Problematic Attachment to Social Media: Lived Experience and Emotions

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Abstract. People's relationship with social media and their contacts on them can be problematic. People may engage in social media in a compulsive and hasty style to increase their popularity, reputation and enhance their self-esteem. However, this problematic attachment to social media may result in side effects on people's well-being. Therefore, people may need assistance to reform their relationship with social media in a way that it maintains different aspects of their online interaction, such as empathy with others and maintaining their popularity and relatedness. In order to provide the tools and methods to support people in reforming their relationship with social media, towards a healthier usage style, we need to understand the experience of people who suffer a problematic relationship with them. Most studies on the topic are based on methods which would lack *ecological validity*, e.g. using surveys and interviews, and do not capture or imitate such a digital experience as lived. In an attempt to better explore how people experience problematic attachment and relationship with social media, and their associated emotions, we conducted a multistage qualitative method study including a *diary study* to gather lived experience. We aim to inform both users and designers towards a managed and tool-supported reform of their problematic relationship with social media and, ultimately, having a healthier online interaction.

Keywords: Social Media Dependency, Digital Addiction, Digital Wellbeing.

1 Introduction

Social media became prominent in our daily lives, determining in a major way how an individual shares information and exchanges knowledge. The use of social media has created a new set of cyber social norms around expectancy and responsiveness as well as group membership and relatedness. While many benefits can be identified regarding these norms in human communication and socialness, negative experiences emerging from them have become evident.

Recent studies have demonstrated similarities between certain symptoms of using social media and symptoms of behavioural addiction [1, 2]. Such symptoms include those associated with (a) *withdrawal*, e.g. feeling anxiety when unable to connect as desired, (b) *tolerance*, e.g. increasing presence, interaction and accounts, (c) *relapse*, e.g. after attempting to minimise or adjust the current style of usage, (d) *conflict*, e.g. using social media despite having other priorities as well as (e) *mood modification*, e.g.

feeling better when receiving posts, likes and comments. Moreover, research has indicated that excessive and obsessive usage of technology is associated with undesirable life experiences characterised by measures such as reduced creativity, increased anxiety as well as neglecting reality [3].

Despite the increasing awareness of the negative effects of a problematic usage style of social media, certain individuals seem to have a strong feeling and intimate engagement with them and tend to ignore the risks associated with such digital experience. Research has shown that when some people disconnect from social media or are asked to spend less time and interaction than desired, they may become anxious despite the lack of clear purpose of that online presence [3]. The overwhelming use of social media combined with the peer pressure to be online can lead one to lose track of time spent online and of the interactions made with social media platforms. This has prompted research on tools to aid people in self-regulating their digital media usage [4, 5].

Despite being a medium for an emotional and behavioural problem, social media can also contribute to the solution. It can host persuasive techniques to encourage healthy usage [6]. Unlike other problematic mediums for addiction, such as alcohol, technology can provide the means for monitoring its usage by users and, hence, report back to them to be more informed as well as conscious of the usage [7]. It is possible to have software tools to predict whether someone uses a phone or social media in an anxious and uncontrolled way. We advocate that, similarly to online gambling; some users may need assistance so that they stay in control of their addictive digital experience, e.g. self-exclusion as well as lock-out schemes. For example, users can authorise software to alert them when their usage indicates risk, and then send them messages about ways to combat it, e.g. through goal setting techniques [5].

Most research about social media addiction, online identity and online attachment has utilised offline data collection methods introducing limitations about recall bias and ecological validity. For example, questionnaires were used in [8, 9], online surveys method were used [10, 11] and focus groups were used in [12]. In order to know how to design software-assistance to combat problematic social media attachment, an in-depth understanding of the problematic attachment itself in a naturalist, or close to the naturalistic setting, is needed.

In this paper, we aim to gain insights into the real-world experience of people who have a problematic attachment to social media. We adopt a multi-stage qualitative research method employing diary studies designed as a primary data collection technique to elevate ecological validity. We report on the findings regarding the negative and positive emotional states experienced by the participants. The paper is aimed at informing better use of social media that preserve well-being and to help research-informed development of software tools to help that requirement.

2   Research Method

Our research method is qualitative and follows an exploratory approach. We conducted multi-phase studies consisting of an exploratory phase (described in Section 2.1) and a confirmatory and refinement phase (described in Section 2.2). The data analysis and the framework used as theoretical underpinning are described in Section 2.3.

2.1 Exploratory Phase

The objective of this first phase was to explore people's problematic attachment to social media. We used a qualitative method founded on focus groups and a diary study where the diary study was the core method in this stage. Focus groups were first used to gather initial insights that were then elaborated via a diary study allowing the capture and refinement of users' problematic attachment on a daily basis.

A set of 18 participants were recruited via convenience sampling. Participants aged between 18 and 50, with an equal number of males and females were recruited based on the following criteria: being an adult social media user and self-declaring to have a problematic attachment to social media, e.g. excessive and obsessive usage and constant preoccupation about online presence and content. A pre-selection questionnaire was used to assure the existence of the problematic attachment with social media. This questionnaire was adapted from the Generalised Problematic Internet Use Scale [13]. We modified the phrasing to fit the usage of "social media".

We conducted two focus group sessions with the 18 participants, with each session consisting of nine participants. The sessions aimed to familiarise the participants with the objective of the study and to get insights into their problematic attachment to social media. At the end of each session, the participants were explained a practical example to the Evernote application[1]. The application was employed in the next part of this phase, the diary study. The application allowed users to take notes, pictures, and voice and share it with the research team on a daily basis. We also used this application to send forms for completion as well as reminders.

The diary study was conducted with the same 18 participants and lasted two weeks. Participants completed the task which was focused on elaborating their online experience and online behaviour with an emphasis on social media features known to promote attachment such as *profiling* features and online *presence*. The participants provided their notes three times a day, i.e. morning, afternoon and night, via the Evernote application. Reminders were sent on a daily basis through the application. After 14 days of daily diaries, we conducted interviews with the same participants for clarifying and gaining further insight into their diaries entries.

2.2 Refinement and Confirmation Phase

The goal of this phase was to confirm the results of the first phase on the mapping between the emotions accompanying the problematic attachment to social media and the usage pattern. To achieve this, a card sorting technique within two focus group sessions was carried out with 14 participants; six of them participated in the first phase and eight new participants so that we had a balanced sample and avoid analysis bias. The six participants also served our member checking validation technique [14]. The remaining eight participants were recruited via convenience sampling. They were recruited on the same criteria as Phase 1. A similar pre-selection survey was also utilised for self-assessment in order to check the suitability of the participants. During the session, the participants were required to provide clarifications to questions pertinent to the rationale of their sorting choices.

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[1] https://evernote.com/

2.3 Data Analysis

We conducted a thematic analysis for the data collected through the interviews and diary study. The conceptual framework of the analysis was the one proposed in [15]. Positive and negative emotions formed the main themes of the first iteration analysis process. We utilised the Parrott's framework [16] to differentiate between primary, secondary and tertiary emotions. We only use the primary emotions in this work. This is mainly because the participants may not be fully aware of the subtle differences in the secondary and tertiary level, e.g. between worry and anxiety. Induction and analysis around those levels would require a larger scale study. The findings were further validated through the card-sorting within the second phase of the study.

3 Emotions vs Problematic Attachment to Social Media

Social media can have a significant influence on human emotions such as joy, happiness, anger, sadness, fear as well as surprise. Social media users can take advantage of various features such as posting videos and pictures, commenting on them, posting events, searching for new friends, expressing themselves and sharing daily activities with others. Research has found that young adults used social media to communicate with friends and family [17]. In addition, other research has reported that college students spend most of their time reading about the activities of their friends rather than adding content to their profiles [18]. Others explained that seeking information and social interaction was a drive to using social media [19]. Accordingly, people can experience *emotions* through online interaction, especially in the case of problematic attachment to social media. Indeed, their problematic attachment to social media may reinforce and provide strength to the emotions evoked by interaction. The following sections will explain the states and examples of these emotions. Specifically, we present the usage experiences and negative emotions in Section 3.1 and the usage experiences and positive emotions in Section 3.2.

3.1 Usage Experience vs Negative Emotions

Depending on the nature of the interaction on social media, a person may experience either positive or negative emotions. For example, problematic social media attachment may lead to experiencing negative emotions such as sadness, anger and fear. Negative emotions accompany and contribute to the individuals' problematic online attachment to social media. In Fig.1, we present frequent usage experiences encountered by people with problematic attachment and correlated emotions. It is important to note that the relation between the experiences and emotions are complex. In this sense, user experience can trigger the negative emotions and vice versa.
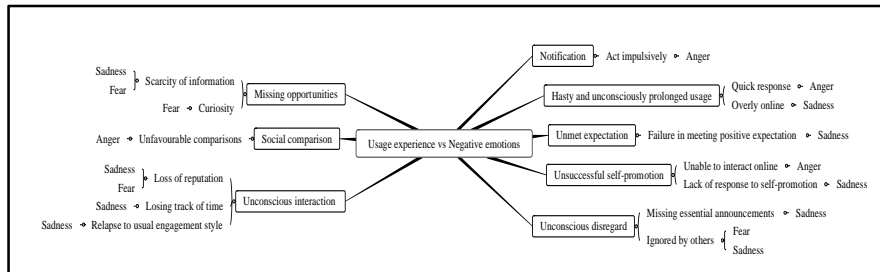
Fig. 1. Problematic Attachment to Social Media: Usage Experience vs Negative Emotions

Notifications. People receive notifications online to inform them about update information from others. There are different styles of receiving notifications, such as status, vibration, sound, email, message or a set of these to notify the people that they have received a notification. However, notifications seem to trigger people with problematic attachment to *act impulsively and irresistibly*. Reacting uncontrollably due to notifications can evoke negative emotions; *"I dislike notifications. They are annoying [Parrot's primary: Anger], and it interrupts things"*. Even when people are actively trying to reform how they behave online, notifications can trigger negative emotions such as sadness. For instance, even after a conscious decision has been made to deactivate an online account, users may still receive a notification email suggesting that they reactivate their account; *"I have tried to delete my Facebook account, but I failed to do so. The Facebook system kept notifying me via email what my friends had posted; I felt bad because notifications triggered me to reactivate my Facebook page [Anger]"*.

Hasty and Unconsciously Prolonged Usage. Hasty usage means that people are acting quickly or unconsciously on social media. People with a problematic online attachment may find themselves interacting online in a hasty style, which may have a negative impact on their work productivity, their concentration and their emotions. The hasty usage triggers negative emotions such as anger and sadness when people engage impulsively with social media in the state of *quick response behaviour* or *being online for extended periods without thinking of it*; *"I felt angry because I always respond quickly to activities and communications on social media without any self-control [Anger]"*. Hasty and unconsciously prolonged usage can be to maintain self-presentation and self-concept in front of others through posting too much content; *"I felt sad because I realised I was hasty in posting and commenting on social media [Sadness]"*.

Unconscious Disregard. The notion "disregard" in the context of this paper refers to the state when people are unable or reject to notice, pay attention to or acknowledge someone or something on social media. People with a problematic attachment to social media may ignore others when they are technically available online but unconsciously overlooking messages received from others or neglecting to interact with them in an organised style. For them, social media seem to be an avoidance and escapism tool while having a disciplined interaction is not the main purpose. Social media can be a medium for attachment bonds and communication between people, but those who avoid responding are likely to become more detached from others and may become socially isolated, exacerbating their situation. Therefore, ignoring interaction may lead people

to experience negative emotions such as sadness due to *missing essential announce-ments*; *"I remember that I was moving between groups in social media unconsciously. One day later, I realised that I had ignored important messages which made me sad [Sadness]"*. People may also feel negative emotions such as fear and sadness when *others ignore their presence* on social media or ignore their participation; *"Suddenly people on my Facebook site ignored all my posts. I feel sad and afraid that I did some-thing wrong [Sadness]"*.

Unsuccessful Self-Promotion. Self-promotion is an attempt to introduce oneself to others in an ideal or better presented image. People with problematic attachment to social media seem to make an effort to maintain their self-promotion through online interaction, e.g., through posting, commenting and giving likes to others. Self-promot-ers tend to believe that others will respond to their promotion activities in a positive way. Therefore, when there is *no response to their promotion*, they feel negative emo-tions; *"For the past two months I have shared my achievements and activities with my friends in social networking groups, but I have not found enough interaction to feel happy, and that made me feel sad [Sadness]"*. In addition, the negative feelings may affect their self-esteem or may lead to competition and excessive interaction. Con-versely, if an individual is *unable to interact online* and feels incapable of maintaining their self-promotion, they could experience negative emotions such as anger.

Missing Opportunities. Missing opportunities means the desire to stay constantly con-nected with social media network activities out of fear of losing benefits. Thus, people with problematic attachment to social media continually wonder if something may be happening online. They need to feel a sense of relatedness and remaining connected with others via social media. The exploratory study has revealed two facets associated with missing opportunity in relation to problematic online attachment.

The first facet concerns the inability to access news or *scarcity of information* that can diminish the degree of social interaction. For instance, people who engage online may be afraid of missing news or updates posted by others which may expire within a short time. This situation could result in negative emotions; *"I feel sad because I lost a live story on Instagram from my favourite comedian [Sadness]"*.

The second facet is *curiosity*. People in social media are interested in what their friends are doing and what latest updates they make on their online profiles to retain a sense of belonging. Their preoccupation with what others do causes curiosity about others' updates which results in excessive use of social media. This can trigger negative feelings; *"I frequently use Facebook because I worry about missing group posts [Fear]"*.

Unmet Expectations. Expectations refer to what people wait to occur; a belief that is concentrated in the future which may or may not be realistic. An expectation could also be about the behaviour of others. People with problematic online attachment tend to be overly reliant on social media to initiate interaction and gain acceptance from others, and consequently establish expectations amongst each other. Therefore, expectations, when unmet, in relation to problematic attachment may facilitate negative emotions. Expectation could be dual sided when people expect others to like their content and when this does not happen, they may feel that the *failure in meeting the expectation of*

others; *"I posted pictures on my Facebook account. These pictures were fantastic in my opinion, but I did not receive many likes for them which made me feel disappointed [*Sadness*]"*.

Unconscious Interaction. Unconscious interaction means that people engage in social media interaction without conscious control or awareness. People with problematic attachment to social media typically lack concentration or self-awareness during online interaction, for example, scrolling and navigating between pages in their social media to retain a sense of interaction but without processing the content. Thus, they will repeatedly miss important information that has been posted and this has a *negative impact on their reputation* among friends and family, thereby resulting in negative emotions; *"I lost a vital event which made me feel sad [Sadness]. This was because I seemed to be quite unconscious of my presence on WhatsApp. My friend texted me many times, but I did not realise that"*.

In addition, when people experience sadness in relation to problematic attachment to their social media engagement style, they are likely to try to reform that style. Acting unconsciously can be a sign of *relapse to their usual engagement style* as it indicates a loss of control and deviation from the planned behaviour. Such relapse typically has an adverse effect on their self-esteem and triggers negative emotions; *"I decided to use social media just once a day, but last night unconsciously I logged onto my account many times and felt regret about that [Sadness]"*. Moreover, the unconscious use of social media can result in users *losing the sense of time*. When too much time is devoted to engaging with others online, this can cause sadness; *"I always spend around 4 hours per day on social media without feeling it. I feel guilty about the time I waste [Sadness]"*.

Social Comparison. Social comparison means that people compare themselves to others online in order to meet the need for self-evaluation. The profiles that people create for themselves on social media platforms provide details of their work, personality, thoughts and experiences. Users are free to amend or comment on their profiles to convey their opinions and emotions and satisfy their need to belong. In problematic attachment to social media, profiles are heavily used for social comparison. Thus, people with problematic social media attachment are typically keen to compare themselves with the profiles of others. Those people, who are involved in this type of behaviour, typically use social media to an excessive degree in an attempt to present themselves in the best possible way. Online profiles disclose information about the identities of users and their activities. This disclosure results in comparisons being made between people in terms of their social characteristics, online image, reputation, belongingness, and how frequently people interact online. *Unfavourable comparisons* may cause people to experience negative emotions; *"One of my friends is popular on Facebook, and I feel jealous when I see his number of friends growing every day; especially from our group. I ask myself what's wrong with my profile [Anger]"*.

3.2 Usage Experience vs Positive Emotions

Social media users can post comments, share activities, upload photos and videos. Like others, people with problematic online attachment to social media often consider social

media to be a form of entertainment, but they tend to overly rely on it for self-promotion and increasing popularity and relatedness. While this could result in excessive use of social media and facilitate negative emotions, people may also experience positive emotions as a result of that problematic attachment making it also difficult to replace with other means. These positive emotions are similar to those experienced in everyday life such as love, joy and surprise. In Fig. 2, we present the positive emotional states associated with usage experiences typically found in people problematic attachment to social media.
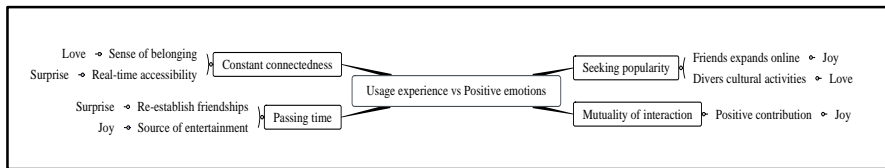

Fig. 2. Problematic Attachment to Social Media: Usage Experience vs Positive Emotions

Popularity Increase. Popularity is the status of being admired, being liked and supported by others. Social media platforms provide users with an opportunity to build social capital and become popular by presenting their profiles in an attractive form to others. However, the desire to belong and be accepted by others can become obsessive and be seen as a sign of problematic attachment to social media. This desire motivates them to utilise social media excessively in an attempt to maintain their self-presentation. As an individual's group of *friends expands online*, this can result in positive emotions; *"I feel satisfied because I have become popular and an influencer on social media. This requires a high level of online activities to maintain my social standing [*Joy*]"*. Social media also provide a platform for individuals to express cultural and personal characteristics. Indeed, there have been instances of *divers cultural activities* making certain individuals popular. Consequently, these people are likely to experience positive emotions such as arousal *[Love]*.

Mutuality of Interaction. Mutuality of interaction is a situation in which two individuals' or groups of people are exchanging messages and interacting reciprocally and keeping their engagement active. Social media platforms provide a means for people to engage with each other mutually. Indeed, features such as likes, tags and comments actively encourage people to interact with each other. For people with a problematic attachment to social media, mutual interaction enables them to contribute to what is posted on social media platforms mutually, which seems to be critical, in their case, to boost their self-esteem and positive emotions. For example, if an individual commented on a friend's profile with a *positive comment* and the friend responds similarly, this provides them with a great sense of satisfaction. Thus, mutuality of reactions on social media could cause users to experience joy, thereby promoting their self-esteem and self-evaluation; *"I feel enjoyment because I made an effort to like my friends' posts, and then I received many likes on my own recent post on Facebook [*Joy]*"*.

Constant Connectedness. Social media has provided new means of social communication. Users can choose to engage one-to-one or in a group of friends or relatives. They

can communicate and feel connected through posts, texts, audio, photos or video. Also, social media enables people to post and access information in real-time, regardless of the place and time of the day. Because of such connectivity and *real-time accessibility*, the distance appears less. However, people with a problematic attachment to social media typically have a high need to have a *sense of belonging* and connectedness with others. Such possibility to stay connected leads to excessive use but at the same time motivated by some positive emotions such as joy; *"social media helps me to communicate with my family at any time. I feel happy about that [*Joy*]"*.

Passing Time. People find engaging on social media to be an enjoyable way of passing the time, and in this sense, it can be regarded as a form of entertainment. Social media offers a means of communication and knowledge and information exchange, but it is equally valid to describe it as a source of entertainment. In addition to posting, sharing and commenting via social media, it can also be used for playing games. About problematic attachment, *entertainment* of this sort evokes positive emotions; *"I rely on social media when I have a long time to wait or when I have nothing to do. It is the only way to pass the time and make me feel pleasure [*Joy*]"*. Social media also provides the means to make new friends, *re-establish friendships*, or to build communities of people with similar interests. Problematic attachment is characterised by relying on that to feel positive emotion such as surprise, thereby enhancing satisfaction; *"I was exploring my friend's contact list, and I found my close friends from primary school, I felt surprised, and I sent her a friend request" [*Surprise*]*.

4 Conclusion and Future Work

In this paper, we aimed at investigating the emotions accompanying the usage experience of people with a problematic attachment to social media. Such understanding will facilitate building tools to enable self-regulated and a managed reform of that relation. Our work aimed at capturing the user experience as lived through employing a diary study approach. The findings covered a range of user experiences and accompanying emotional states. We note that we may still be missing additional experiences and emotions due to the difficulty for the participants to recognise what makes part of their problematic attachment despite their declaration of having it. Hence, we would still think of other methods and data sources perhaps based on objective measures and more in real-time. For example, smart watches and wrestle sensors could be thought to collect biological, physical, behavioural or environmental data which may be correlated with actions on social media for a better understanding of the user experience and emotions. This is part of our future work, with the view of understanding the different manifestations of the emotions involved in our experience with social media.

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