A qualitative investigation into the psychological impacts of using mobile dating apps and online dating sites.

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Declaration

This thesis is entirely my own work, and has not been previously submitted to this or any other third level institution.

Bronwyn Greene

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List of figures

List of tables

S03486231

List of appendices

Abstract

Despite the prevalence of online and mobile dating within modern society, there has been little psychological research into the emotional impacts of using these sites and apps. This study seeks to close this gap by undertaking qualitative research, in the form of focus groups to determine the psychological impacts of using these sites and apps through the use of constructivist Grounded Theory Methodology (GTM). Participants (N=10) were recruited using convenience sampling and took part in a short focus group, split by gender, in addition to answering a short questionnaire. The study found that negative psychological impacts were present including; fatigue, insecurity and anxiety and feelings of judgement. The positive impacts included enjoyment of the experience and increases in confidence. The study also found some levels of indifference. Slight differences were noted between males and females throughout the study, with the most significant finding around the feeling of being judged, which was less prominent in the male sample. These findings offer an insight in to how usage of online and mobile dating apps can impact the psychology of their users.

Literature Review

It is estimated that online dating sites account for 8,000 of the worlds existing internet sites (Zwilling, 2013). In 2012 online dating sites grew by 22% (Radwanick, 2012), with 27% of new relationships in the UK facilitated by an online dating service (Austin, 2015). Online dating nearly trebled amongst those aged 18-24 to 27% between 2013 to 2015, with 22% specifically using mobile dating apps (Smith, Anderson, & Posts, 2016). One such mobile dating app is Tinder, who boasts 1.4 billion swipes and 26 million matches per day (Tinder, 2016).

Much of the previous research into online and mobile dating has focused on motivations, personality types, deception or infidelity and has not yet sought to determine how use of these sites impacts the user. As such, this study seeks to close this gap in knowledge and is underpinned by the question; what are the psychological impacts of online and mobile dating services on its users?

Computer Mediated Communication (CMC)

CMC studies "how human behaviours are maintained or altered by exchange of information through machines." (Wood, Smith, & Wood, 2004, p.4). It is important when looking at online dating, to firstly review the role of CMC and how it impacts on relationships and communication. Online dating starts in the almost reverse order of offline dating. Offline, conversation is often initiated when two people are in the same place and find each other attractive, learning of common interests through later conversation. Online dating then often sees people match based on common interests and physical attraction, with conversation which may then result in meeting face to face (Rose, Chever, Cummings & Felt, 2008). Therefore online daters must engage in at least some CMC in order to determine if they should engage face-to-face. It has been argued that CMC can allow for the development of a more personal interaction than face-to-face (FtF) as it can allow for more heightened levels of intimacy and solidarity (Walther, 1996; Preece, 2000; Wood, Smith, & Wood, 2004) or affection and emotion, forming hyperpersonal relationships. This has been attributed to the process of Social Identity-deindividuation (SIDE) which sees the

over-attribution of detected social cues as people interact online, in addition to the online disinhibition effect whereby people disclose more personal information to another when online (Kirwan, 2015). Rosen, Cheever, Cummings, & Felt (2008) found that 43% of participants found it easier to talk about "personal things" online, in addition to 66% of participants stating it is easier to be honest with someone online and to reveal much more of themselves within a quick time frame. This is important to online and mobile dating as it underpins the connections that two parties can form online.

Use of CMC may later facilitate a decision to meet face-to-face. Whitty and Gavin (2001) found that the progression of an online communication to offline communication was strong with many travelling large distances in order to facilitate an offline meeting. Rosen et al (2008) cite findings by Gavin, Duffield & Scott (2005) whereby the more variety of communication channels used in the build up to a face-to-face communication the greater the depth, commitment and interdependence of the relationship. This highlights how CMC can play a role in determining if this offline meeting should take place.

Therefore CMC plays an important role in how relationships are formed online and even more so within online and mobile dating. CMC affords users of online and mobile dating the ability to develop hyperpersonal relationships, thereby allowing connections to be made between both parties and facilitating a decision to take the online relationship into an offline context.

Who uses online dating and why?

Much research has been done on the personality types in an effort to determine if there are specific personality traits present. Early research points to the sites being populated by those classed as shy, socially lonely, introverted or fearful of rejection (Whitty, 2003; Whitty & Carr, 2006; Whitty & Buchanan, 2009; McKenna, Green, Gleason, 2002). However, Whitty & Buchanan (2009) identified research which supports the theory that those who are quite socially able also use online sites, supported by more recent studies who argue that this correlation was never empirically backed and can not be replicated today (Gatter, Hodkinson, & Kolle,

2016). In addition Whitty (2003) and Whitty & Carr (2006) found that only 10% of online dating users were using these sites due to shyness. It has been found that users of online dating services will use multiple sites and platforms (Gatter, Hodkinson, & Kolle, 2016) and multiple services such as speed dating and online dating alongside conventional dating (Whitty & Buchanan, 2009). In 2008 Whitty stated "scientists should not develop one grand theory to explain how everyone represents themselves within cyberspace" (p.1721).

Previous research has also sought to determine the motivations for using these sites, in order to determine if users sought long term relationships or casual encounters. 29% of Americans know someone who has met a spouse or long-term partner via online dating (Smith, 2016). Matthe et al., (2015) reported 59% of U.S adults agreed that "online dating is a good way to meet people". A combined 5% of US Adults in relationships exceeding 10 years and those who are married claim to have met online (Smith & Duggan, 2013) with 14% specifically having met through an online dating site (Hall, 2014). It could therefore be argued, that use of online dating has increased significantly in recent years, with long term relationships at the outcome. It has been found that motivations for online and offline dating can be the same; formation of a quality relationship (Whitty & Gavin, 2001). Gatter, Hodkinson, & Kolle (2016) recruited 75 participants for three focus groups (mean ages ranging between 23 and 44). Participants completed a questionnaire to assess motivations for using online dating and compare the motivations to offline daters. The study found that there were no significant differences in motivations. Sexual permissiveness was found within those of a younger age and therefore were more prevalent within users of tinder, however when the samples were controlled for age this variance between Tinder and online sites disappeared.

In light of the above research it can be argued that there are no specific personality traits within the users of online or mobile dating services. Similarly, it can also be argued that the motivations for using these services are similar to those who do not use online dating.

Deception and self-presentation

First impressions are highly manageable within CMC as users are able to present and idealized self-image due to the lack of nonverbal cues, allowing them to be selective in what they choose to disclose about themselves (Wood, Smith, & Wood, 2004; Bargh, McKenna, & Fitzsimons (2002). CMC and self-presentation are intrinsically linked as it is a form of communication which allows for more control of self-presentation than face-to-face communication. In return, it is possible for the other participant to overestimate the qualities of those they are conversing with; allowing them to decide that this person is a likeable person. There is also recognition that CMC communication is not always asynchronous and that its users can often take time to develop a response to questions or statements, which is not available in dyadic communication. In the context of online dating this may afford users more time to create a witty response, or design flirtatious conversation, perhaps affording them control over their self-presentation.

Whitty (2008) argues that users of online dating sites are strategic in their self-presentation, finding that physical appearance was both the most important characteristic they focused on for their own profile and that of a potential match. She also found it to be the most commonly misrepresented quality. An importance was placed on creating an attractive profile for themselves through their photo (60%), their interests (37%), description of their personality (33%) and occupation and intelligence (both at 13%). The motivation to deceive was not malicious but driven by a desire to appear attractive.

Many studies explore the concept of deception within online dating (Walther, 1996; Whitty & Gavin, 2001; Whitty, 2008; Caspi & Gorsky, 2006). Rosen et al (2008) cite Ben-Ze-Ev (2003) stating that "cyber-space provides a private world in which the information that is revealed about a person is essentially the information each person wants to reveal." Whitty & Carr (2006, p. 122) point out that having the freedom to alter your identity online can be quite a healthy experience, as a degree of anonymity can allow people the freedom to disclose more about themselves.

54% of Americans believe that someone has presented false information within their profile online (D'Costa, 2016). Preece (2000) cites Friedman (1997) stating that the online communication often "creates a false sense of connection and intimacy". Caspi & Gorsky (2006) conducted an online questionnaire finding that 73% believed that online deception was widespread, though just 29% of the participants stated that they themselves had deceived another online. They found 45% lie about their age, 27% lie about their gender, 20% lie about their marital status and 21% lie about their occupation. They found that the motivations for deception were centred on privacy and identity.

Whitty & Buchanan (2012) also wrote "A serious cybercrime" which they date back to 2008, in which they report 0.65% of their male sample fell victim to fraud as a result of forming an online relationship with a scam artist seeking to make a financial profit from the relationship by connecting with individuals in order to secure large sums of money from their victims. Participants were given a description of "online romance scam" and then asked if they had heard of this before taking part in the research. 2% knew another who had been scammed and 52% had heard of the scam prior to the research taking place. They estimate that 230,000 UK citizens have been victims of this crime.

As argued by Caspi & Gorsky (2006) the image of the internet as a place of deception is inaccurate, as the perception of deception was greater than the number of those deceiving others online.

Infidelity

A recent article by Forbes outlined that 40% of frequent users of online dating sites were married (Zwilling, 2013), perhaps outlining the prevalence of infidelity online. 31% agree that online dating keeps people from settling down, because they always have options for people to date (Smith, 2016). Rosen et al (2008) found that 58% of their participants found it unacceptable to search for an online dating relationship whilst already in a relationship. Whitty & Quigley (2008) explored two separate forms of infidelity; emotional and sexual. The study supported previous studies, finding that men found sexual infidelity to be more upsetting, whilst women found

emotional infidelity more upsetting. The study argues that men are more upset by sexual infidelity as they believe that if a woman was to have sex with another man, that there is a high probability that she also may love this other man. Whitty (2003) surveyed 1,117 participants (58% of whom were female) about their attitudes towards sexual infidelity and pornography, finding that individuals do find some online interactions as acts of betrayal (Whitty, 2003). Participants were recruited online allowing for a range of nationalities, age ranges and relationships statuses asking about their use of cybersex and offline sexual activities. The study found that sexual acts conducted online can have an impact on offline relationships, stating that viewing pornography or engaging in online sexual activity can be deemed as threatening to their offline relationship, as the latter may also continue in an offline context.

These studies sought to determine the impacts of infidelity online finding that online activities can have offline effects. Though they lightly touch on psychological impacts of using online dating sites, these are limited to the context of infidelity and do not offer an insight into use of these sites and apps where no infidelity is present.

Understanding Emotional responses

It is important to discuss the theories of emotion when seeking to understand the psychological impact of using online and mobile dating sites. Emotions have been defined as "the experience of subjective feelings which have positive or negative vale for the individual" (Alder, 2000). There is still debate on how many primary emotions exist, with the number ranging from six to eight, including fear, joy, sadness and anger (N. G. Martin, Carlson, & Buskit, 2010). Darwin sought to understand why the human species expressed similar emotions in the same way, for example joy produces a smile, concluding that emotions and their expression were inherited rather than learned.

There are three predominant theories within the study of emotion. The first is James-Lange Theory which states that perception of an experience leads to the production of an emotion; that the emotion is the outcome of an experience (Alder, 2000). The second, Cannon-Bard Theory sought to challenge James-Lange theory in

order to understand how similar physiological reactions can be experienced in response to different actions – for example how a heart will beat faster when running to a bus stop as well as while running from a threat (Alder, 2000). However, their theory failed to explain the importance of a social context to the feeling of emotion. This was explained in the third theory; Cognitive labelling, developed by Schachter and his colleagues. This theory accepts that emotions are a response to an experience, applying this on top of the Cannon-Baird theory where similar responses can be felt from different experiences. However they also brought in the importance of social context into how a person labels an experience and the emotion they felt throughout it or after it (Alder, 2000).

Previous studies within the field of online and mobile dating have been limited in their exploration of these emotional reactions to using the sites, with discovery of such a secondary finding to the research carried out. An Australian study conducted by Barraket (2008) found that some users experienced feelings of stigmatisation when using online dating sites feeling uneasy in telling people if they met their partners online. This was later challenged by others (Brym & Rhonsa L, 2001; Ellison, Heino & Gibbs, 2006) who believe that as usage of online and mobile dating increases by the masses, this stigma is removed. However, these studies are over 10 years old and may no longer be relevant to today's' ever changing online and mobile dating landscape.

Grounded Theory Methodology (GTM)

This study is exploratory in nature and so GTM was utilised to allow for the organic generation of themes. GTM was developed by Glaser and Strauss in 1967 in response to the positivist paradigm arguing that "systematic qualitative analysis had its own logic and could generate theory" (Charmaz, 2014). Therefore using this methodology it is possible to develop a theory which is grounded within the research data rather than by deducing a theory from hypotheses. This is to say that "the researcher has no preconceived ideas to prove or disprove" (Mills, Bonner, & Francis, 2006).   As such this study does not pose hypotheses in response to the research question.

Charmaz (2014) outlines that the guiding principles of GTM include, but are not limited to; Simultaneous involvement in data collection and analysis, constructing analytics codes and categories from data and finally, making comparisons during each stage of the analysis. GTM also requires three stages of coding; Open coding, which labels each line of text with a descriptor, Axial Coding, the process whereby codes are linked to each other and finally selective Coding which begins to identify the key themes which have emerged from the data.

Utilising GTM allows for the organic generation of themes within the data collected, allowing for an objective investigation into the psychological impacts of using online and mobile dating amongst its users. As the underlying paradigm is Social Constructivist, the research sought to understand the experiences of the participants. These experiences were captured through the use of three semi-structured focus groups. This approach was selected as it allowed for the capturing of individual experiences and emotional reactions, which has not been present within previous studies into online dating.

Study aims and research question

As outlined, previous studies within the field of online dating have focused on types of users of the service, their motivations, their potential deceptions or infidelity or even how CMC assists them in forming relationships. However, there has been little investigation into the psychological impacts of using these services on the user. This explorative study seeks to close this gap within the current literature, and to answer the research question; what are the psychological impacts of using mobile and internet dating services on their users. The study will use focus groups to elicit first hand experiences of participants and will also look for differences in impact on users from the perspective of gender, age and other potentially contributing factors. In doing this, a deeper understanding of the services and their users can be formed, bringing the users out of a 2D view and into a 3D view complete with their own emotional responses.

Methodology

Design

As the study is exploratory in nature, grounded theory methodology (GTM) was selected, to allow for identification of experiences from participants comments, rather than pre-defined options (Mills, Bonner & Francis, 2006). This approach allowed for the capturing of individual experiences, which could not have been captured with alternative methodologies.

Sampling

The study utilised convenience sampling (Robson, 2011) through placement of posters within IADT campus and Social Networking Sites. The study sought to secure 18 participants over three focus groups. Recruitment sought to have one female only group and one male only group, with the gender of the pilot group being determined by the amount of responses per gender received. Groups were split by gender to facilitate comfortable conversation surrounding dating experiences.

A number of key criteria were required of participants in order to ensure suitability for the study, in addition to protecting the study from external variables. It was required that all participants were fluent in English, over 18 years old and had used an online dating site, or a mobile dating application within the last three months. This study sought to ensure that those who suffered from mental health illnesses and victims of sexually related crimes we not included within the study, through the use of the consent form and information sheet.

Participants

The study recruited 10 participants in total, seven females and three males. All participants were aged between 22 and 35 years old, with 70% of participants aged between 30 to 35 years. The pilot focus group suffered two drop-outs, to comprise four females, one of which was 22–25, another 26-29 and the remaining two aged 30-35. These participants were labelled numbers one through four. 50% of this group were single and 50% recently initiated a relationship through a dating site

or app. Both the male and female groups experienced a 50% drop-out rate to comprise of three participants, all of whom were aged 30-35 years old. The male group were labelled as participants five through seven, whilst the participants of the female group were labelled as eight through ten. All male participants were single. One female participant had recently initiated an online relationship. Participants in all groups were heterosexual.

Materials

Participants were provided with information sheets (Appendix A) and signed a consent form (Appendix B) prior to taking part. They were presented with a debrief form (Appendix C) on completion of the questionnaire element of the study (Appendix D). The debrief form contained contact information for support groups, should any of the participants have been affected by topics discussed.

There were hardware requirements such as a digital video camera and Dictaphone. There were additional requirements including supporting personnel to assist on the day of the focus group, a room suitable for the focus groups within the IADT campus and also within an office in Dublin city centre. Participants also availed of refreshments prior to taking part in the study.

Procedure

The first focus group was conducted as a pilot test and consisted of four female participants. The pilot was arranged in order to inform required adjustments to the procedure for the following two focus groups. No issues were presented and so, no changes were required for the subsequent focus groups. Upon arrival to each focus group participants were reminded of the key information contained within the information sheet and consent forms, including the purpose of the study, the need to inform the researcher of any reasons why they should not participate with the study and a reminder that participation was voluntary and could be withdrawn at any time. To commence the conversation in a relaxed and open atmosphere, a few ice breakers were inserted, including foundational questions probing for usages of dating sites and apps. Following this, the participants were asked questions from the

semi-structured question set (Appendix E) such as which dating sites they use, how often they use them and why, which led to questions investigating their experiences of using such dating sites, exploring the psychological impacts. The sessions followed a semi-structured approach, using a pre-determined question set as a topic guide, with the flexibility to adjust ordering and probing of questions (Robson, 2011). The sessions were between 35 and 45 minutes in length. A schedule for the sessions is outlined within Appendix F. After completion of the focus groups, participants were asked some demographical and socio-economic questions in addition to questions around their frequency of usage, if they planned to continue to use the sites and if others in their social circle currently used online dating sites or apps. This was left until last to ensure that the focus groups commenced on time and also to allow participants' time suitable to themselves, for completion of the questionnaire.

Pilot Study

On completion of the focus group, participants were asked for feedback on the session in order to identify changes required to the format and the questions for the remaining sessions. No issues were raised within the focus group and so, there were no required changes to be made to the subsequent groups. It was noted, however, that the allotted time of 70 minutes would not be required, as this group was complete within 45 minutes.

Ethical considerations

After submission of an Ethics B form (Appendix G) ethical approval was acquired in December 2016. Dating experiences can be either positive or negative and as such, the researcher undertook several steps to ensure that participants were not caused distress as a result of participation. Prior to conducting the focus groups participants were advised of their right to withdraw and afforded time after the research to withdraw their data from the study. The researcher also ensured that participants received the information sheet and consent form 24 hours prior to taking part. On completion of the focus groups a debrief sheet was issued which contained contact information for relevant support groups. Participant information was stored securely and identifying information was stored separately to the

research notes or discussion. Participants were also advised of the need for privacy and confidentiality before, during and after the focus groups. Participants were also advised to keep an open mind and be inclusive and respectful of others and their experiences. Further detail on ethical considerations and mitigations can be found within appendix H.

I received two pieces of feedback which were then incorporated into the study. I was asked to remove pre-vetting whereby I was attempting to control for the removal of victims of sexual violence or people with homophobic believes. It was suggested that the parameters of what is acceptable be made clear before taking part in the study. It was also advised that a strategy should be put in place to assist someone in the focus group should any of these sensitive issues arise. Therefore my assistant was briefed to identify this situation and discreetly discuss if the participant wished to continue, if not they were removed from the discussion and talked through a debrief form. No such issues arose throughout the focus groups.

Analysis

After transcribing the focus group sessions the data was first coded using open coding Urquhart, 2013). This is the process whereby each line of text is provided with a descriptive label to outline what the text related to. The next stage of analysis is Axial Coding, whereby the codes from the previous round of coding begin to be linked together based on similarity of topic or theme. The final stage within the coding is Selective Coding, whereby the key themes emerging from the research are identified.

On completion of open coding, an interrater reliability test was conducted. The researcher then issued the transcribed pilot focus group to a third party for independent coding via a Microsoft word document with each line of text pre-numbered. The third party selected was male, in order to remove gender bias from the coding process. The third party was brought through the code book which had been developed by the researcher during the coding process. The third party was then advised to code line by line with the exception of instances whereby meaning units were required within the analysis of the responses. In instances whereby the

third party selected the same theme no action was taken, this was approximately 85% of the coding. In instances whereby the third party themed differently to the researcher a discussion was held until a negotiated agreement was reached and all possible discrepancies were resolved. Through this process two codes were rolled into one: fatigue and disappointment. This updated code book was then utilised by the researcher to code the remaining two focus groups.

Results

This research sought to investigate the psychological impacts of online and mobile dating sites on its users and found six themes involving psychological impacts on ten participants through the facilitation of three focus groups.

Descriptive Results

Ten participants participated in this study. There were 7 females (70%) and 3 males (30%) and were aged between 22 – 35 years old with a mean age of 32.8 with a standard deviation of 3.52. All participants but one (Participant 9) had used mobile dating site Tinder within the last three months. Other sites mentioned included Plenty of Fish, Badoo, Bumble and OK Cupid as outlined in Figure 1. All but one participant (Participant 8) stated that others within their social circles were known to them, to be using Tinder. 50% of respondents stated they used Tinder on a daily basis (Figure 2), including some of those who stated they were in a newly formed relationship. The remaining participants were evenly split between weekly or fortnightly users of Tinder. 60% of respondents stated that their average time spent on Tinder per usage was 30 minutes, with the remaining 40% spending up to just 20 minutes per usage. 60% of respondents had been using Tinder in excess of two years (Figure 3). 80% of respondents stated that they would continue to use mobile and online dating sites in the future.
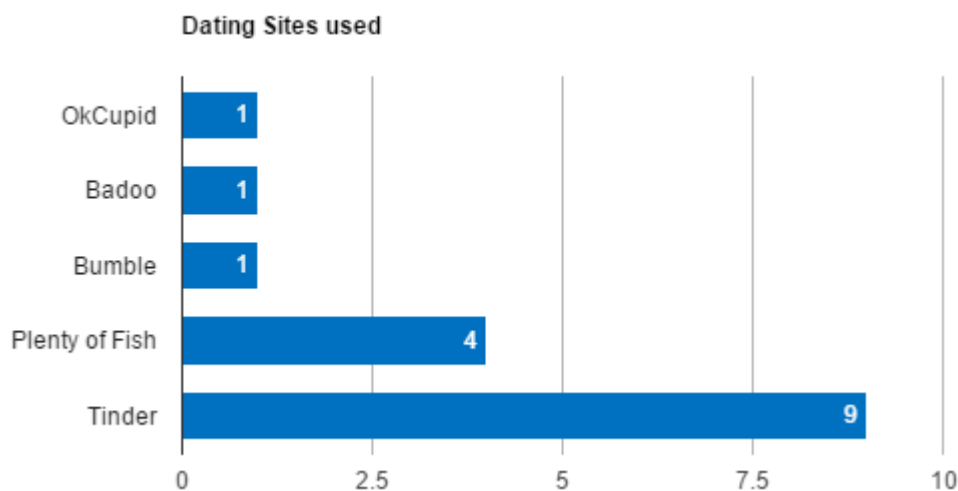

Dating Sites used

Figure 1 outlines the sites used by the participants of the study
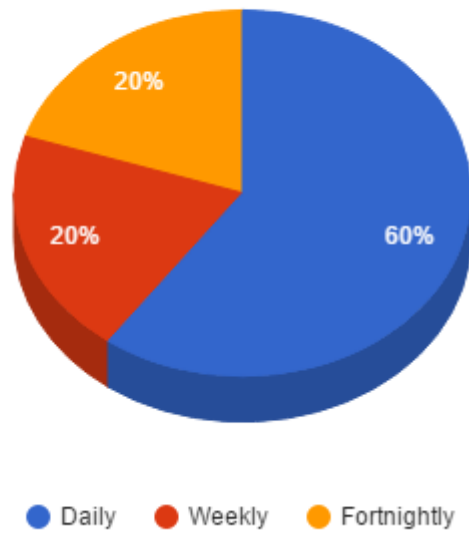
Frequency of use

Figure 2 outlines the frequency of usage
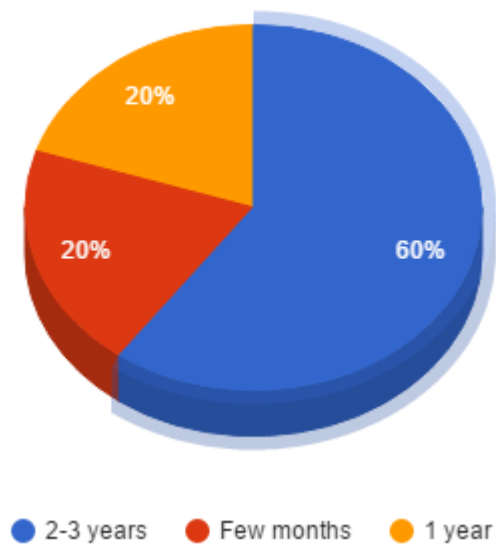
Time using Tinder

Figure 3 outlines the amount of time participants have been using Tinder

Themes

Results are outlined in order from the most to the least occurring theme. Table 1 summarises the frequency of each theme per focus group and across all focus groups.

Table 1

Table showing the frequency of which the six psychological themes arose in participants' responses; per focus group and across all focus groups.

Psychological Impacts	Focus Group 1	Focus Group 2	Focus Group 3	Total No. of Responses
Fatigue/ Disappointment	38	19	42	99
Insecurities	30	33	34	97
Judgement	44	12	31	87
Enjoyment	29	24	22	75
Confidence	25	16	20	61
Indifference	4	38	13	55

Fatigue / disappointment. Once the novelty of using the sites wares off, it begins to get repetitious with many f the females stating that they believe the conversations "came to the point then, when getting back to someone…. I'm actually just not that bothered" as conversations became "generic" and monotonous (Participant 3). Other statements to this effect included "a bit bored of it all" (Participant 3), "what's the point?", "I wasn't even bothered messaging them" and "I'm just completely over this".

The male group also spoke of the banality of conversation with some women and how it lead to fatigue of usage outlining that "it can be like pulling teeth" (Participant 7) as they attempt to initiate conversation with women they have matched with. This was echoed by some of the females who stated "you're constantly having the same conversations" (Participant 8), "you've been down that road so many times" (Participant 10) and "I think it's hard to maintain it" (Participant 10).

Insecurity / Anxiety. Themes of insecurity, self-doubt or anxiety emerged within each of the groups at different stages. The theme emerged within the female groups through statements such as "you want to think that people might like you" (Participant 3) and "You would just be worried" (Participant 3). Once a match was formed, this worry seemed to increase for all participants with the female participants making statements such as "I was literally going to throw up" (Participant 3) when discussing preparing for a date and "you feel like you have more to lose" (Participant 3) when they have a good connection with someone and later finding themselves asking "Where is this going?" (Participant 2) and "Why is he not asking me out?" (Participant 4). Meanwhile male participants worried equally but in a different way, stating "don't get my hopes up" (Participant 5), "she must have swiped right by accident" (Participant 6) and "It's a good opportunity, don't blow it… you don't' want to ruin that small percentage of a chance" (Participant 5).
If a connection has suddenly stopped conversing the female participants spoke of a need to "analyse it to death" (Participants 2&4), whilst participant 3 spoke of internal questioning such as "Why isn't he messaging me?" or "what's changed?" (Participant 2) stating that they would also begin to think "maybe I'm not as pretty as

the next girl" (Participant 10) and "… he saw me, took one look at me and was like: nah" (Participant 8).

Judgement. This theme emerged organically from the focus group and was prompted within both the female and male group as a result. The concept of judgement arose under three different instances: the first, Participants forming judgement of other users on dating sites and apps, secondly feeling judged by those on the dating sites they used and thirdly feeling judged by friends in relationships.

Participants forming judgement of other users on dating sites and apps. This theme first arose within the pilot by participant 3 as she outlined the judgment she felt for using Tinder, as public perception of the dating app is that it is for "one night stands". However, participant 2 outlined judgements she had placed on users of eHarmony, as she felt that these sites were for those "... really looking for a husband".

However, there were many forthcoming conversations within both the male and female groups about how the formation of judgement against others was integral to the process of online and mobile dating with statements such as "oh god help him… he's not for me… you'd be just judging them…" (Participant 3) and "there's a lot of good looking girls" (Participant 5) with participant 7 stating "it creates you to be more judgemental".

Participants feeling judged by those on the dating sites and apps. This was a common theme within the female groups, as women uttered phrases such as "why would you think that of me?" (participant 3) when discussing frustration from how some interactions with males on Tinder had taken place, later saying she understood that other women may be happy to "be seen as an object" but that she was not.

Others spoke of the feeling of being judged on their image with statements such as "Oh God, what if someone was thinking like that about me?" (Participant 3), "people could be thinking of me; oh god the state of her, get her off my phone" (Participant 3). There were also frequent sweeping statements such as "he was a nice guy" or "she was a good looking girl" throughout the course of the focus groups. There was recognition throughout each of the focus groups that there is a

requirement to have superficiality at the heart of the online and mobile dating process. One female participant likened the experience to internet shopping, believing that the human element can sometimes be removed and the experience becomes similar to shopping for clothes. Male participants in particular seemed to accept this, stating "you can't take it too personal" (Participant 5), "you can't take it too seriously" (Participant 5) and "you're putting your hand out there to be slapped" (Participant 7).

Within the male group, one respondent spoke of how "you can't define me by my job" as he spoke of an instance whereby a conversation with a woman came to an abrupt end once he disclosed his profession to her.

Feeling judged by friends in relationships. This theme only emerged from the female groups. When the male group was prompted for discussion on this theme, they outlined that they have no experience of being judged by their friends for using online or mobile dating sites. Both female groups outlined the presence of this feeling of judgement by friends who were in relationships, with statements such as ; "all of my friends are in long term relationships or married… they don't really get it" (participant 8), later adding that some of her friends have stated that they "wouldn't be caught dead on online dating site." Another participant was asked "do you really think that you will meet someone there?" (participant 9) by a female friend in a relationship Another participant felt judged by her cousin as she was told "I don't know if I should be letting you off to meet a man you met on the internet" as she left her familial home to meet a man she had connected with over Tinder, later stating "it was almost a bit judgey".

Enjoyment. Genuine excitement and enjoyment was mentioned throughout the course of the focus groups, with some referring to the release of dopamine they experienced when using online dating sites.

Enjoyable experiences ranged from the matching experience itself, to a "banter" filled conversation full of wit, humour and flirtation, in addition to the enjoyment of a pleasurable date, a kiss, a relationship or even the formation of friendships should the romance not ignite. One participant described using the sites

as "it can just be rewarding" (Participant 5), while Participant 3 stated "it did feel nice to meet a guy for dinner, to be treated", with participant 4 also outlining how her experience of using Tinder was "… actually fun", going on to further claim that it afforded her "instant gratification" when she matched with a potential partner. The expression "banter" was used by both males and females in order to express enjoyment, amusement and flirtation, throughout the messaging process in addition to face to face meetings or dates.

When discussing the feeling of leaving a dating site or app after having a pleasant conversation with someone over the messaging tools it was described as "you kind of have a good vibe about you when you're coming off it" (Participant 8) and "like you're not going to be in a worse mood when after having the craic with someone" (Participant 10).

Confidence. The first mention of "a confidence boost" was made within the first few minutes of the pilot group by participant 3. This concept arose throughout all of the focus groups by each participant at least once, phrased as either a "confidence boost" or an "ego boost" in each occasion. This was most commonly mentioned as a result of having matched with somebody online or initiating a conversation with a particularly good looking member of the opposite sex, with statements such as "oh wow, he's after matching me" (participant 3), "yea of course if you get a load of matches it's an ego boost" (participant 6), "you definitely feel good" (participant 7), "a little bit of an ego boost" (Participants, 5 & 6) and "I'm so great" (participant 3) mentioned throughout the course of the groups. This concept of an ego boost was also raised by participant 3 when speaking of the psychological impact of having an immediate match on Tinder, stating: "You're happier in yourself then, because you're thinking; he liked me first". This is a concept that another took slightly further stating that her use of online dating was "validation" (participants 9 &10) as communications she initiated were responded to by the man she had messaged. Statements such as "Grand to now that someone was interested in you" were also mentioned by participant 3.

The Female groups also mentioned the term "empowering" (participants 8 & 10) when describing how they felt online dating was "…good from a confidence point

of view" as they completed the matching, conversing and first date experience, stating "yea, I'm doing this for myself" (participant 8).

Indifference. Indifference was present in two separate ways; Indifference as the result of fatigue and also indifference as the result of emotional distance.

Indifference as the result of fatigue. The female groups in particular spoke of indifference as a result of fatigue in using the sites and apps. This was further supported with statements such as "I could not have cared less" when discussing the potential to converse with men who they did not have a spark or deep connection with, as the fatigue set in. This was particularly evident within Tinder, as female participant began to state "you feel nothing exactly" (Participant 9), "I never check it" when they get alerts on matches (Participant 8) and "on Tinder you just take no notice" (Participant 10).

Indifference as the result of emotional distance. The male group in particular outlined emotional indifference, with statements such as "you've kind of forgotten about [the match] a couple of hours later" (Participant 5), "everyone doesn't like everyone" (Participant 7) "you don't develop feelings or them" (Participant 6) and "on to the next one" (Participant 6). This was supported with an emphasis on not "dwelling" on things which may happen within the experience such as disconnecting with a match, conversation stopping, not getting a match and so forth. One male participant summarised it as "I wouldn't be on it if my ego was going to be bruised" (Participant 6).

Discussion

The focus of this exploratory study was to determine the psychological impacts of using online and mobile dating sites on their users. The focus groups and the questionnaires provided a series of insights into these psychological impacts, which will be discussed in relation to previous studies within the field of online dating and other fields with similar characteristics, such as social networking sites. They will be discussed in turn, based on the prevalence of each theme, commencing with Major Themes: Fatigue, Insecurity, Judgement and Enjoyment, followed by the Minor Themes: Confidence and Indifference. Following this, the strengths and limitations of the study will be outlined in addition to recommendations for further research.

Major Themes

Fatigue. Fatigue was the most prominent psychological impact of using online and mobile dating sites within the study. All participants spoke of the fatigue of using the apps and sites over time. There is a feeling that the novelty wears off, but that the app is somewhat addictive and that even if they delete it, they return to it, despite feeling a bit tired of the monotony of the conversations they have waiting for the one guy that they can click with and have "banter". As 60% of the participants had been using dating sites and apps in excess of two years, it is possible that the duration of the usage has resulted in the generation of this fatigue. This is supported by statements such as "you've been down that road so many times" (Participant 10), suggesting that it is repetition of the experience over time that drives this fatigue). Such fatigue was noted within females within previous research on Tinder, as females inevitably receive more messages from males, as the male users play a numbers game through use of the site (Tyson, Perta, Haddadi, & Seto, 2016). Similar findings were uncovered by Bright, Kleiser, & Grau (2015) in relation to social media usage, stating "…they may experience high levels of social media fatigue due to increased usage". Participants also spoke of fatigue in terms of how it can be "like pulling teeth" (Participant 7) when trying to get a conversation started, they outlined how they experience fatigue when they do not receive the results they desire;

initiating a conversation with "banter" and flirtation. This is supported by research into social media usage; "An argument can be made that the time spent using social media is not beneficial to the users, especially in the long term….This cycle can lower users' happiness from not receiving the encouragement and positive feedback that they were hoping for"(Brooks, 2015).

Insecurity. Female participants mentioned the self-questioning process they undertake whilst using online dating "What do you think of me" when considering what the male response to her presence on Tinder would be. Male participants vocalised this differently with statements such as "don't blow this" when having internal conversations whilst using the sites. These statements highlight the self doubt and insecurities underlying usage of these sites and apps. Similar investigations into the use of social networking sites have also found a link between usage and feelings of inadequacy (Maldonado, 2016). This study sought to determine the link between self-esteem and the amount of time spent on Facebook, finding that those with low self-esteem or mental health issues could have these issues exacerbated by use of Facebook. Almqvist-Ingersoll (2016) also found that users of Tinder had an underlying fear of exposing themselves to not be "good enough" for those they had matched with.

Judgement. Many participants brought up the concept of judgement throughout the discussion. This was mentioned when discussing the feeling of being judged by potential partners and how this created thoughts of self doubt or insecurity within them. It was highlighted that this judgement presents itself through many avenues, including from friends in relationships, family and other users of the sites and apps. As a result participants outlined that they have begun not to discuss their online and mobile dating with non users. This feeling of being stigmatized supports the findings of previous research (Barraket, 2008; Almqvist-Ingersoll, 2016), however this appears to be contrary to other published reports and research which claim that this stigma and feeling of judgement is eroding; A Canadian report has found that online dating is becoming more mainstream and as a result the stigma surrounding its usage may be beginning to decline (Brym, & Rhonda L, 2001; Ellison, Heino, & Gibbs, 2006; Finkel, Eastwick, Karney, Reis, & Sprecher, 2012), while PEW research also

outlines improvements in the perception of users of online dating sites (Smith, & Duggan, 2013) in addition to noting changes in attitude towards online dating over stigma between 2005 and 2015 with a 15 percentage point increase in people stating that they were "a good way to meet people" (Smith, Anderson, & Posts, 2016). However the Irish market may be behind other regions when it comes to attitudes towards online dating. Previous studies have outlined that Ireland may not be as quick to conform with international opinions in relation to sexually related activities, with Irish people being less inclined to support sex before marriage in comparison to their European counterparts in addition to a belief that homosexuality was "wrong" (Lottes, & Alkula, 2011).

Enjoyment. Participants described genuine excitement throughout various stages of their use on online and mobile dating, as found in other research (Finkel, Eastwick, Karney, Reis, & Sprecher, 2012). This can be experienced when matching with someone, the initial "banter" that emerges from messaging and then the enjoyment of the experience of a date or even the formation of a friendship. One participant clapped her hands and spoke of the "instant gratification" and release of dopamine she felt when using Tinder, be it through the match or the conversation. Whitty (2003) previously discussed how online flirting is a form of play and that it is "an activity that is enjoyable in itself". Other research has highlighted the enjoyment users of Tinder experience through messaging and flirtation (Almqvist-Ingersoll, 2016). The enjoyment was also extended to friends who would swap phones and swipe, a concept which has been found in previous research also, as using Tinder was found to be both "fun and simple" (Almqvist-Ingersoll, 2016, p.23).

Minor Themes

Confidence. The term Ego Boost was used on several occasions, outlining how the use of these sites and apps can impact on their self-confidence as they felt that they used the site to cheer them up on a bad day, as they wanted to think that people might like them. They spoke of the ability to put their best self forward through their profile and get an ego boost at the end of it. This study found that women and men alike experienced increases in their confidence at certain stages in

the process, expressed as an "ego boost", generally occurring when matching with another or having a light and flirtatious conversation with a potential date. The female cohort took this a step further when speaking to the empowerment they felt through using websites and mobile apps as a means of dating, stating "I'm doing this or myself." They also spoke of how they were empowered by apps such as Bumble, whereby conversations can only commence if the female initiates them. These findings are supported by previous research which also found that the internet can be a positive space in which women can express themselves sexually (Whitty & Gavin, 2001) and that cyberspace offers "an ultimately liberating experience" (Whitty, 2003) and that females stated "online dating gives you more control" (Brym, & Rhonda L, 2001) . Shaw & Gant (2002) found that using chat features online significantly increased self-esteem amongst its users, as online dating is another form of online chat, perhaps this is why increases in confidence can also be experienced within this context.

Indifference. Participants spoke of how online and mobile dating were simply other ways to meet people and was no different to how they would approach dating in an offline context. Often it was stated that online and mobile dating was simply another avenue to pursue their dating behaviours, stating "it does widen your horizons basically". This supports findings of previous reports and studies into online dating (Whitty & Buchanan, 2009; Rosenfeld, & Thomas, 2012; Smith, & Duggan, 2013; Barraket, 2008) in addition to texts on the power of CMC (Preece, 2000) in furthering relationship development behaviours undertaken in an offline context. Emotional distance also had a role to play within the detection of indifference amongst participants, it was stated "you can compartmentalise it" (Participant 10) which supports findings by an Australian study whereby participants stated they liked to use online dating as "I don't think it is as emotionally risky as putting yourself out there face to face" (Barraket, 2008), whilst another study found female emotional indifference, with a participant stating "… as a woman, [you] do not really have to have that much going for yourself. As long as you have two breasts and a vagina, you are bound to get some attention." (Almqvist-Ingersoll, 2016, P. 31).

Theoretical implications

This study highlights similarities in psychological impacts of use between dating sites and social networking sites. This study found that four of the six psychological impacts of usage were negative and linked to unhappiness, as a result of feeling judged, judging others and feeling either insecure or confident as a result. Previous research has linked the use of social media to unhappiness within its users (Brooks, 2015; Mitchell, Lebow, Uribe, Grathouse, & Shoger, 2011) driven by many aspects but including, how others users made them feel whilst using sites such as Facebook and also judgment of others. This study has highlighted the emotional impacts of using mobile and internet dating sites, affording other researchers within the field with additional contextual information into the experience of the user.

Practical implications

This study has highlighted that use of online and mobile dating sites can experience fatigue as a result of the conversations which unfold. Designers of such sites may look to reduce this fatigue by limiting the amount of conversations which can be had on a daily basis, so that participants must be more selective in whom they engage in conversation with. This may result in enriching the conversation in addition to lessening the fatigue experienced on both sides.

Designers of online and mobile dating sites may also develop features which enable users to share their experiences with each other. Some of the participants spoke of "ghosting" and receiving overly sexual content from other users. Perhaps this experience can be lessened if users were able to comment on the profiles of matches, so that other future matches may be aware of potentially hidden intentions.

Limitations and future directions

This study was limited in a number of ways. Firstly participant numbers were low for this study and so the findings cannot be generalized to the wider public. This study was also limited by the heterosexual sample it collected, so future research may look to compare the psychological impacts across heterosexual, homosexual

and bisexual samples, to determine if there are differences between these groups. It is possible that the participants recruited for this study have special characteristics, which may not be representative of a wider section of society. This is further possible due to the small numbers within the focus groups. Future researchers may utilise a different data collection method such as an online survey, in order to attract a larger participant sample, allowing for the removal of this limitation. Gender bias may be present within the findings of this study, as it contained 70% females and just 30% males. It is also possible that the use of a female moderator within the male focus groups prevented the collection of deeper information from the male participants. Future research may seek to achieve an equal gender mix and moderate the sessions with the specific gender to further allow facilitate a comfortable environment for the discussion. Also there were no measures for confidence within the study, it is not possible to determine if the feelings of insecurity or judgment are as a result of low levels of confidence or a symptom of the usage of online and mobile dating in itself. It suggests that other variables, such as rejection sensitivity may be considered by future researchers to determine how usage of these services may impact on participants of varying levels of self-confidence. The study also sought to remove researcher bias through the coding process outlined, whereby a code book was created, male and female coders were utilised and interrater reliability testing was conducted. However it is still possible that bias may be included as both coders were of a similar age profile and residents of an urban area.

Strengths

The use of Grounded Theory Methodology in this study was advantageous, as it allowed for the emergence of naturally occurring themes in relation to the impacts of online dating within its users rather than being led down a certain path and providing stories or experiences which would fit into the researchers' hypothesis. Similarly the use of focus groups had advantages as the majority of participants revealed significant consistencies about their experiences with online and mobile dating sites allowing for a depth and richness of data on these experiences to be collected. The richness of data collected through the use of focus groups has also

assisted in acquiring a depth of understanding into the psychological impacts which have been highlighted. As this question has not been asked within the existing scholarly papers into online dating, this research has successfully added to the field of knowledge, by identifying the six psychological impacts which have been presented.

Conclusion

In conclusion this study found that there are four major and two minor psychological impacts to using online and mobile dating. These impacts are both positive and negative, though more negative impacts were identified throughout the course of the study, finding the presence of fatigue, insecurity, judgement, enjoyment, confidence and indifference. No significant differences in psychological impacts by gender were identified, with the exception of the female feeling of being judged which was not experienced by the male participants. Despite these negative psychological impacts, most participants outlined that they will continue to use online and mobile dating services in the future as it is a way to compliment their offline dating activities and seek a potential mate to have "banter" with and share pleasurable experiences, despite some potentially negative or tiring experiences along the way.