribed).	
3. I understand that all information provided by my child, including interview responses, will be kept confidential.	
4. I agree that audio recordings may be taken of my child for research purposes.	
5. I agree that the data can be used on condition that it is kept confidential and anonymised (this means that all identifying features about your child will be removed).	
6. I understand that all raw data will be stored safely, and only seen by members of the research team.	
7. I agree that my child can take part in the above study.	

Please print, sign and date below:

Name of child: _____

_____	_____	_____
Parent/Guardian Name	Signature	Date
_____	_____	_____
Researcher Name	Signature	Date
_____	_____	_____
Director of ████████ name	Signature	Date

Thank you for your participation. Please return this form to ████████.

If you have any queries, please do not hesitate to contact
Sarah Hambidge at ████████████████████ or a member of the ████████████.

If at any time you wish to make a complaint, you may do so by ████████████████ (Deputy Dean of Research and Professional Practice, Faculty of Science and Technology) on ████████ or ████████████████████.

PhD Research

INFORMATION SHEET FOR PARENTS/GUARDIANS

████████████ Project

Your child (or the child you are designated to care for) is being invited to take part in a research study as part of a student project. Before you decide if your child will take part it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information. If you would like more information please contact Sarah Hambidge (PhD Researcher, Bournemouth University at ███████████████████████████) or a member of the ████████ team. Take time to decide whether or not you wish your child to take part.

What is the aim of the research?

The study will look at young people's experiences of attending the farm to evaluate if care farming may be one solution to strengthening people's connection to nature and improving the lives of young people. To do this the researcher would like to monitor any progress your child makes whilst attending the farm and to speak with them about their experiences of the farm. This will tell us what they find beneficial, what services/activities are working well, what are not and what other services/activities would be useful to them.

Why has my child been chosen?

Your child has been invited to take part because they regularly attend ███████████ care farm.

What will my child have to do?

Your child will be invited to complete 3 questionnaire packs within a six month period. The questionnaire will tell us how well they are doing in various areas of their life since they started attending the farm. The researcher or a member of the ████████ team will support your child

in completing the questionnaires. The researcher may also invite your child to talk about their experiences of attending the care farm. The one-to-one discussion will last no longer than an hour.

Does my child have to take part?

Your child's participation is voluntary: you can choose whether or not they take part. If you do not wish your child to participate or if you change your mind before or during the one-to-one discussion your child does not have to continue or give a reason. If you decide to withdraw your child during the one-to-one discussion, data collected up to that point may still be used unless you say otherwise. It will not be possible to withdraw completely from the project once the audio recordings have been written down because the information given by your child will be anonymised at this point.

What are the possible benefits of taking part?

The study may not benefit you or your child directly, but it is hoped the findings will help to develop and support similar services which will be of benefit to other people in the future.

Will my child taking part in this project be kept confidential?

All the information collected will be treated in confidence, and accessed only by the researcher and the Bournemouth University supervision team. raw data will be stored securely according to Bournemouth University Data Policy in a secure password protected electronic drive. Audio recordings of the one-to-one discussion will be deleted after transcription and all other data will be stored for a maximum of 5 years. If you are not comfortable with this, but would still like your child to comment on the project, let us know and I can write their comments down.

Participants can be withdrawn from the study up until the point of anonymisation of the data, which will happen when the one-to-one discussions are transcribed.

What will happen to the results of the research project?

The findings from the research will be part of the completed thesis and other publications. Quotes provided by your child may be used to illustrate points. Only anonymous quotes will be used to ensure no-one is identified.

The recipient of the collected data and results will be the researcher and Bournemouth University.

Contact for further information

Should you wish to discuss the project further before making a decision then you can contact me by e-mail or telephone:

Sarah Hambidge
Email: ████████████████████████████

If at any time you wish to make a complaint, you may do so by contacting Professor ██████████ (Deputy Dean of Research and Professional Practice, Faculty of Science and Technology) on ██████████ or ████████████████████████

Thank you for taking the time to read this information sheet. If you are happy for your child to take part in this project please sign and return the consent form.

Sarah Hambidge