Surveying the Landscape of Mixed Methods Phenomenological Research

Abstract

As the popularity and scope of mixed methods research (MMR) develops, there is increasingly a need to map the growing body of literature in order to provide more inclusive frameworks of this form of research. Whilst mixed methods phenomenological research (MMPR) has been recently conceptualized, there is a lack of systematic evidence that outlines how this approach is being adopted by researchers. Thus, the purpose of this article was to explore the current implementation of MMPR within empirical research studies in order to provide a clearer picture of how, why, and where this research approach is being adopted. Findings demonstrated that whilst the prevalence of MMPR is increasing, the majority of this work is conducted within the health sciences and prioritises the phenomenological phase. Further, a model of the five key purposes of conducting MMPR is proposed. Finally, it is concluded that MMPR articles often fail adequately to outline their methodological procedures.

Surveying the Landscape of Mixed Methods Phenomenological Research

The last decade has seen a significant increase in the number of researchers adopting a mixed methods research (MMR) design in order to provide a greater breadth and depth of understanding. This form of research, generally speaking, is an approach to knowledge that considers numerous perspectives within a single study, and draws upon both qualitative and quantitative traditions (Johnson, Onwuegbuzie, & Turner, 2007). As the popularity of MMR as a research approach has grown, so has the number of associated publications aiming to conceptualize fully this form of research. Recently, a number of studies that explicitly provide frameworks for different forms of MMR that include one consistent methodology (for example, phenomenological methodology) has emerged within the literature. For example, Johnson, McGowan, and Turner (2010) provide a seminal example of how research designs that are rooted in one tradition (in this case grounded theory) can be expanded into a design that mixes with another tradition (which they labeled as "MM-GT"; p. 65). Also, following this trend, Mayoh and Onwuegbuzie (2012) have delivered a formal conceptualization of MMR that incorporates phenomenology—a qualitative methodology with an even longer tradition than grounded theory (which they termed "MMPR; p. 3). Explicitly, they defined MMPR as "research that combines phenomenological methods with methods grounded in an alternative paradigm within a single study" (p. 21). The authors aimed, first, to provide a philosophical justification for using MMPR and, second, to provide examples of MMPR in practice in order to underline a number of potential models that can practically be utilized in future research. They demonstrate through the inclusion of practical examples that there is a clear logic of justification for the philosophically sound mixing of phenomenology with alternative methods for multiple purposes including experiential

theory generation and testing, orientation towards phenomenological phenomena, exploration of unanticipated findings, improving utility and generalizability, and cross-validation or triangulation. Although this article draws upon examples of MMPR in practice, it fails to provide a systematic overview of the MMPR literature available.

Within the field of MMR, it has been recently proposed that there is need to develop maps that record and track the growing body of literature (Creswell, 2009). Further, several researchers (for example, Alise & Teddlie, 2010; Hibbard & Onwuegbuzie, 2012) have conducted systematic studies examining the utilization of mixed methods research designs across numerous fields via what Alise and Teddlie (2010) refer to as *prevalence rate* studies ("a line of inquiry into research methods in the social/behavioral sciences [referring to the proportion of articles using a particular methodological approach]", p. 104). Specifically, within MMPR, Mayoh and Onwuegbuzie (2012) recommend that future research should focus on a more systematic review of the current studies adopting phenomenological methodology within mixed method designs in order more closely to explore this form of methodology and help build a more formal conceptualization of MMPR.

Aim and Objectives

The overarching aim of this paper is to explore the current implementation of MMPR within empirical research studies in order to provide a clearer picture of how, why, and where this research approach is being adopted. Four objectives have been identified to ensure the fulfilment of this broad aim: to provide an overview of the prevalence of MMPR studies over time; to identify which disciplines and sub-disciplines currently utilise MMPR approaches; to explore how these studies are conducted in terms of point of integration, methods being mixed, and the priority and

sequence decisions that are made within them; and, finally, to discover the purpose of conducting MMPR provided by researchers conducting this form of research. It was expected that fulfilment of these objectives will contribute to the overall understanding of this form of academic research, and help guide further conceptualisation and research.

Method

A comprehensive search was conducted in June 2012 to identify empirical research that had incorporated a phenomenological component within a mixed methods study. For the purpose of the current review the term empirical was used to refer to journal articles that reported on original research as opposed to theoretical, methodological or editorial articles. In order to ensure the search was extensive, 16 electronic bibliographic databases were identified that represent the widely used electronic sources across a wide range of academic disciplines. Those databases were: Academic Search Complete; Business Source Complete; CINAHL; EDS Foundation Hospitality and Tourism Complete; Informit Humanities and Social Science Collection; ERIC; MEDLINE Complete; OAIster; PsychArticles; PsycINFO; Science Citation Index; ScienceDirect; Social Science Citation Index; SocINDEX ; SPORT Discus; and Teacher Reference Center (All EbscoHost).

Standard terms were utilized in order to ensure the database searches were both systematic and effective. However, because researchers have been combining multiple methods for years using different terms, it can be relatively difficult to locate their studies using standardized terms (Creswell & Plano Clark, 2010). Therefore, in order to identify the relevant articles, the following flexible search terms were used: Phenomenology AND ("Mixed methods" OR "Mixed method" OR "Mixed-method" OR “Mixed methodology”). These search terms were selected because it was

rationalized that they would yield both focussed and appropriate articles outlining research that incorporates a phenomenological component within a mixed methods study. It could be argued, however, that these search terms would limit the inclusion of early MMPR work, because this is modern terminology associated with the formal conceptualization of this form of research. However, the goal of this review primarily was to locate MMR studies that adhere to formal guidelines for conducting MMR such as providing clear integration (Tashakkori & Creswell, 2007); therefore, searching for studies post-conceptualization was not viewed as a specific limitation.

Once the search terms had been identified, they were used to conduct a systematic review of the literature (see Figure 1). No formal date limits were set; however, the criteria were refined only to include peer-reviewed journal articles. The initial search yielded 57 results over the 16 databases, which were exported as a record for the study's audit trail. Of these 57 records, six were omitted as duplicates because the record was present on multiple databases—leaving 51 unique articles.

Once unique articles had been identified via the primary screening process, a secondary screening procedure was applied that involved examination for relevance of the abstract of each selected article. The aim of the search was to identify empirical articles; therefore, methodological (n = 11) and editorial articles (n = 1) were omitted from the initial pool of 57 articles, thereby leaving 39 empirical articles. Two further articles were omitted, despite being empirical, because they merely discussed mixed methods research and phenomenology without using them in combination—yielding a reduced sample of 37 articles.

Digital copies of the 37 articles were obtained via electronic database subscriptions and inter-library loan requests. These articles then were read in full to ensure they met the criteria for the review. At this stage, a final 13 articles were

omitted due for various reasons including the following: (a) discussing but not utilising phenomenological methodology, (b) only using a single method in isolation, and (c) operating within a single paradigm. The final 24 articles were subjected to a full review, according to four objectives that were identified that would assist in the fulfilment of the study's aim and objectives. Primarily, the dates that the articles were first published were recorded in order to illustrate the prevalence of MMPR studies and, therefore, fulfil the first of the study's objective. Secondly, information regarding the discipline and sub-discipline of empirical research articles was collected in order to identify where MMPR was being conducted. Thirdly, in order to explore how MMPR research was being conducted within these studies, information regarding the point of integration, the individual methods being mixed, and details regarding the priority and sequence decisions that are made within them were also collected where present. Finally, the study's purposes for mixing methods also were recorded in order to provide a justification for the why this approach was being adopted. The results of this full analysis will be reported below.

Results and Discussion

Prevalence of Mixed Methods Research

In order to ascertain the prevalence of MMPR publications over time, the 24 articles were coded by the date that they were published. As previously stated, no date limits were set on searches to ensure that the search remained relatively inclusive. Figure 2 displays the number of MMPR research articles for each year between 2002 and six months into 2012. It can be seen from this figure that the earliest MMPR study identified was published in 2003, which also represented the only MMPR publication that year. Similarly, only one MMPR research article was published in 2004. Conversely, 2011 saw the highest number of MMPR publications (n = 7).

Furthermore, each year between 2003 and 2007 showed growth on the previous year's figures with the exception of 2009, where only one MMPR article was published, compared to three in 2008 and six in 2010. Only three MMPR studies were identified from the year of the review (2012); however, as the search was only conducted on the 21st of June 2012, this figure only reflected the number of publications for slightly less than the first one half of the year.

Overall, these prevalence findings demonstrate a steady growth in the number of studies adopting a MMPR since the first publication in 2003. As previously stated, researchers have been mixing research methods prior to the formal conceptualization of mixed methods research; however, it is debatable whether many of these studies would be classified as MMR by more formalised and contemporary definitions.

The emergence of work self-identified as *mixed methods*, *mixed method*, *mixed-method*, or *mixed methodology* from 2003 onwards is somewhat foreseeable because this was the same year in which the seminal first edition of the *Handbook of Mixed Methods in Social and Behavioral Research* was published (Tashakkori & Teddlie, 2003), which altered the landscape of mixed methods research interminably, and led to wider acceptance of such terms. Furthermore, prevalence rates from the current study also saw more rapid growth post 2007, the very year that the *Journal of Mixed Methods Research* was launched and the first issue published. Both these influential publications helped to shape the field of mixed methods research generally by providing both a theoretical and practical guide to assist individuals wishing to utilize and to develop these methodological approaches. These growth figures reflect the influence of these and other publications in the field of MMR generally and the search terms used within the current review to identify MMPR studies.

Discipline and Sub-Discipline

Studies also were reviewed by their discipline and sub-discipline in order to explore in which fields MMPR is most prevalent. Coding the studies by discipline and sub-discipline was by no means a simple task because no standardised inclusion criteria currently exist for such concepts (Becher & Trowler, 2001). However, it was considered imperative that the academic fields of the MMPR study were evaluated in order to paint clearly the landscape of this form of research and to demonstrate how it is being adopted within academia. Therefore, studies were grouped together primarily by sub-discipline based on the core theme of the paper, as identified by the primary researcher. Once this coding had taken place, the sub-disciplines were then consolidated into core disciplines based on the coding of the sub-discipline and content of the journal articles.

Findings demonstrated that a significant majority of MMPR studies have been conducted within the field of health research (70.8%, *n* = 17). Only four additional disciplines were cited by articles within the review: psychology (12.5%, *n* = 3), education (8.3%, *n* = 2), social care (4.2%, *n* = 1), and career development (4.2%, *n* = 1). The majority of sub-disciplines within the five aforementioned broader academic research areas provided unique examples; however, there were six instances of multiple articles sharing the same sub-discipline, demonstrating an increased prevalence of MMPR studies in these areas; occupational therapy (16.7%, *n* = 4), nursing (16.7%, *n* = 4), pain (8.3%, *n* = 2), mental health (8.3%, *n* = 2), counselling (8.3%, *n* = 2), and chronic care (8.3%, *n* = 2).

The emergence of MMR studies that draw upon phenomenological enquiry within health research was anticipated because both phenomenological and MMR independently have an existing legacy within this field. For example, Ivankova and Kawamura (2010), who examined five major databases (PubMed, ERIC, PsychInfo,

Academic One File, and Academic Search Premier) that represented 10 subject areas (business, communication studies, education, health and medicine, library studies, political studies, psychology, social work, sociology, women's studies) and two mixed research journals (*International Journal of Multiple Research Approaches* and *Journal of Mixed Methods Research*), from January 2000 to April 2009, reported that more mixed research articles have been published in the health and medical field (47%) than in any other field. The orientation of phenomenology towards understanding the meaning of personal experience, multiple realities, and questions of being holds particular appeal for the discipline of health research, and health researchers who wish effectively to inform their professional practice (Van der Zalm, & Bergum, 2000). Furthermore, mixed-methods research is frequently adopted within health research because it mirrors the complexity of the multiple causes of health, disparities in health status, experiences of health care delivery and the broadly convoluted nature of individual experiences of health and illness (Forthofer, 2003). Therefore, it seems like a natural progression for health researchers to see the benefits of an approach such as MMPR that can simultaneously communicate personal experience and mirror the complexity of health. Finally, further analysis of the sub-disciplines demonstrates the augmented adoption of the MMPR approach specifically within complex academic sub-disciplines that rely on the voice of human experience to inform practice, such as nursing or occupational therapy.

Nature of Mixing

Data concerning the nature of mixing was extracted from the articles being reviewed in order to further understanding of how MMPR studies presently are being conducted and provide examples that can inform future research. A description of the priority and sequence decisions, point of integration, and an overview of methods

being combined was obtained in order to provide this landscape of practical MMPR designs.

Priority decision. Morgan (1998) suggests that mixed methods research designs are accomplished by making two basic decisions; priority and sequence. The aim of the priority decision is to pair a principal or predominant methodological component with the complementary methodological component. Data obtained from MMPR studies demonstrated that in this form of research it is more common to prioritise the phenomenological methodology (50%, $n = 12$) or to give the methodological components equal status (25%, $n = 6$) than to prioritise the alternative methodology (4.2%, $n = 1$). Indeed, Mayoh and Onwuegbuzie (2012) theorised that the lack of quantitatively driven MMPR might be due to the complex and time-consuming nature of phenomenological enquiry putting time constraints on complementary quantitative work, relegating it to the inferior, or the inflexible nature of the essence and aims of phenomenological enquiry—to explore lived experience. Despite these constraints, prioritizing the quantitative phase could offer MMPR additional merit because it can provide the research with a deductive theoretical thrust (Morse, 2003). It is also notable that 20.1% ($n = 5$) of the MMPR studies did not clearly articulate whether priority was given to a single methodological component, or if they had equal status within the research. Creswell and Plano Clark (2010) and Leech, Onwuegbuzie, and Combs (2011) outline the importance of clearly describing the details of the methodological procedure when writing-up quality MMR. By excluding the details of methodological priority—which yields articles that lack sufficient transparency—MMPR studies run the risk of being condemned for adopting a mixed methods approach uncritically without considering, at the very least, one of the two basic primary decisions associated with mixed methods enquiry. Furthermore,

failure to report methodological decisions accurately puts significant limits on the overall rigor of the research, particularly in terms of internal credibility (“the truth value, applicability, consistency, neutrality, dependability, and/or credibility of interpretations and conclusions within the underlying setting or group”; Onwuegbuzie & Leech, 2007, p. 234) and external credibility (“the degree that the findings of a study can be generalized across different populations of persons, settings, contexts, and times”; Onwuegbuzie & Leech, 2007, p. 235) of the qualitative findings and/or the internal validity (“approximate validity with which we infer that a relationship between two variables is causal” Cook & Campbell, 1979, p. 37) and external validity (“the extent to which the study results can be generalized to and across populations of persons, settings, times, outcomes, and treatment variations”; Johnson & Christensen, 2010, p. 585) of the quantitative findings. Further, such transparency is promoted as representing sound research practice by professional organizations across multiple fields (for example, American Educational Research Association [2006] Standards; American Evaluation Association [2004] Guiding Principles for Evaluators; World Medical Association Declaration of Helsinki [Krleža-Jerić & Lemmens, 2009]).

Sequence decision. According to Morgan (1998), the second judgment that should be made when designing MMR is the sequence decision, which will determine the order in which the phases of research are conducted. In terms of the time ordering of MMR in general, methodological stages can either be carried out concurrently or sequentially (Johnson, & Onwuegbuzie, 2004), typically depending on the philosophical approach to mixing, and overall goal of the MMR study. Findings from the current study demonstrate that MMPR studies were equally likely to adopt a concurrent nested (50%, $n = 12$) as a sequential approach (Creswell & Plano Clark, 2010; Leech & Onwuegbuzie, 2009). In an earlier conceptual article, the authors

argued that the philosophical nature of phenomenological enquiry lends itself particularly well to combination with quantitative methods both concurrently and sequentially (Mayoh & Onwuegbuzie, 2012). The authors explained that MMR that moves sequentially from a quantitative phase carries great potential because qualitative methods naturally *set the stage* for quantitative research used in an explanatory manner to test theories developed through phenomenological enquiry (Mayoh & Onwuegbuzie 2012; see also Robbins & Vandree, 2009). Furthermore, the reverse sequencing can allow for the researcher to be *orientated* towards a specific experience prior to data collection taking place, reflecting the focussed nature of phenomenological enquiry (Mayoh & Onwuegbuzie 2012). Examples of these sequential studies demonstrate that preliminary quantitative data collection is used both to feed into the interview schedule by providing orientation and also to help identify participants for the phenomenological phase who can provide information-rich experiential accounts (Dean, Hudson, Hay-Smith, & Milosavljevic, 2011; Hamdan-Mansour et al., 2011; Mayoh, Bond, & Todres, 2012; Thornton, Baker, Johnson, & Kay-Lambkin, 2011).

Although the benefits of sequential MMPR are clear from the previously mentioned conceptual article (Mayoh et al., 2012), the argument also was presented that the concurrent approach to MMPR draws focus to the cohesion and contrasts between sets of findings (qualitative set of findings and quantitative set of findings), which ultimately can provide a greater breadth and depth of exploration of phenomenological data (Mayoh et al., 2012). Mayoh et al. (2012) also contended that similarities between postpositivist and phenomenological epistemology and axiology in terms of the scientific reduction, and transcendental subjectivity provide a justification for combining phenomenology with quantitative methods concurrently

because the epistemological parallels allow for a single research goal to be identified. Ultimately, the current findings demonstrate that in line with previous literature (Mayoh et al., 2012), both sequential and concurrent approaches provide unique and significant benefits to MMPR designs.

Point of integration. Mixed methods researchers widely acknowledge that one of the key features of MMR is that it involves the integration of the data at one or more stages within the research process (Creswell, Plano Clark, Gutmann, & Hanson, 2003; Onwuegbuzie & Combs, 2010; Onwuegbuzie & Teddlie, 2003). Although methodological integration is integral in MMR, the point where this integration takes place varies among studies, and bears a relationship to whether the research is conducted in phases (sequential) or as a single phase (concurrent) (Creswell, 2003).

The present results also demonstrated that the most common point of initial integration within MMPR studies was in the discussion section (70.8%, $n = 17$). This reflects previous findings from O'Cathain, Murphy, and Nicholl (2007), who identified a deficit of integration at the point of analysis within mixed methods health research, and a preference for integration during the interpretation phase (one sequential study did not specify this). Within the current study, in the sequential MMR studies wherein the point of integration was outlined exclusively, the methodological components predominantly were integrated in the discussion section. The preference for this form of integration in sequential research reflects the nature of this style of MMR by ensuring that the stages of the research are kept separate through analysis, thereby facilitating the researchers' ability to respect paradigmatic differences and allowing them to use separate analysis techniques that appropriately reflect the nature of the data from each stage. The concurrent MMPR studies demonstrated more diversity in assimilation than did the sequential MMPR, with only

50% (*n* = 6) of concurrent MMPR studies initially combining approaches in the discussion section of the articles, and 41.7% (*n* = 5) integrating methodological components at an earlier stage of the research (one concurrent study did not specify the point of integration). More specifically, 25% (*n* = 3) of concurrent MMPR studies integrated methodological components in the presentation of the results and 16.7% (*n* = 2) did so even earlier—during the analysis section of the report. The decision to integrate data during the analysis reflects the concurrent nature of these studies, wherein more emphasis is placed on cross-validation and convergence as opposed to separation.

Although methodological integration was discussed in the majority of MMPR articles, two of the 24 studies failed to outline when the methods were combined, or whether these methods were integrated at all. As previously stated, integration is an integral part of MMR; therefore, it is essential that the authors of MMPR studies articulate the nature of this integration effectively in order to ensure both quality and rigor moving forward.

Form of phenomenology. *Phenomenology* is a broad term that may be attributed to both a philosophical movement and a range associated methodological approaches. Generally, phenomenological methodology can be separated into two main streams: descriptive (eidetic) phenomenology, which draws more heavily on the work of Edmund Husserl (1859-1938) and, more recently, Amadeo Giorgi; and interpretative (hermeneutic) phenomenology, drawing on the work of Martin Heidegger (1989–1976) and Max Van Manen. The relative breath of this term, and its use to refer to both methodology and philosophy pose a significant challenge for systematic work. For example, the purposes of the current research work citing the use of Interpretive Phenomenological Analysis (IPA) was included within the review

as an example of interpretive phenomenological research, however it could be argued that this is analytical method does not represent true phenomenological work. However, as phenomenology is a cornerstone of IPA, and because this review focusses on the technical aspects of mixing, research adopting this approach has been included in the review of MMPR.

The current findings demonstrated that MMPR studies are predominantly conducted using descriptive (54.2%, *n* = 13) or interpretive (41.7%, *n* = 10) phenomenological approaches, with the review revealing only one example of an alternative form of the method. This unique study adopted a dialogical phenomenological method (Stawarska, 2009), which views the participant as the co-researcher, and requires her or him to have a significant input in analysis and thematization. Mayoh and Onwuegbuzie (2012) contended that although interpretive and descriptive methods continue to dominate the field of MMPR, more recently conceptualised approaches to phenomenological enquiry such as the dialogical method also provide potential for mixing. They explained that developments of the mixed phenomenological research approaches are constantly dynamic, mirroring the evolving world of mixed methods and facilitating greater methodological flexibility and cohesion between methods (Mayoh et al., 2012). This review demonstrates a deficit in MMPR studies incorporating more recently conceptualised forms of phenomenological enquiry such as the dialogical method, which could enrich the application and utility of the method.

Finally, there was no relationship between the phenomenological methodology or analytical method adopted and the date the article was published, point of integration, or the alternative method selected; however, descriptive statistics revealed that whereas studies from the health discipline used both interpretive and descriptive

phenomenological approaches, there were no examples of descriptive phenomenology within the psychological research studies. This finding could be due to the essentially interpretive nature of the psychological discipline, aligning more closely with complementary phenomenological methods. The preference for interpretive phenomenology within MMPR studies in the psychological discipline provides an example of researchers adapting the form of MMPR to meet the needs of their academic area, and reflects the diversity of phenomenological research approaches.

Form of alternative method. The review revealed that the majority of MMPR studies used the phenomenological approach in combination with a quantitative questionnaire or survey instrument (62.5%, *n* = 15). Also, there were a few examples of studies combining a phenomenological methodology with experimental data (12.5%, *n* = 3), and clinical interviews (8.3%, *n* = 2). Three studies adopted unique approaches to MMPR, combining phenomenological methodology with discourse analysis, arts informed interpretation, and archive data. This review demonstrates that although MMPR that combines phenomenology with questionnaire data dominates the field, some researchers are seeing opportunities in combining phenomenology with unconventional quantitative and qualitative methods using alternative paradigmatic stances.

Purpose for mixing. In addition to providing details of MMR characteristics, it is necessary also to consider the purposes for which methodological components have been combined within a single study (Collins, Onwuegbuzie, & Sutton, 2006; Greene, Caracelli, & Graham, 1989; Greene & McClintock, 1985). Review of the MMPR literature indicated that, frequently, the purposes for mixing were not explicitly articulated by authors; however, a thorough examination of each article as a whole provided relatively clear insight into why authors combined phenomenology

with an alternative methodology within their research studies. In order to ensure dependability of this coding, this process was repeated at various points within the analysis process, and results were triangulated. Although some studies demonstrated multiple purposes for mixing, a dominant purpose often was clear, in line with previous findings from the MMR literature generally (Greene et al., 1989).

The review of the MMPR literature demonstrated five key purposes of mixing phenomenology with an alternative methodology within a single study. These were: to ground quantitative data in rich experiential accounts; to place phenomenological data in an existing context or framework; to provide orientation toward a relevant phenomenon; to confirm findings; or to provide an additional layer to the analysis. Each of these purposes will be discussed in turn in the following sections.

Grounding. The first identified purpose of MMPR was to provide rich experiential data in order to ground quantitative data within the lived-experience of participants. For example, within their study of suppressed laughter, Robbins and Vandree (2009) explained that by grounding experimental research in the life-world experiences, the meaning of the phenomenon is ultimately preserved, which results in more expressive and significant findings. This reflects the fundamental aims of phenomenological inquiry; to develop a more meaningful understanding of individuals' experiences through the consciousness of the experiencer, and ultimately to allow human beings to be understood from *inside* their subjective experiences (Giorgi, 2009; Todres & Holloway, 2006). Therefore, the strengths of phenomenology—namely meaningful understanding of human experience—can be applied in order to offset the weaknesses of alternative methods. Hence, in certain respects, grounding could be seen as parallel to the purpose of complementarity outlined by Greene et al. (1989) within the general MMR literature. However, the

concept of grounding provides a more specific description of how this purpose is articulated within MMPR, and the particular strengths of phenomenological methodology.

Framing. MMPR studies that integrate methodological components for the purpose of framing use quantitative data to place phenomenological findings within an existing context or framework. For example, in their 2010 study of the role of attachment status in counselling psychologists' experiences of personal therapy, Rizq and Target (2010a, 2010b) described collecting qualitative data using a standardised clinical interview tool containing closed questions prior to a phase of Interpretive Phenomenological Analysis (IPA) in order to place the researcher's perspective of participant experiences within a relevant theoretical framework of early childhood attachment experiences. In a similar way to grounding, framing uses the strengths of one methodological component to address the weaknesses of another; however, in this instance, the strengths of an alternative method are used to frame the phenomenological inquiry within an existing context. In this sense, framing also demonstrates some parallels to the concept of *complementarity* articulated in the general MMR literature (Greene et al., 1989).

Orientating. A further justification for mixing phenomenology with alternative methods is for the purpose of orientation. In orientation studies, the alternative method is used to focus the phenomenological methodology on a specific sample, a relevant phenomenon, or the orientation of the participants. For example, Thornton et al. (2011) conducted a preliminary phase constituting of a self-report battery of questionnaires prior to a phenomenological phase in order to identify an information-rich sample of participants for the phenomenological phase that would also meet their criteria for inclusion. Conversely, Mayoh et al. (2012) used a

preliminary quantitative questionnaire phase to orientate the focus of a study with a dominant descriptive phenomenological second stage to ensure that the research remained emergent and relevant. The review also demonstrated examples of studies adopting an orientation approach to focus the attention of the participants prior to phenomenological interviewing. For instance, Dean et al. (2011) explain that the preliminary questionnaire data within their sequential MMPR study had a dual function of orientation. Primarily, it allowed for the phenomenological interview to be adapted in line with the participants' individual quantitative responses, and, secondly, it allowed time for the participants to consider the relevant issues and, therefore, to orientate their focus toward that of the researchers.

The appeal of orientation as a purpose for conducting MMPR is perhaps due to the very nature of phenomenological enquiry, which requires the research to be positioned toward a specific phenomenon prior to data collection taking place. This purpose is specific to MMPR as the required level of focus provides a contrast with alternative qualitative methods (such as grounded theory), which involve the research being entirely open and exploratory within the early stages. This purpose may be viewed as parallel to the concept of *development* within the general MMR literature (Greene et al., 1989), which seeks to use the results from one method to develop or to inform the other method.

Confirming. An alternative purpose for combining phenomenology with a different method within a single study is to confirm or to cross-validate findings. This purpose is parallel to triangulation outlined by Greene et al. (1989) and involves convergence, corroboration, or correspondence of the results from the phenomenological and alternative methods. An example of confirmation is provided by Winston, Dunbar, Reed, and Francis-Connolly (2010) during their research into

mothering occupations that involved comparing phenomenological and questionnaire data through the development of matrices in order to cross-validate findings. They justified that the adoption of this approach would allow the results and discussion to focus on mixed analysis as opposed to analysing the data sets independently.

Although the similarities between triangulation and confirmation are clear, MMPR researchers conducting studies for the purpose of confirmation face additional obstacles to MMR researchers adopting triangulation (Mayoh et al., 2012). When discussing triangulation in the general sense, Sale, Lohfeld and Brazil (2002) provided the argument that results cannot be compared if the paradigms behind such approaches underlie different phenomena. This thesis is even more prominent within confirmation because the objective of phenomenological enquiry is relatively inflexible and rigid. Specifically, the essence of all phenomenological work is to explore the nature of human experience; therefore, it is difficult to see how this can be cross-validated—for example, using the Parental Stress Scale (PSS) and Life Satisfaction Index for Parents (LSI-P) within Winston et al.'s (2010) study.

Layering. The final purpose for combining phenomenology with an additional methodological component was to allow for a multi-layered analysis in order to present a clearer picture of the phenomenon of interest. Layering demonstrates similarities to *expansion* outlined by Greene et al. (1989), which "seeks to extend the breadth and range of inquiry" (p. 259). However unlike *expansion*, layering focuses on using different methods to analyse a single unified component as opposed to using methods for different inquiry components as outlined by Greene et al. (1989). The focus on layers of analysis demonstrates similarities to the purpose of *initiation*, which aims to "increase the breadth and depth of inquiry results and interpretations by analyzing

them from the different perspectives of different methods and paradigms" (p. 259). However, unlike *initiation*, layering in the context of MMPR places less emphasis on paradox and contradiction, and more focus on harmonious illumination or sense-making. For example, Down, Wilner, Watts, and Griffiths (2011) found that layering methods within their study of treatment preferences in anger-management allowed them to "make as much sense as possible of data derived from a relatively small clinical sample" (p. 40). However, in line with *initiation* outlined within the general MMR literature, they also found that mixing for the purpose of layering meant that emergent findings from one method could pose questions for the other: "In particular, the qualitative analysis suggested the participant's age to be a factor that moderated outcomes, which occasioned further post hoc quantitative analysis" (p. 40). Although layering demonstrates parallels to both initiation and expansion (Greene et al., 1989), it also shows unique contrasts that demonstrate the need to outline the purposes for conducting MMPR independently.

Conclusion

This research outlined four objectives to ensure the fulfilment of the study's overall aim. The first of these was to provide an overview of the prevalence of MMPR studies over time. Findings demonstrated that the popularity of mixed methods studies that incorporate phenomenology is steadily increasing over time, as MMR becomes more established as a methodological approach. As the popularity of mixed methods continues to grow, and the benefits of MMPR are more widely disseminated, this prevalence figure should only increase further. Therefore, there is a need for additional research to focus on developing a formal conceptual framework for this form of research.

The second objective was to identify which disciplines and sub-disciplines currently utilise MMPR approaches. The present study demonstrated that, currently, health research dominates the use of MMPR due to the existing legacy of MMR and phenomenology within this field. Despite this, MMPR has the potential to provide significant benefits to alternative disciplines, demonstrating a need for the implementation of this approach within a more diverse range of subject areas.

The third objective of the current study was to explore how MMPR is conducted in terms of point of integration, methods being mixed, and the priority and sequence of decisions that are made within them. Results showed that the majority of MMPR currently prioritises the phenomenological methodology despite the benefits of the oppositional approach. Therefore, in order to develop the breadth and range of MMPR studies, there is a justification for the inclusion of research that prioritises the alternative phase in order to provide a greater focus on deduction in MMPR (Morse, 2003). Furthermore, there is also a rationale for the use of additional MMPR research that demonstrates the strengths of earlier integration such as enhanced communication between methods, and further potential for triangulation and confirmation. The field of MMPR also can be enriched, with an increase in studies showing a greater level of diversity in the phenomenological and alternative methods combined within a single study. This would demonstrate the full breadth of opportunities available to researchers who combine phenomenology with alternative methods. Finally, this paper highlights that a current weakness of published MMPR studies is that they often fail to articulate clearly the procedural details and justification for mixing. It is imperative that MMPR studies include this information in the future in order to demonstrate rigor in the form of internal validity/credibility and external validity/credibility.

The final objective was to discover the purposes of conducting MMPR. This review provided five purposes of conducting MMPR that are unique and specific to this form of enquiry. This not only will contribute to the overall conceptualization of MMPR, but also it will help to guide future research adopting this type of approach.

Although this study had limitations in terms of the issues with locating studies using standardized terms (Creswell & Plano Clark, 2010), overall, this paper has provided a broad overview of the landscape of MMPR that can contribute to understanding of how this approach is currently being used, and afford recommendations regarding its further adoption as an innovative research approach.

References

Alise, M.A., & Teddlie, C. (2010). A continuation of the paradigm wars? Prevalence rates of methodological approaches across the social/ behavioural sciences. *Journal of Mixed Methods Research,4*, 103-126. doi:10.1177/1558689809360805

American Educational Research Association. (2006). Standards for reporting on empirical social science research in AERA publications. *Educational Researcher, 35*(6), 33-40.

American Evaluation Association. (2004). *Guiding principle for evaluators.* Retrieved from http.eval.org/Publications/Guiding Principles.asp

Becher, T., & Trowler, P.R. (2001). *Academic tribes and territories,* Buckingham, England: The Society for Research into Higher Education and Open University Press.

Collins, K. M. T., Onwuegbuzie, A. J., & Sutton, I. L. (2006). A model incorporating the rationale and purpose for conducting mixed methods research in special education and beyond. *Learning Disabilities: A Contemporary Journal*, *4*, 67-100.

Cook, T. D., & Campbell, D. T. (1979). *Quasiexperimentation. Design and analysis issues for field settings*. Chicago, IL: Rand McNally.

Creswell, J. W. (2003). *Research design: qualitative, quantitative and mixed method approaches.* Thousand Oaks, CA: Sage.

Creswell, J. W. (2009). Mapping the field of mixed methods research. *Journal of Mixed Methods Research, 3*, 95-108. doi:10.1177/1558689808330883

Creswell, J. W., & Plano Clark, V. L. (2010). *Designing and conducting mixed methods research* (2nd ed.). Thousand Oaks, CA: Sage.

Creswell, J. W., Plano Clark, V. L., Gutmann, M. L., & Hanson, W. E. (2003). Advanced mixed methods research designs. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioural research.* Thousand Oaks, CA: Sage.

Dean, S. G., Hudson, S., Hay-Smith, E. J. C., & Milosavljevic, S. (2011). Rural workers' experience of low back pain: Exploring why they continue to work. *Journal of Occpational Nursing, 21,* 395-409. doi:10.1007/s10926-010-9275-z

Down, R., Wilner, P., Watts, L., & Griffiths, J. (2011). Anger management groups for adolescents: A mixed-methods study of efficacy and treatment preferences. *Clinical Child Psychology Psychiatry, 16*(1), 33-52. doi:10.1177/1359104509341448

Forthofer, M. S. (2003). Status of mixed methods in the health sciences. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioural research.* Thousand Oaks, CA: Sage.

Giorgi A. (2009). *The descriptive phenomenological method in psychology.* Pittsburgh, PA: Duquesne University Press.

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. doi:10.3102/01623737011003255

Greene, J. C., & McClintock, C. (1985). Triangulation in evaluation: Design and analysis issues. *Evaluation Review, 9,* 523-545. doi:10.1177/0193841X8500900501

Hamdan-Mansour, A. M., Constantino, R. E., Farrell, M., Doswell, W., Gallagher, M. E., Safadi, R., & Shishani, K. R. (2011). Evaluating the mental health of

Jordanian women in relationships with intimate partner Abuse. *Issues in Mental Health Nursing, 32,* 614-623. doi:10.3109/01612840.2011.580494

Hibbard, S., & Onwuegbuzie, A. J. (2012, April). *Trends of mixed methods designs in evaluation studies: From 2003 to 2011*. Paper presented at the annual meeting of the American Educational Research Association, Vancouver, British Columbia, Canada.

Ivankova, N. V., & Kawamura, Y. (2010). Emerging trends in the utilization of integrated designs in the social, behavioral, and health sciences. In A. Tashakkori & C. Teddlie (Eds.), *Sage handbook of mixed methods in social and behavioral research* (2nd ed., pp. 581-611). Thousand Oaks, CA: Sage.

Johnson, R. B., & Christensen, L. (2010). *Educational research: Quantitative, qualitative, and mixed approaches* (4th ed.). Thousand Oaks, CA: Sage.

Johnson, R. B., McGowan, M. W., & Turner, L. A. (2010). Grounded theory in practice: Is it inherently a mixed method? *Research in the Schools, 17*(2), 65-78.

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher, 33*(7), 14-26. doi:10.3102/0013189X033007014

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. doi:10.1177/1558689806298224

Krleža-Jerić, K., & Lemmens, T. (2009). 7th revision of the Declaration of Helsinki: Good news for the transparency of clinical trials. *Croatian Medical Journal, 50,* 105-110.

Leech, N. L., & Onwuegbuzie, A. J. (2009). A typology of mixed methods research designs. *Quality & Quantity: International Journal of Methodology, 43,* 265-275. doi:10.1007/s11135-007-9105-3

Leech, N. L., Onwuegbuzie, A. J., & Combs, J. C. (2011). Writing publishable mixed research articles: Guidelines for emerging scholars in the health sciences and beyond. *International Journal of Multiple Research Approaches, 5*(1), 7-24. doi:10.5172/mra.2011.5.1.7

Mayoh, J., Bond, C. S., & Todres, L. (2012). An innovative mixed methods approach to studying the online health information seeking experiences of adults. *Journal of Mixed Methods Research, 6*(1), 21-33. doi:10.1177/1558689811416942

Mayoh, J., & Onwuegbuzie, A. J. (2012). *Towards a conceptualization of mixed methods phenomenological research*. Manuscript submitted for publication.

Morgan, D. L. (1998). Practical strategies for combining qualitative and quantitative methods: applications to health research. *Qualitative Health Research, 8,* 362-376. doi:10.1177/104973239800800307

Morse, J. M. (2003). Principles of mixed method and multimethod research design. In A. Tashakkori & C. Teddlie (Eds.) *Handbook of mixed methods in social and behavioral research.* Thousand Oaks, CA: Sage.

O'Cathain, A., Murphy, E., & Nicholl, J. (2007). Integration and publications as indicators of "yield" from mixed methods studies. *Journal of Mixed Methods Research,1,* 147-163. doi:10.1177/1558689806299094

Onwuegbuzie, A. J., & Combs, J. P. (2010). *Emergent data analysis techniques in*

mixed methods research: A synthesis. In A. Tashakkori & C. Teddlie (Eds.), *Sage Handbook of mixed methods in social and behavioral research* (2nd ed., pp. 397-430). Thousand Oaks, CA: Sage.

Onwuegbuzie, A. J., & Leech, N. L. (2007). Validity and qualitative research: An oxymoron? *Quality & Quantity: International Journal of Methodology, 41*, 233–249. doi:10.1007/s11135-006-9000-3

Onwuegbuzie, A. J., & Teddlie, C. (2003). A framework for analyzing data in mixed methods research. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 351-383). Thousand Oaks, CA: Sage.

Rizq, R., & Target, M. (2010a). 'We had a constant battle'. The role of attachment status in counselling psychologists' experiences of personal therapy: Some results from a mixed-methods study. *Counselling & Psychology Quarterly, 23*, 343-369. doi:10.1080/09515070.2010.534327

Rizq, R., & Target, M. (2010b). 'If that's what I need, it could be what someone else needs.' Exploring the role of attachment and reflective function in counselling psychologists' accounts of how they use personal therapy in clinical practice: A mixed methods study. *British Journal of Guidance & Counselling, 38*, 459-481. doi:10.1080/03069885.2010.503699

Robbins, B. D., & Vandree, K. (2009). The self-regulation of humor expression: A mixed method, phenomenological investigation of suppressed laughter. *The Humanistic Psychologist, 37*, 49-78. doi:10.1080/08873260802394533

Sale, J. E. M., Lohfeld, L. H., & Brazil, K. (2002). Revisiting the quantitative-qualitative debate: Implications for mixed-methods research. *Quality & Quantity, 36,* 43-53. doi:10.1023/A:1014301607592

Stawarska, B. (2009). *Between you and I: Dialogical phenomenology.* Athens, OH: Ohio University Press.

Tashakkori, A., & Creswell, J.W. (2007). Exploring the nature of research questions in mixed methods research. *Journal of Mixed Methods Research, 1,* 207-211. doi:10.1177/1558689807302814

Tashakkori, A., & Teddlie, C. (2003). *Handbook of mixed methods in social and behavioral research.* Thousand Oaks, CA: Sage.

Thornton, L. K., Baker, A. L., Johnson, M. P., & Kay-Lambkin, F. J. K. (2011). Perceptions of anti-smoking public health campaigns among people with psychotic disorders. *Mental Health and Substance Use, 4,* 105-115.

Todres, L., & Holloway, I. (2006). Phenomenological Research. In K.Gerrish & A. Lacey (Eds.) *The Research Process in Nursing.* Oxford, England: Blackwell.

Van der Zalm, J.E., & Bergum, V. (2000). Hermeneutic- phenomenology: providing living knowledge for nursing practice. *Journal of Advanced Nursing, 31,* 211-218. doi:10.1046/j.1365-2648.2000.01244.x

Winston, K. A., Dunbar, S. B., Reed, C. N., & Francis-Connolly, E. (2010). Mothering occupations when parenting children with feeding concerns: A mixed methods study. *Canadian Journal of Occupational Therapy, 77,* 181-189. doi:10.2182/cjot.2010.77.3.8

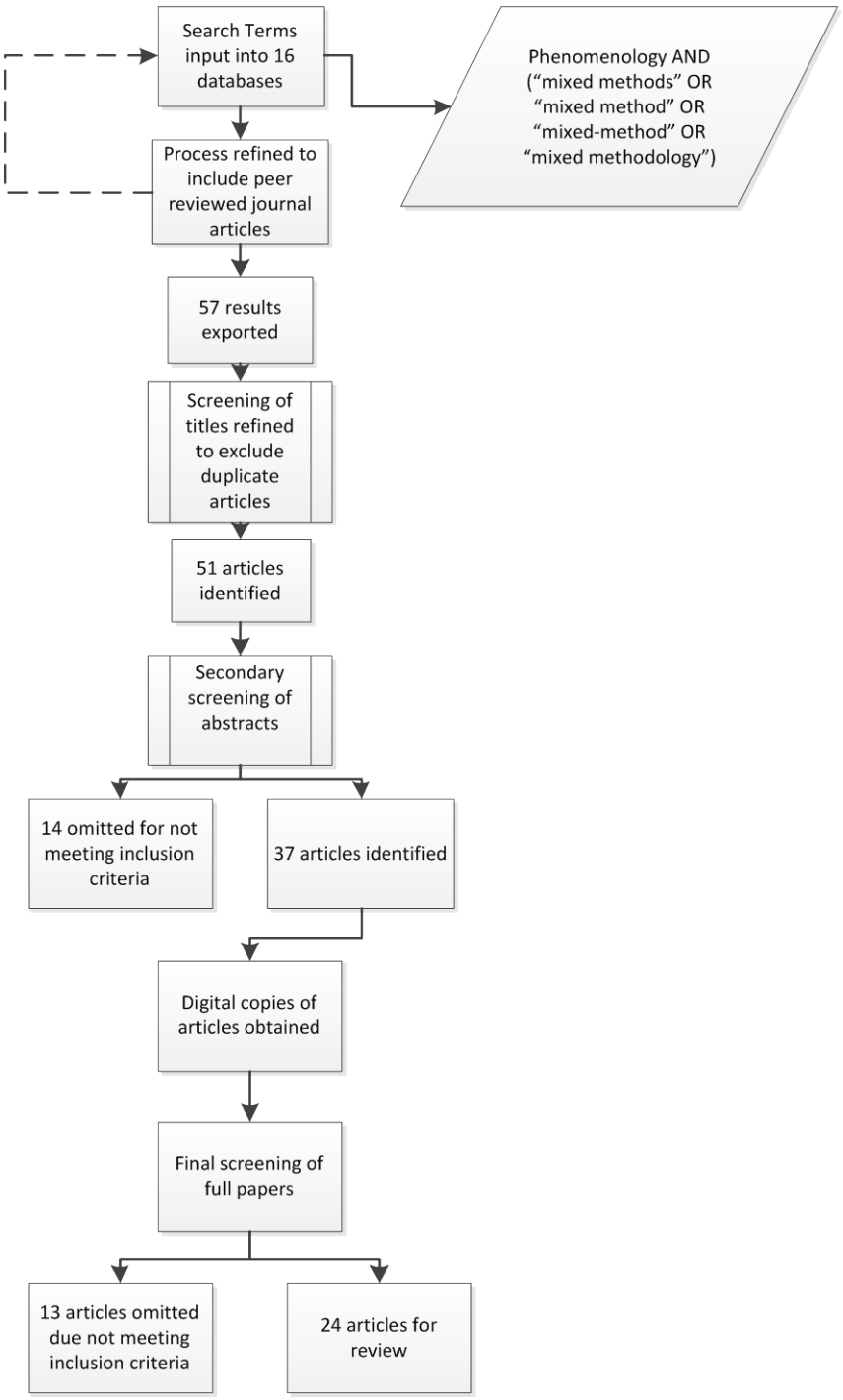

Figure 1. The systematic review process

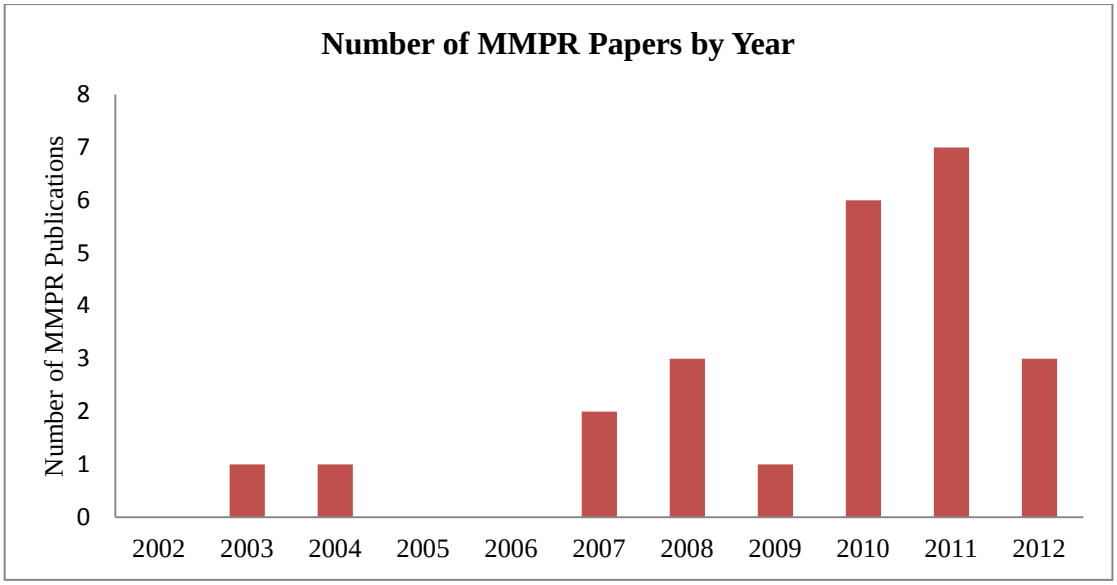

Figure 2. The number of MMPR articles published by year.