

The Impact of Pphubbing and Age on Presence/Absence and Wellbeing within
Romantic Relationships

Olivia Grace

Submitted in partial fulfilment of the requirements of the BA Hons in Psychology at
Dublin Business School, School of Arts, Dublin.

Supervisor: Dr. John Hyland

Programme Leader: Dr. Rosie Reid

March 2018

Department of Psychology

Dublin Business School.

Table of Contents

	Page No.
1.0 Acknowledgements	5
2.0 Abstract	6
3.0 Introduction	
3.1 Smartphones & Romantic Relationships	7-8
3.2 Statistics	8-9
3.3 Communication and Intimacy	9-11
3.4 Present/Absence	11-12
3.5 Satisfaction with Life	12
3.6 Pphubbing	12-13
3.7 Age, (both current age and the age a smartphone was first used/owned)	13-15
3.8 Smartphone Addiction	15
3.9 Previous Research	16-17
3.10 Aim of Current Study	17-18
4.0 Methodology	
4.1 Participants	19-20
4.2 Design	20
4.3 Materials (Measures Used)	
4.3.1 Pphubbing Scale	20-21
4.3.2 Present Absence Scale	21-22
4.3.3 Satisfaction with Life Scale	22
4.3.4 Smartphone Addiction Scale	22
4.4 Procedure	23
5.0 Results	24
5.1 Descriptive Statistics	24-26

5.2	Inferential Statistics	26-28
5.3	Further Analysis	29
6.0	Discussion	30-31
6.1	Strengths and Limitations	31-33
6.2	Implications and Future Research	33-34
6.3	Conclusion	34-35
7.0	References	36-39
8.0	Appendix	40-47

1.0 Acknowledgements

Firstly I would like to thank my supervisor Dr. John Hyland for his support and guidance throughout the project. A sincere thanks also to both Dr. John Hyland and Dr Pauline Hyland for their invaluable support and feedback throughout my degree, I simply would not have been able to do it without you both.

I would like to thank my husband Joe for being my inspiration in returning to college, he showed me that it could be done.

Finally to my parents Mary and Oliver and to my siblings, Damian, Gemma and Brian for their constant cheerleading when I was doing well and the many pick-me-up chats when I was struggling – I am so grateful for your love and support.

2.0 Abstract

The aim of this correlational study was to investigate the link between smartphone overuse and levels of Present Absence and Satisfaction with Life within romantic relationships. It also sought to establish a correlation between, age a smartphone is first used and Present Absence. Purposive sampling was used to recruit psychology and business college students as well as the general public. Inclusion criteria was smartphone ownership and minimum age eighteen. A demographic questionnaire followed by four self-report questionnaires, Pphubbing Scale, Present Absence Scale, Satisfaction with Life Scale and Smartphone Addiction Scale, were used to test the hypotheses and SPSS 24 was used for statistical analysis. The results indicated a strong significant negative correlation between age of first ownership and Present Absence and also found a strong significant positive correlation between smartphone addiction and Present Absence. These findings are significant in providing direction for smartphone usage in adults but particularly among children.

3.0 Introduction

Smartphones & Romantic Relationships.

“Life is what happens when your smartphone is charging” (Emanuel, et al., 2015, p. 1). Of the many advances of the 21st century, smartphone technology may turn out to be the most pervasive. It impacts every aspect of daily life but most importantly it changes the way humans communicate with each other, thus impacting intimate relationships. Misra, Cheng, Genevie, & Yuan (2014) found that conversations held while simply having a smartphone device present, but not in use, were less empathetic than conversations with no smartphone present. Chesley (2005) looked at the impact this technology has on work/life balance and found it blurred the boundaries between work-life and home-life and caused stress to relationships through intrusion effects and the resulting feelings of negativity. Enter a restaurant or coffee shop, and couples, families and friends can be observed, socialising, just not with the people sitting with them, as the preference to interact with a smartphone device over a physical person becomes apparent. There are now many ‘memes’ addressing the many inappropriate places people and particularly couples use their smartphones, examples such as during a wedding ceremony and in bed together, are some of the more memorable ones. There is even a new word to describe this activity, Phubbing, or if it’s being done to a romantic partner it is Pphubbing, this is simply choosing to interact with your smartphone and by doing so snubbing your partner.

Further research in the area has addressed the emotional toll the overuse of smartphone technology has and the possible link to the innumerable apps within smartphone devices such as Instagram, Snapchat, Facebook and WhatsApp (Elphinston & Noller, 2011; Cizemci, 2017; Montag, et al., 2015). As of February 2018 there are 2.13 billion monthly active Facebook users, accounting for a significant portion of the

population (Noyes, 2018). Facebook use has been linked to relationship dissatisfaction and jealousy which in turn results in intrusive and/or surveillance type behaviours which may lead to further problems within the relationship (Elphinston & Noller, 2011). In addition that same study found that the addictive nature of smartphones and apps within them such as Facebook and Whats App have been shown to decrease relationship satisfaction in line with increased usage. Similar studies by Montag, et al., (2015); Cizemci (2017); Kwon, et al., (2013), have addressed some of the specific apps within the smartphone such as WhatsApp, Facebook and gaming apps in an attempt to narrow what it is that makes the device so valued, in particular the apparent preference to screen time over face-to-face communication. Montag, et al., (2015) cite various concerns relating to smartphone overuse and specifically WhatsApp, and found that over use resulted in poor sleep quality which can have detrimental impacts on romantic relationships and life satisfaction.

Therefore, while there are obvious benefits to smartphone technology particularly in areas such as health and education the possible and probable negatives need to be considered.

3.2 *Statistics*

Firstly, some statistics to put into perspective the immense leap technology has taken over the last 10 years and the universal impact this may have on human communication and interaction, both good and bad. Deloitte & Touche (2017) in their consumer report for 2017 found that in the UK 85% of people own a smartphone and they expect this to increase to 90% by 2020. How pervasive is this technology? Roberts, Petnji Wa-Wa, and Manolis (2014, as cited in Roberts & David, 2016) found that the college students within their sample used their smartphone devices for an average of nine hours per day. If, as in the cities of Bavaria and Bodegraven, they have put traffic lights on the pavement to ensure people distracted by their phones see the lights, what hope does

a significant other have of maintaining attention long enough to connect? The same study found that 41% of people believe their partner use their smartphone too much.

Furthermore in their 2016 survey Deloitte & Touche (2017) divided the results into age groups, for example, 33% of 18 to 24 year olds and 38% of 25 to 34 year olds have arguments relating to excessive smartphone usage, 68% of people use their smartphone while having dinner with family and 80% of people using it while talking with friends. With over a third of the world's population predicted to own a smartphone by 2018, estimated at 2.53 billion users (Statista, 2017) the impact on communication within relationships, and as a direct result life satisfaction, needs to be understood, particularly as Deloitte & Touche (2017, p. 3) state, "it will likely become regarded as the primary way to communicate, interact and transact with customers and citizens".

3.3 *Communication and Intimacy*

It is becoming more apparent that technology and in particular unlimited access to the internet through smartphone technology is changing and possibly damaging the human ability to connect at an emotional level. Interestingly, Wagner (2015, p. 119) discusses how the very essence of being human requires that we "tap into each other's emotional states and that the resonance creates empathy between us". It is not difficult to see how this resonance can be interrupted when images and responses are being constantly airbrushed or if a smartphone in the hand is distracting from the person in the immediate vicinity, trying to connect.

Cizemci (2017) undertook a qualitative study addressing the impact of smartphone use within romantic relationships and while there were positive findings such as couples reporting they liked being able to stay in touch frequently through their cell phone there were also significant downsides such as participants stating "he should be dead to turn off his phone" and "she was making each extra minute that I did not

communicate to her a problem” Cizemici (2017, p. 1406). The author concluded that the negatives of smartphone technology outweigh the positives within romantic relationships. Correspondingly, Krasova, Abramova, Notter, & Baumann (2016), reported that 62% of their sample believed excessive smartphone engagement was linked with jealousy related emotions. Jealousy within a relationship due to the pervasive impact of the smartphone can cause further discord. McDaniel & Coyne (2016) found that people may even relate to their smartphone in an intimate way resulting in their partner feeling excluded and jealous. They also found that smartphone usage or what they call “technofence” resulted in their sample reporting lower life and relationship satisfaction.

There is mounting body of evidence supporting the idea that people are becoming more emotionally attached to their smartphone devices to the exclusion of all else. This may be due to the positive reinforcement received from various apps such as ‘like’ options on Facebook with individuals posting a picture or comment in anticipation of the many comments and interactions received as a result, Turner & Turner, 2013; Vincent, Haddon, & Hammil, 2005; Wehmeyer, (2007, as cited in McDaniel and Coyne, 2016).

In addition to the above mentioned concerns there is an ‘always on’ element to smartphones that did not exist with other technology. Earlier phones didn’t have the internet connectivity and laptops and computers weren’t mobile enough. Smartphones, however have become so mobile and indispensable that they infiltrate every aspect of life from that first check-in in the morning to the goodnight review of the day and everything in between, this constant interference has been shown to have negative impacts on romantic relationships (Amichai-Hamburger & Etgar, 2016; McDaniel & Coyne, 2016; Roberts & David, 2016).

Interestingly, Fortunati (2002) discusses the possibility that the overuse of this technology has more to do with anxiety and uncertainty and is used divert from these

feelings. This diversion or escape may then remove the need to connect with a partner by letting them know of concerns and anxieties going on in their life and as a result may create further distance within the relationship.

3.4 *Present Absence*

Fortunati (2002, p. 519) states that “people today, when they are present, are not so completely; they are present, yes, with continuity in their physical part, but discontinuity in immaterial part”. Being physically present but not fully attending to your partner due to the distraction of a smartphone device can result in negative or antisocial feelings (Rosman, 2006). Therefore, when we are in the presence of others such as our partners are we fully present or do the ‘always on’ properties of the smartphone mean we are more absent than present? Amichai-Hamburger & Etgar (2016) examined the relationship between smartphone use and romantic intimacy and found that the multitasking ability required when using a smartphone during daily life did appear to impact the ability to form and maintain intimate relationships. Interestingly this was only observed in others rather than people believing or acknowledging this behaviour in themselves.

According to Sandberg, Busby, Johnson & Yoshida (2012 as cited in Cizemci, 2017, p. 1401) “accessibility, responsiveness and engagement are considered as behavioural manifestations of attachment”, this may prove problematic when competition for attention is a device that can access the world. There may be considerable negative impact on a relationship when one partner attempts to engage while the other is inattentive due to distraction from a smartphone device. Similarly, Casey (2012) discusses the concept of “the self” becoming intertwined with the smartphone device to the extent that it takes the place of a physical partner. Pinsker, (2012) reviews the book *Alone Together* which discusses issues relating to information technology interference and how the more

dependent humans become on technology the less they need or are likely to engage in face to face communication. Meaningful conversations tend to encourage intimacy and trust between partners while having a smartphone present has been found to inhibit this process (Przybylski & Weinstein, 2012).

3.5 *Satisfaction with Life*

Schumacher (2013, as cited in Groarke, 2014) found that people will develop more meaningful relationships if face-to-face time is increased and screen time is decreased. Further research in the area of face-face communication found that face-to-face communication can be used as a predictor of quality of life while internet communications cannot, Paul, Louis, Venhwei, Chengyu, & Tingiun (2011). It therefore stands to reason that if someone is content in their romantic relationship they are more likely to be satisfied with life, this is supported by Roberts & David (2016) findings that relationship satisfaction had a positive impact on life satisfaction. Similar research conducted by Moss & Schwebel (1993) describe romantic intimacy as positive affect and feelings of commitment towards a person. If, as has been evidenced by previous studies, smartphones distract people physically present in favour of interacting with the smartphone device (Roberts & David, 2016; Coyne, Stockdale, Busby, Iverson, & Grant, 2011; Chotpitayasunondh & Douglas, 2016) it is not difficult to see negative consequences such as conflict and jealousy occurring within intimate relationships and as a result having an overall negative impact on life satisfaction.

3.6 *Pphubbing*

Phubbing is a portmanteau of the words, phone and snubbing, when it occurs between romantic partners it is called Pphubbing (partner-phone-snubbing). To be phubbed is to be ignored or snubbed by a person in your company in preference for their smartphone device. It is a relatively new word and appears to have first been used in a

study by Roberts & David (2016) where they developed the Pphubbing scale to assess the impact of Pphubbing on romantic relationships and relationship satisfaction. Some simple examples of Pphubbing are, answering the phone or responding to texts while in mid conversation with a partner or scrolling through a social media app such as Facebook or WhatsApp while a significant other is attempting to converse and/or connect. This type of behaviour is, for the most part, frowned upon in other circumstances, for example if someone is reading a book it is unlikely they will continue reading while their partner is speaking with them. The frustration and sense of not being heard and feeling that the person in the room is not attending to the relationships' needs may cause feelings of disconnect. In addition, Roberts & David (2016) found that Pphubbing caused conflict and lower relationship satisfaction and linked this lower relationship satisfaction to lower overall wellbeing.

Peleg (2008) states that relationship satisfaction is related to the degree partners believe their other half is meeting their needs and desires and Siegel (2010) states that each partner must be fully present to be in a healthy relationship and similar to research conducted by Casey et al., (2012) they further clarify that being present means more than simply being in each other's presence. In essence Pphubbing is less concerned with what the person is doing on their phone but what they are not doing with their partner, as time spent on smartphone devices increases, quality time with loved ones inevitably decreases.

3.7 Age, (both current age and the age a smartphone was first used/owned)

There has not been much emphasis in previous research on age as a factor when looking at the impact of smartphone technology and its influence on romantic relationships. One study that looked at younger couples, their smartphone use and romantic relationships found that excessive smartphone use resulted in the relationship ending earlier as the 'always on' capability consumed the relationship much faster than

previous generations. This excessive use also resulted in the couple Pphubbing when they did meet as they had little to discuss in person having exhausted all conversation (Cizemci, 2017). Utz and Beukeboom (2011, as cited in Cizemci, 2017) also found that younger people used their smartphones to track their romantic partner via Facebook and similar apps thus creating feelings of jealousy and discord within the relationship. These findings are similar to findings by Krasova, Abramova, Notter, & Baumann (2016).

Many people using smartphone technology today were not raised with smartphones or indeed internet technology. As such it is possible that individuals who use this technology from an early age may interact with it differently and in the future develop ethical protocols or boundaries to catch up with the technology. Norton, Baptist, & Hogan, (2017) examined issues relating to computer mediated technology and intimate relationships and suggest that boundaries relating to technology need to be set within relationships to ensure both parties are in agreement with what is acceptable online behaviour.

As children are using smartphones earlier and earlier it likely this will have an impact on how they interact with others as they mature. Dr. Dimitri Christakis (as cited in Edwards, 2017) discusses the possible implications of excessive smartphone use in young children finding that it is possible displacement, for example a child using a smartphone rather than playing with siblings or friends, is the concern, rather than the actual smartphone usage levels. While the study only addressed young children it is not difficult to see how this idea of displacement could be relevant within relationships where one or both partners are using smartphone technology instead of spending time doing activities/hobbies or just catching up together.

Furthermore, as younger people use more mobile devices with sometimes unlimited access to the internet there is the concern of addiction within this vulnerable

population. This may impact both present and future relationships, as reported by Yen, Ko, Yen, Wu, & Yang, (2007), adolescents with high internet usage levels demonstrated social problems such as increased aggression, stress and social phobia.

3.8 *Smartphone Addiction*

Nomophobia is the new name for the anxiety or phobia of losing one's smartphone or being without mobile coverage. The fact that there is now a name for this type of anxiety or phobia indicates the level of addiction related to smartphone technology. Unsurprisingly, given the pervasive nature of the smartphone, the addictive pull of the device can impact all aspects of romantic relationships causing problems with attachment, partner responsiveness (either too little or too much), and jealousy. As with all addictions smartphone addiction can have negative impacts on romantic relationships, such as an unhealthy dependency or as 55% of the participants in one study stated "I use my phone as a way of escaping from problems or relieving a bad mood", Emanuel, et al., (2015).

Additionally, the developers of the Smartphone Addiction Scale found people believe their smartphone device to be more than just a useful tool to make calls or check emails it is also something that relieves stress and anxiety (Kwon, et al., 2013). If one or both partners within a relationship are using their smartphone to escape their negative emotions, this may have detrimental consequences for the relationship. The behavioural changes associated with addiction can also impact negatively on relationships with reduced attention levels, emotional stability and self-esteem as well as reduced levels of social concern (Hadar, et al., 2017), which can lead to relationship disharmony. Consequently, smartphones with their 'always on' presence, connectivity, mobility and inherently gratifying features are the perfect device to feed addictive behaviour.

3.9 *Previous Research*

Many studies have undertaken research on the broader technology interference question, however there is limited research looking specifically at smartphone technology and its direct impact on romantic relationships, particularly when the age that technology was first used is taken into consideration, (Turel, Serenko, & Giles, 2011; Paul, Louis, Venhwei, Chengyu, & Tingiun, 2011; Rosman, 2006). The most recent relevant research in this area is as new as the term Pphubbing with studies by Roberts & David, 2016; Krasova, Abramova, Notter, & Baumann, 2016; Chotpitayasunondh & Douglas 2016, all addressing aspects of phubbing. These studies address various aspects of smartphone technology and its impact on communication and interpersonal relationships and their findings show that this technology can have significant negative consequences for both communication and wellbeing.

Furthermore, McDaniel & Coyne (2016) address the interference of technology in relationships with particular emphasis on women's personal and relational wellbeing. Interestingly, their study found 70% of participant's perceived technology, including smartphones, to be an interfering influence in their relationship and as a direct result has negative consequences for personal wellbeing. Przybylski & Weinstein (2012) found that mobile communication technology had negative effects on "closeness, connection and conversation".

A study by Pugh (2017) looked at the consequences of smartphone technology addiction citing jealousy as an outcome. The reasons for this are not clear however it may be as Lee, Leung, Lo, Xiong, & Wu (2011) report, that smartphone technology interferes with nonverbal cues, resulting in impersonal and less meaningful interactions, they go further to state that the perceived positives of online relationships are negated by

the fact that socially isolated people do not tend to use the technology as a tool for communication.

Lapierre & Lewis (2016) also looked at smartphone use, this time among university students and found that it may not be simply the overuse of smartphone technology but the psychological reliance on the device that appears to compete for attention within relationships resulting in one or possibly both partners feeling less important than the smartphone device.

3.10 Aim of Current Study

The aim of this study will be to build on previous research in the area of smartphone technology, communication and relationships (Casey, 2012, McDaniel & Coyne, 2016; Roberts & David, 2016; Krasova, Abramova, Notter, & Baumann, 2016 and Cizemci, 2017), to find a significant link between excessive smartphone use within romantic relationships, high levels of Present Absence and reduced satisfaction with life/wellbeing. It will also seek to establish if there is a difference between adults who have grown up with smartphone technology and those who adopted that technology later in life and Present/Absence scores.

Chassiakos, Radesky, Chritakis Moreno and Cross (as cited in Edwards, 2017, p. 22) states “one has to keep in mind that our brains have evolved over millennia; they are contingent on social interaction”. Accordingly, while there are many benefits to smartphone/mobile technology this paper aims to address the possible negative consequences of overuse in relation to social interactions and specifically within romantic relationships. This study aims to provide empirical support that excessive smartphone use may interrupt that human connection.

To summarise, the present research hypothesises the following:

1. The first hypothesis proposes that those with high levels of smartphone use (Smartphone Addiction Scale, [SAS]) will have high Present Absence scores (Present Absence Scale) within romantic relationships.
2. The second hypothesis proposes, those with high levels of smartphone use (SAS) will have low Satisfaction with Life Scores (Satisfaction with Life Scale [SWLS])
3. The third hypothesis proposes that those with high Pphubbing scores will have lower Satisfaction with Life (SWLS).
4. The fourth hypothesis proposes that there will be a significant difference in Present/Absence scores (Present Absence Scale) depending on the age a smartphone was first owned.

4.0 Methodology

4.1 Participants

Inclusion factors for participants were individuals over the age of 18 who owned a smart phone. There was no requirement for participants to be in a relationship at the time of the study as they were verbally advised to apply the questions to their most recent romantic relationship. A convenience sample consisting of both, full-time and part-time Dublin Business School students, studying psychology or business studies was used as this allowed a range of ages and also assisted with any possible questionnaire fatigue which may have been an issue with psychology students. It also allowed for a greater range of ages as the full time students were generally younger than the part-time students. Hard-copy questionnaires were also distributed to family, friends, neighbours and other acquaintances. All participants were handed a hard copy of the questionnaires along with a coversheet (Appendix 1) which outlined that participation was voluntary, and there were no incentives offered. The coversheet also advised that all participation was anonymous and confidential. While it was not envisaged that there would be any ethical issues with the study, the PSI Code of Professional Ethics was referred to, to ensure all care was undertaken to ensure participant wellbeing at all times.

A debrief sheet (Appendix 2) with contact details for support services was handed out on completion of each survey. Ethical approval was sought from DBS prior to the gathering of any data and no known risks were raised. Approval was sought from DBS College to allow access to the participants and in particular permission was sought from any lecturers prior to gaining access to classrooms

The study consisted of one hundred and seven participants ($n = 107$), between the ages of 19 and 57 years ($M = 31.07$, $SD = 9.33$). The youngest age a smartphone was first owned/used was 10 and the oldest was 44 ($M = 22.11$, $SD = 8.27$). There was a good gender split with 64 females (60%) and 43 males (40%). The majority of the sample were

currently in a relationship ($n = 75$) and this was broken down as follows, married 22%, cohabiting 16%, new and long-term relationships 32%. The remainder of the sample ($n = 32$) accounted for 30% of the sample and was made up of single, separated and divorced participants. 78 participants (72%) believed that excessive use of a smartphone device impairs ability to communicate within a relationship.

4.2 Design

This study is correlational in design and used purposive sampling as participants were required to own a smartphone to be included and a range of ages was also required. The study contains independent and dependent variables as well as criterion and predictor variables. The independent variables (IV) were presence absence and satisfaction with life and the dependent variable (DV) was smartphone usage. The criterion variable in the fourth hypothesis was Present Absence with the predictor variable being the age a smartphone was first owned. A number of independent t-tests were used to examine possible sex differences between the different variables.

A Pearson Correlation Coefficient was used to test the first hypothesis, that those with high levels of smartphone use would have high present absence scores. A Pearson Correlation Coefficient was also used to test the second and third hypothesis that those with high levels of smartphone use would have low satisfaction with life and Pphubbing scores. And finally a Pearson correlation coefficient followed by a linear regression was used to establish if the age a smartphone was first used could predict Present Absence scores.

4.3 Materials

The study used hardcopy questionnaires which were handed to all participants. The questionnaire began with a demographic page (Appendix 3) with questions regarding gender, age and relationship status (1="married", 2="single", 3="cohabiting", 4="divorced", 5="Separated", 6="widowed", 7="New Relationship (less than 12

months)”, 8 = “long term relationship, {12 months or more}). It also asked participants to state what age they had first used/owned a smartphone. The final question on the demographic questionnaire asked “Do you believe excessive use of your smartphone device impairs your ability to communicate within romantic relationships?”

Participants then completed four self-report questionnaires: The Phubbing Scale (Appendix 4); the Present Absence Scale (Appendix 5); the Satisfaction with Life Scale (Appendix 6) and the Smartphone Addiction Scale (Appendix 7). Statistical analysis was undertaken on SPSS version 24.

4.3.1 Phubbing Scale

The Pphubbing scale was developed by Roberts & David, (2016) to assess the impact of overuse of smartphone technology on relationships. The Pphubbing scale is a nine item scale used to measure the impact of cell phones on interpersonal relationships. Participants are instructed to select responses from a 5-point Likert scale, ranging from (1) Never to (5) All the time. The questions all relate to the participants perception of their partners smartphone usage. Question number seven is a reverse question “My partner does not use his/her cell phone when we are out together”. Examples of other questions are “During a typical mealtime that my partner and I spend together my partner pulls out and checks his/her cell phone, “My partner glances at his/her cell phone when talking to me”. Totalled scores can range from a min of nine to a maximum of 45 with higher scores indicating a higher perception of partner pphubbing. Reported interal consistency from the developers of this scale was $\alpha=0.92$.

4.3.2 Present Absence Scale

The Present Absence scale (Casey, 2012) uses five questions to measure the impact of smartphone usage on an individual’s immediate social vicinity. Participants are instructed to select responses from a 5-point Likert scale, ranging from (1) almost never to (5) almost always. Examples of some of the questions are “how often do you “abandon” your physical

surroundings to use your phone or interact with someone else through your phone?” and “How often do you have a face-to-face conversation and simultaneously send a text message or have a conversation on your phone?” Once all items are totalled scores can range from 5 – 25. Higher scores on the scale are indicative of higher levels of present absence. Casey (2012) assessed reliability through Cronbach’s Alpha of .73.

4.3.3 Satisfaction with Life Scale

The scale was developed by Diener et al. (1985). This scale consists of five items which are used to evaluate overall cognitive judgments about a person’s own life. The participants must indicate the degree with which they agree/disagree with each statement using a 7-point Likert scale (1: disagree completely, 6: agree completely). The highest score achievable is 35 and the lowest is five, with higher scores indicating greater satisfaction with life. Previous studies reported internal consistency of $\alpha = .85$ (Ali Yildiz, 2016).

4.3.4 Smartphone Addiction Scale

The Smartphone Addiction Scale was developed by Kwon, Kim, et al., (2013). It is a 33 itemed questionnaire used to assess levels of smartphone addiction. Participants are asked to rate on a dimensional scale how much each statement relates to them, (1 “strongly disagree” to 6 “strongly agree”). The scale consists of six factors; daily life, disturbance, positive anticipation, withdrawal, cyberspace-oriented relationship, overuse and tolerance. Example items include ‘My life would be empty without my smartphone, ‘Having my smartphone in my mind even when I am not using it’, ‘Feeling that my relationships with my smartphone buddies are more intimate than my relationship with my real-life friends’, Feeling that my smartphone buddies understand me better than my real-life friends. The total score can range from 33 (minimum) to 198 (maximum), with higher scores predicting a risk of smartphone addiction. The internal consistency reported by the developers of the scale is $\alpha = .97$ (Kwon, Kim, et al., (2013).

4.4 Procedure

Before conducting the study, ethical approval was received from Dublin Business School Ethics Board. A hard copy of the questionnaire was handed to each participant. Participants were recruited from Dublin Business School, both part time and full time students. Family, friends and work colleagues were also recruited.

Attached to the front of the questionnaire was a brief description of the study. This page also advised participants that the only inclusion criteria was smartphone ownership and being over the age of 18. It also informed participants that the study was voluntary and anonymous and as such, once completed, participants could not withdraw. Participants were also advised that their data would be stored securely on a password protected computer. On completion of the questionnaire participants were handed a debrief sheet outlining contact details for both the author and supervisor of the study. While it is believed there was a low risk of the material within the questionnaires causing distress, the debrief sheet also included details for support services. The names of each survey were removed to ensure participants weren't unduly concerned about elements such the word 'addiction in The Smartphone Addiction Scale.

Participants were verbally advised of the meaning of the word Pphubbing and were also advised they could apply the questions to their most recent relationship, if currently without a partner.

5.0 Results

The aim of this section is to provide a clear and concise report of the results found within the current study.

5.1 Descriptive Statistics

The sample consisted of 107 participants, 64 females (60%) and 43 males (40%). Participants range in age from 19 to 57 with a mean age of 31.07 (SD=9.33) (See Figure 1). The majority of the sample were in a relationship ($n = 75$) while 32 were not currently in a relationship (see Figure 2). 78% of participants believed excessive use of their smartphone impairs ability to communicate within romantic relationships.

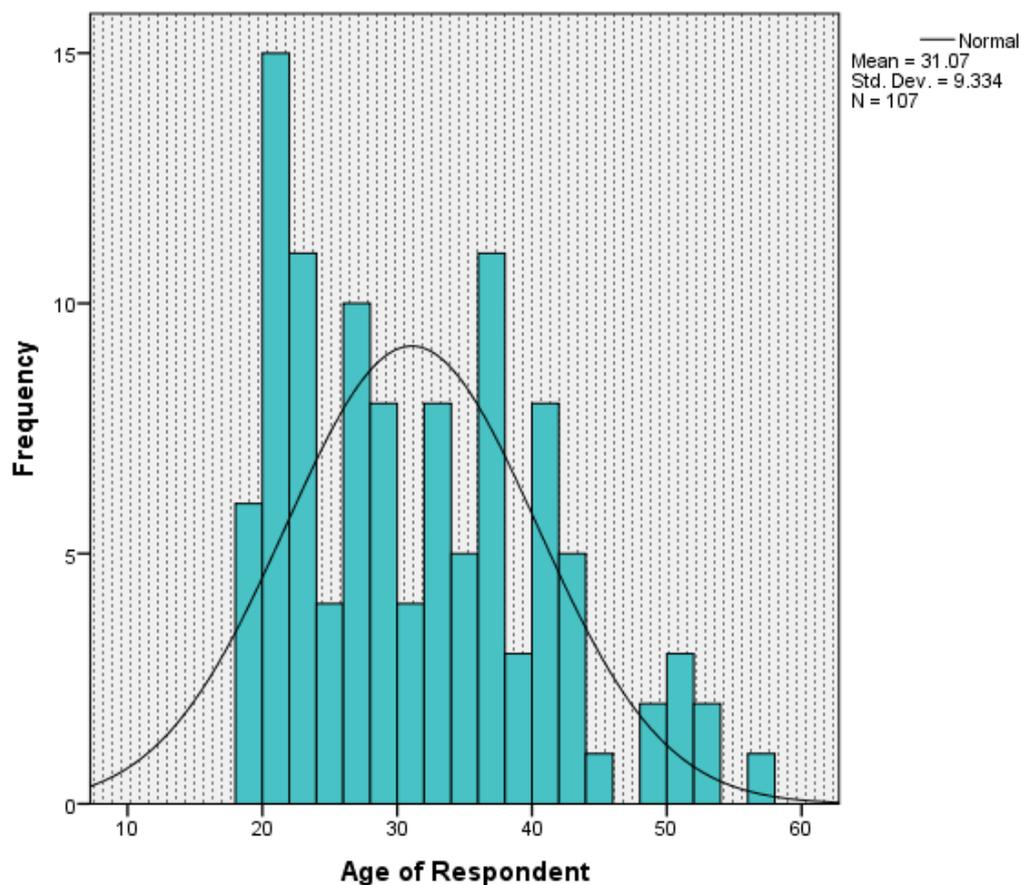


Figure 1. Bar Chart showing age range of participants.

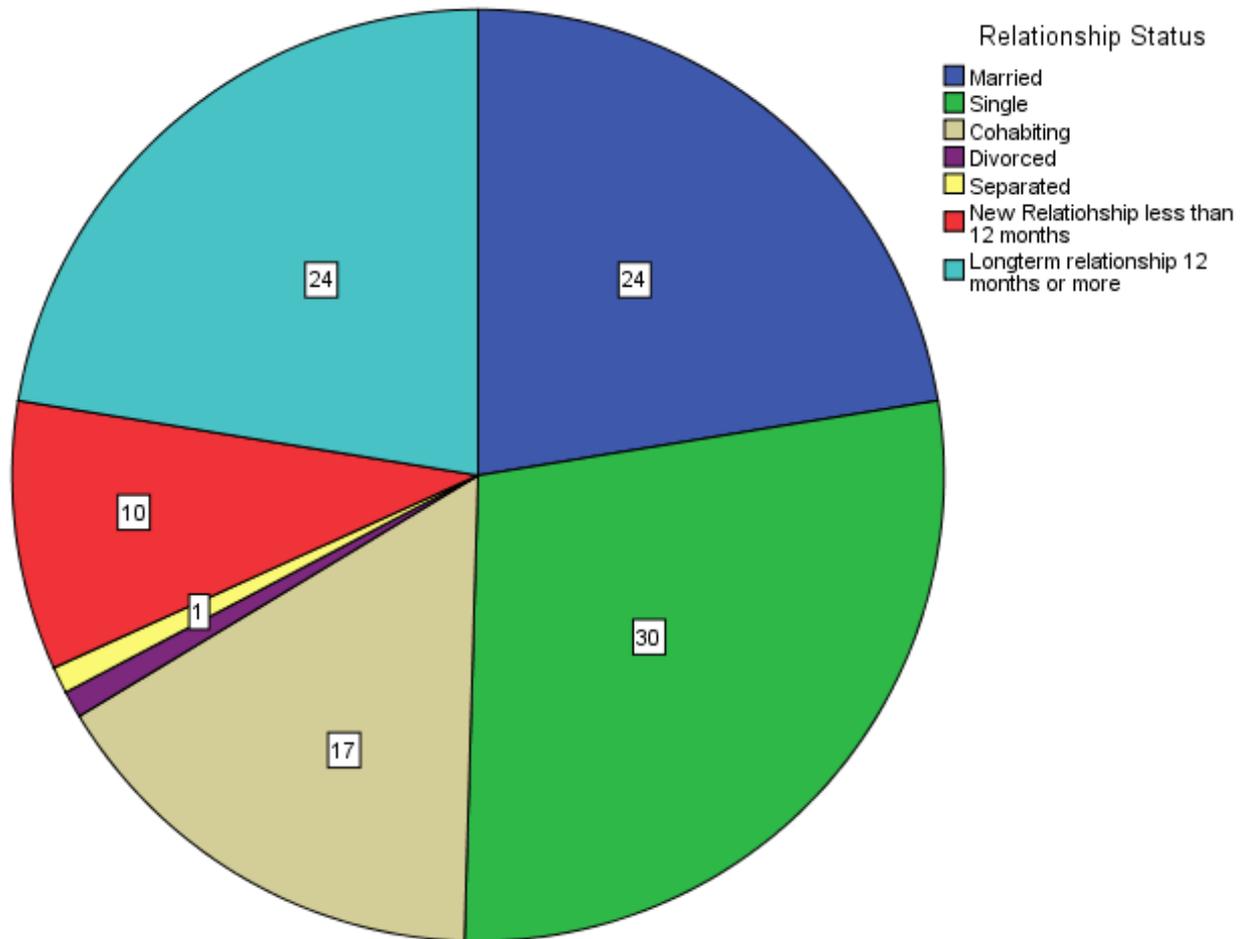


Figure 2. *Pie chart showing current relationship status of participants.*

The minimum and maximum scores calculated on each of the questionnaires as well as the minimum and maximum age for smartphone ownership and reliability scores are represented in Table 1. It also shows the mean, median and standard deviation for each.

The mean score for Pphubbing was 26.75 (SD – 6.79) indicating that an average number of participants believed their partners Pphubbed them. The mean score for Present Absence was 15.14 (SD = 4.52) showed that a slightly above average number of participants had moderate Present Absence levels. The SAS results indicated average addiction levels for the participants of the study with a mean score of 90.81 (SD = 25.49).

Finally the SWLS scale had above average Mean of 24.46 (SD = 5.89) indicating an above average satisfaction with life score for the population within this study.

Table 1 *Descriptive statistics for Age Smartphone first used, Pphubbing Scale, Present Absence Scale, Smartphone Addiction Scale (SAS) and Satisfaction with Life Scale (SWLS) and Cronbach Alpha scores.*

Variable	Mean	SD	Min	Max	Cronbach Alpha
Age-ownership*	22.11	8.26	10	44	
Pphubbing	26.75	6.79	13	39	.87
Present Absence	15.14	4.52	6	24	.82
SAS	90.81	25.49	40	165	.87
SWLS	24.46	5.89	8	35	.90

*Age smartphone was first owned/used.

5.2 Inferential Statistics

Preliminary data analysis was performed to check for any violations of the assumptions of normality, linearity and homoscedasticity.

Hypothesis 1 - A Pearson correlation coefficient found that there was a strong positive significant relationship between results from the Smartphone Addiction Scale (M = 90.81, SD = 25.49) and Presence Absence scale (M = 15.14, SD = 4.52) ($r(105) = .63$, $p < .001$). Therefore the null hypothesis can be rejected. This relationship can account for 40.06% of variation of scores. This result indicates that when smartphone usage increases so to do levels of present/absence. (See Figure 3)

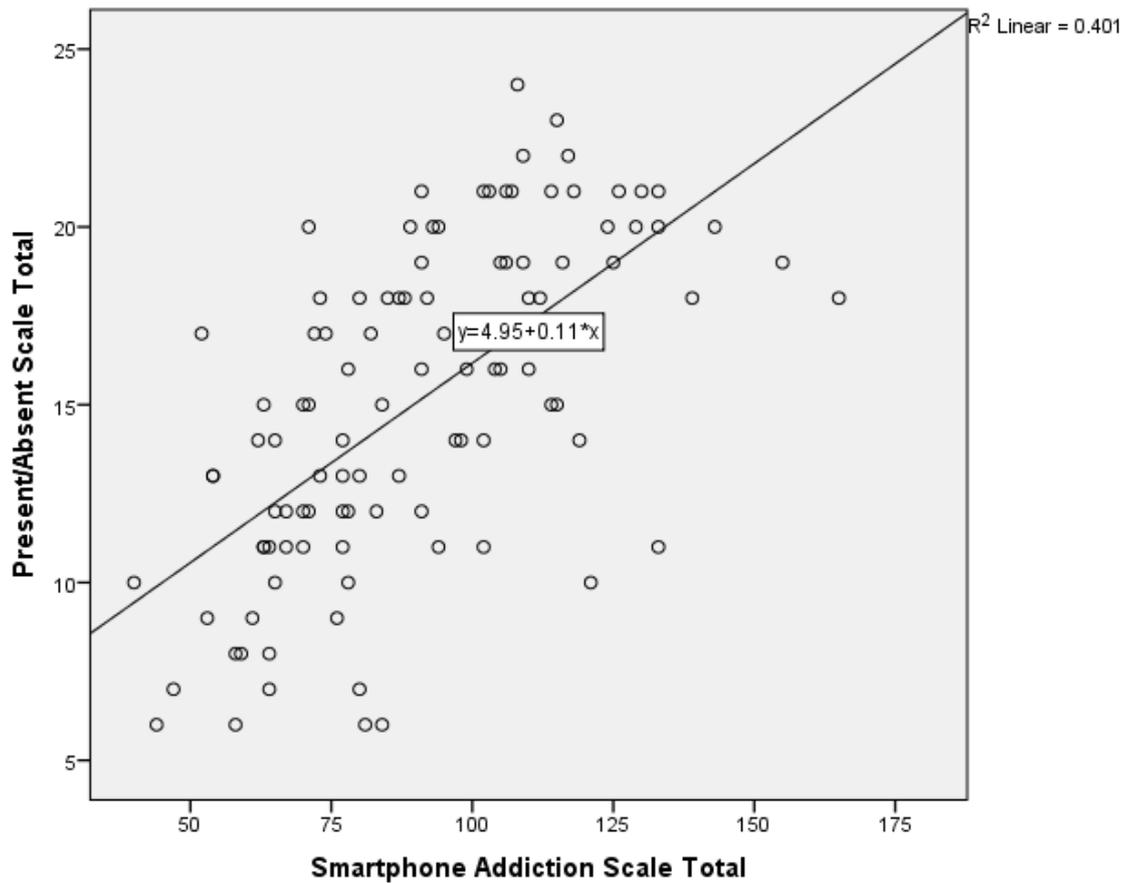


Figure 3. Scatterplot showing strong positive significant relationship between Smartphone Addiction Scores and Present Absence Scores.

Hypothesis 2 - a Pearson correlation coefficient found that there was a weak negative significant relationship between smartphone addiction scale scores ($M = 90.81$, $SD = 25.49$) and life satisfaction scores ($M = 24.46$, $SD = 5.89$) ($r(105) = -.20$, $p = .041$). This relationship can account for 4.00% of variation of scores. This result means that as smartphone use increases satisfaction with life scores decreases, albeit weakly. So while the null hypothesis can be rejected further analysis is needed to fully understand how smartphone overuse/addiction can impact satisfaction with life scores.

Hypothesis 3 - a Pearson correlation coefficient found that there was a weak negative significant relationship between Pphubbing scores ($M = 26.75$, $SD 6.79$) and satisfaction with life ($M = 24.46$, $SD = 5.89$) ($r(105) = -.22$, $p = .022$). This relationship can account for 4.84% of variation of scores. The null hypothesis is rejected. This result indicates there is a weak relationship between Pphubbing scores and Satisfaction with Life scores, when Pphubbing scores increase Satisfaction with Life Scores decrease.

Hypothesis 4 – a Pearson correlation coefficient found that there was a strong negative significant relationship between age a smartphone was first owned ($M = 22.11$, $SD = 8.26$) and Presence/absence ($M = 15.14$, $SD = 4.52$) ($r(105) = -.55$, $p < .001$). Therefore the null hypothesis is rejected. This relationship can account for 30.25% of variation of scores.

A linear regression was then run to establish the level of predictability, age of smartphone usage/ownership had on present absence scores. This found that the age a smartphone was first used/owned significantly predicted Present Absence scores ($F(1,105) = 46.28$, $p < .001$, $R^2 = .30$) (Age smartphone first owned, $\beta = -.553$, $p < .001$, $CI(95\%) -.391 \rightarrow -.214$). Therefore the null can be rejected. This analysis indicates that the younger a person is when a smartphone is first owned/used, the higher the levels of Present Absence (See Figure 4.)

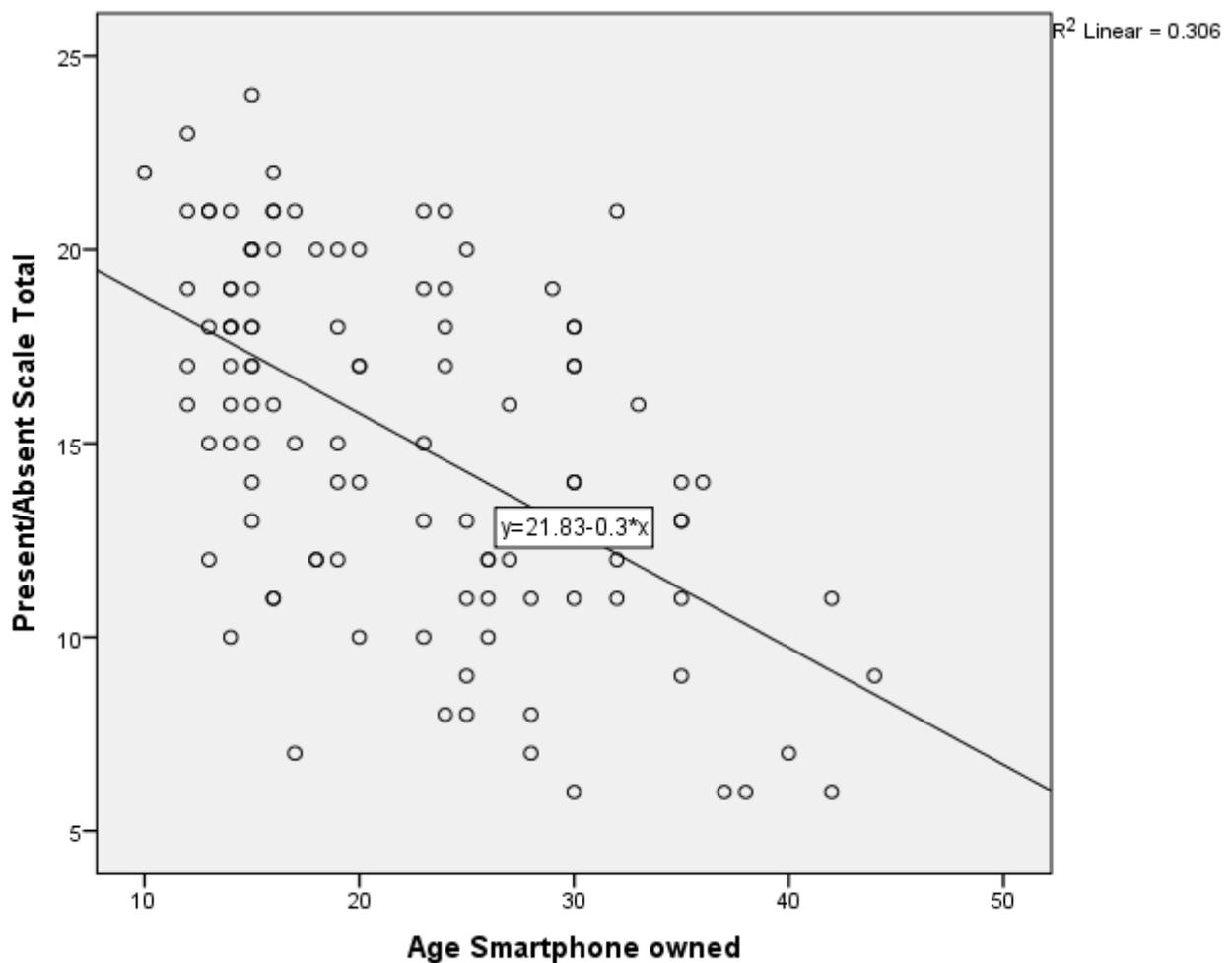


Figure 4. Scatterplot showing a strong significant negative relationship between age of smartphone ownership and Present Absence scores.

5.3 Further Analysis

An independent samples t-test was run to compare Pphubbing scores between males and females. It found that there was a no statistically significant difference between Pphubbing scores of males ($M = 28.19$, $SD = 6.88$) and females ($M = 25.78$, $SD = 6.60$) ($t(87.68) = 1.80$, $p = 0.75$, $CI (95\%) -0.22 \rightarrow 5.03$).

Further t-tests were run to compare gender against present absence, satisfaction with life and smartphone addiction scores, the results of which showed no statistically significant differences for gender.

6.0 Discussion

The aim of this study was to build upon previous studies examining the overuse of smartphone technology. It specifically sought to find a significant link between excessive smartphone use within romantic relationships, high levels of Present Absence and reduced satisfaction with life/wellbeing. It also sought to establish if there is a difference between adults who have grown up with smartphone technology and those who adopted that technology later in life, and Present/Absence scores.

The first hypothesis proposed that those with high levels of smartphone usage would have high Present Absence scores within romantic relationships. The hypothesis was supported with the findings showing a significant strong positive correlation between levels of smartphone usage and Present Absence scores. This means that the more a smartphone is used the higher the level of Present Absence within a relationship. The findings support Casey (2012) findings that smartphone overuse increased Present Absence scores. The population of that study, however, were fulltime college students and there was no specific link to the impact of Present Absence within romantic relationships. These findings specifically indicate that within intimate/romantic relationships smartphone overuse can impact Present Absence.

The second hypothesis proposed that those with high levels of smartphone use (SAS) will have low Satisfaction with Life Scores (SWLS). The results indicate there is a weak significant correlation between the two variables. These results point toward a slight connection between smartphone overuse and how that may have a negative impact on life satisfaction. However, there are likely to be other contributing factors as found by other studies, such as anxiety, (Roberts & David, 2016) or possibly the actual conflict between technology overuse and other activities (McDaniel & Coyne, 2016).

The third hypothesis proposed that those with high Pphubbing scores will have lower SWLS scores. Interestingly while this hypothesis was rejected the results show only a weak negative correlation. Roberts & David (2016) reported in their study, a strong positive correlation between Pphubbing and cell-phone conflict which then resulted in decreased relationship satisfaction followed by decreased life satisfaction. The findings within this study did not strongly support that result. While this study attempted to link Pphubbing directly to reduced satisfaction with life scores, the results indicate that there is only a weak correlation between the two. This may be due to other mediating factors between Pphubbing and reduced life satisfaction such as jealousy, as supported by similar results published by Krasova, Abramova, Notter, & Baumann (2016)

The fourth hypothesis predicted that there will be a significant difference in Present/Absence scores (Present Absence Scale) depending on the age a smartphone was first owned. The hypothesis was supported with a strong negative significant correlation between the age a smartphone is first used and Present Absence scores within romantic relationships. This result indicates that the younger a person is when a smartphone is first used/owned the higher their Present Absence levels. There are no studies, that the author is aware of, that have looked specifically at 'the age a smartphone is first used/owned as a factor for Present Absence scores therefore this finding has particular relevance to future research in this area.

6.1 Strengths and Limitations.

This study contributes to previous research in the area of smartphone technology and communication. The results of this study provide new depth to previous research by studying how smartphone technology specifically impacts Present Absence in romantic relationships and how age when this technology is first owned/used impacts Present Absence. This technology has developed so rapidly that there are limited studies addressing how the ability to effectively communicate within relationships may be

negatively impacted. The results indicate that there is a link between overuse of smartphone technology and reduced levels of Presence/Absence within romantic relationships. Two of the four hypotheses were supported by strong significant findings and as such emphasise the value of the study. These results support the need for further investigation into the age smartphones are first used, and the impact overuse can have on Present Absence within romantic relationships.

Furthermore there was a good mix of participants, including full and part-time students and general population, this assisted in giving a diverse age demographic. There was also a mix of psychology students and business students which were used in an attempt to avoid possible survey fatigue among psychology students. Future studies may find it beneficial to recruit a larger sample of users that owned/used a smartphone earlier in life. The youngest age in the current study was 10 years of age, however the mean age was 22. Furthermore, a significant portion of the sample were single at the time of completing the questionnaires and while they were advised to relate their answers to their most recent relationship it may be beneficial to use purposive sampling to ensure a significant proportion of the sample are currently in a relationship.

Additionally, the measures used all had excellent internal reliability, both external studies and the present study. However, while the measures show strong internal reliability some of the questions may need to be revisited due to the speed at which smartphone technology progresses. An example being question number 28 on the SAS; “my fully charged battery does not last for one whole day”. This question may be less relevant today than it was during the development of the scale, this is partly due to phones being used for more types of activity and phone companies trying to fit more and more in smaller devices, thus reducing battery time.

As quantitative analysis was used within the present study, participants were limited in the response they could give (‘strongly agree, disagree etc.). It may be

beneficial for further studies to use at least an element of qualitative analysis to support the quantitative findings. Also as the data gathered used self-report measures the results are based on perception of use and misuse both in relation to the participant themselves (SAS, Present Absence and SWLS) and their partner (Pphubbing Scale), this perception may be biased and may need to be factored into future studies. In relation to the Pphubbing scale, the questions asked relate to a partners use of a smartphone device but it does not allow for analysis of how the partner feels about this overuse. A person may have indicated, through their response choices that their partner had a high Pphubbing score but it may not be of any concern to them.

6.2 Implications & Future Research

The implications for this research are noteworthy, particularly when reflecting on the age children are now using and owning smartphones. Statista (2017) shows 38% of 8-9 year olds and 71% of 10-11 year olds in Germany own a smartphone. Correspondingly, the Irish government are considering looking at proposals to put an upper age limit on smartphone ownership. This study indicates that when this technology is used from a young age it has a possible negative impact on Present Absence within relationships. It is undoubtedly a topical subject and further research needs to be undertaken to understand the impact smartphone technology has on children and the influence it may have on communication and ability to interact and connect within all types of relationships. Another area of interest for this demographic is obviously education and how being Present or Absent within a classroom influences and/or impacts retention and engagement.

As previously mentioned smartphones are changing at such a rapid rate it is imperative that scales measuring usage levels and possible addiction need to be updated on a frequent basis. Given the weak result for H3 in relation to Pphubbing and SWLS, it is possible that a different measure needs to be used particularly as the Pphubbing scale

only measures the level of partner phone snubbing, it doesn't measure what the partner feels about the Pphubbing.

It may also be possible that higher Pphubbing, SWLS and Present Absence scores are due to relationship and life dissatisfaction rather than actually causing relationship/life dissatisfaction and as such, the possible antecedents need to be controlled for/addressed in future studies.

All but the Pphubbing scale used self-report measures and as such may be biased, resulting in skewed results. Similar to findings by Amichai-Hamburger & Etgar, (2016) where participants rated their partners use of the smartphone more negatively than their own. A possible resolution of this concern for future studys may be the use of Psychoinformatics which is the use of technology to collect data directly from the smartphone device.

6.3 Conclusion

The current study has built on prevoius research by demonstrating that higher levels of smartphone usage can have a negative impact on the way couples commuicate within romantic relationships. Perhaps more importantly it also suggests that the age a smartphone is first owned/used may be a predictor of levels of Present Absence within future relationships. There does appear to be an awareness that this technology is affecting the way couples communicate, as 78% of the current study participants acknoweldged that smartphones impair the ability to communicate within their relationship, this is a similar figure to findings by McDaniel & Coyne (2016) who reported high levels of awareness of overuse of their smartphone and the possible negative consequences. However, perhaps the addictive nature of the smartphoone means awareness is not enough and protocols and boundries may need to be put in place, particularly in relation to childrens use of this technology. Perhaps as McDaniel & Coyne

(2016) suggest, technology-use etiquette training may be beneficial to assist couples and the broader population on how to make the best use of smartphones without compromising the very human ability to empathise and communicate.

Finally, it is important to note that while this study provides an element of understanding into the behaviour and consequences related to smartphone use there is still significantly more to do within this fastpaced arena. As highlighted in a study by Lapierre & Lewis (2016), this is a complicated area and factors such as depression, anxiety and possibly the length of time within a relationship may have an impact on the results. Therefore further studies will also need to address the possible antecedents of smartphone overuse. While this study adds to a rapidly growing body of research there is much more to be done to fully grasp how and why the smartphone alters how humans communicate.

7.0 References

- Ali Yildiz, M. (2016). Serial multiple mediation of general belongingness and life satisfaction in the relationship between attachment and loneliness in adolescents. *Educational Sciences: Theory and Practice, 16*(2), 553-578.
- Amichai-Hamburger, Y., & Etgar, S. (2016). Intimacy and smartphone multitasking - a new oxymoron? *Psychological Reports*(119), 826-838. doi:1177/0033294116662658
- App, B., McIntosh, D. N., Reed, C. L., & Herenstein, M. J. (2011). Nonverbal channel use in communication of emotion: How may depend on why. *Emotion, 11*(3), 603-617.
- Baym, N. K., Zhang, Y. B., Kunkel, A., Ledbetter, A., & Lin, M.-C. (2007). Relational quality and media use in interpersonal relationships. *New Media and Society, 9*(5), 735-752.
- Best, K., & Delmege, S. (2012). The filtered encounter: online dating and the problem of filtering through excessive information. *Social Semiotics, 237-258*.
- Broadus, B. (2017). The smartphone effect. *Baylor Business Review, 10-12*.
- Casey, B. (2012). Linking psychological attributes to smart phone addiction, face to face communication, present absence and social capital. *The Chinese University of Hong Kong*.
- Chesley, N. (2005). Blurring boundaries? Linking technology use, spillover, individual distress, and family satisfaction. *Journal of Marriage and Family, 67, 1237-1248*.
- Chotpitayasunondh, V., & Douglas, K. M. (2016). How "phubbing" becomes the norm: the antecedents and consequences of snubbing via smartphone. *Computers in Human Behaviour*(63), 9-18. doi:10.1016/j.chb.2016.05.018
- Cizemci, E. (2017). Both sides of the coin: Smartphones in romantic relationships of youth. *Electronic Journal of Social Sciences*(63), 1400-1415.
- Coyne, S. M., Stockdale, L., Busby, D., Iverson, B., & Grant, D. M. (2011). "I luv u:)! A descriptive study of the media use of individuals in romantic relationships. *An Interdisciplinary Journal of Applied Family Studies, 60, 150-162*.

- Deloitte & Touche. (2017). *State of the smart: Consumer and usage business patterns*. Retrieved from <https://www.deloitte.co.uk/mobileuk>
- Edwards, E. (2017). Portable device fears show power of social development. How do small screens impact young minds? *Communications of the ACM*(60), 21-22. doi:10.1145/3131271
- Elphinston, R. A., & Noller, P. (2011). Time to face it! Facebook intrusion and the implications for romantic jealousy and relationship satisfaction. *Cyberpsychology, Behavior, And Social Networking, 14*(11).
- Emanuel, R., Bell, R., Cotton, C., Craig, J., Drummond, D., Gibson, S., . . . Williams, A. (2015). The truth about smartphone addiction. *College Student Journal, 291-299*.
- Fortunati, L. (2002). The mobile phone: Towards new categories and social relations. *Communication and Society, 5*(4), 513-528.
- Groarke, H. (2014). *E-source*. Retrieved from EBSCO: <http://esource.dbs.ie/handle/10788/2096>
- Hadar, A., Hadas, I., Lazarovits, A., Alyagon, U., Eliraz, D., & Zangen, A. (2017). Answering the msised call: initial exploration of cognitive and electrophysiological changes associated with smartphone use and abuse. *PLOS one*.
- Krasonva, H., Abramova, O., Notter, I., & Baumann, A. (2016). Why phubbing is toxic for your relationship: understanding the role of smartphone jealousy amount "generation y" users. *Twenty-Fourth European Conference on Information Systems (EXIS)*. Istanbul: <https://www.researchgage.net/publication/301287646>.
- Kwon, M., Lee, J., Won, W., Park, J., Min, J., Hahn, C., & Kim, D. (2013). Development and validation of a smartphone addiction scale (SAS). *Plus ONE*(8), 1-7. doi:10.1371/journal.pone.0056936
- Lapierre, M. A., & Lewis, M. N. (2016). Should it stay or should it go now? Smartphones and relational health. *Psychology of Popular Media Culture*.
- Lee, P. N., Leung, L., Lo, V., Xiong, C., & Wu, T. (2011). Internet communication versus face-to-face interaction in quality of life. *Social Indicators Research, 100*(3), 375-389.

- McDaniel, B. T., & Coyne, S. M. (2016). 'Technoference': The interference of technology in couple relationships and implications for women's personal and relational well-being. *Psychology of Popular Media Culture, 5*(1), 85-98. doi:10.1037/pmm0000065
- Misra, S., Cheng, L., Genevie, J., & Yuan, M. (2014). The iphone effect. *Environment and Behaviour*(48), 275-298. doi:10.1177/0013916514539755
- Montag, C., Blaszkiewicz, K., Sariyska, R., Lachmann, B., Andone, I., Trendafilov, B., . . . Markowetz, A. (2015). Smartphone usage in the 21st century: who is active on WhatsApp? *BMC Research Notes*.
- Moss, B. F., & Schwebel, A. I. (1993). Defining intimacy in romantic relationships. *Family Relations, 1*, 31. doi:10.2307/584918
- Murray, C. E., & Campbell, E. C. (2015). The pleasures and perils of technology in intimate relationships. *Journal of Couple and Relationship Therapy*(14), 116-140. doi:1080/15332691.2014.953651
- Paul, S. L., Louis, L., Venhwei, L., Chengyu, X., & Tingjun, W. (2011). Internet communication versus Face-to-face interaction in quality of life. *Social Indicators Research, 3*, 375.
- Przybylski, A. K., & Weinstein, N. (2012). Can you connect with me now? How the presence of mobile communication technology influences face-to-face conversation quality. *Journal of Social and Personal Relationships, 30*(3), 237-246. doi:10.1177/0265407512453827
- Pugh, S. (2017). *DBS eSource*. Retrieved from eSource: <http://esource.dbs.ie>
- Roberts, J. A., & David, M. E. (2016). My life has become a major distraction from my cell phone: partner phubbing and relationship satisfaction among romantic partners. *Computers in Human Behaviour*(54), 134-141.
- Rosman, K. (2006). Blackberry orphans: the growing use of e-mail gadgets is spawning a generation of resentful children: a look at furtive thumb-typers, the signs of compulsive use and how kids are fighting back. *Wall Street Journal*.
- Statista. (2017). *Smartphones industry: statistics and facts*. doi:<https://www.statista.com/topics/840/smartphones/>

- Toma, C. L., & Hancock, J. (2010). Looks and lies: The role of physical attractiveness in online dating self presentation and deception. *Communication Research*, 335-351.
- Touche, D. &. (2017). *Mobile Consumer Report*. Retrieved from <https://www.deloitte.co.uk/mobileuk/>
- Turel, O., Serenko, A., & Giles, P. (2011). Integrating technology addiction and use: an empirical investigation of online auction users. *MIS Quarterly*, 35(4), 1043-1062.
- Wagner, L. A. (2015). When your smartphone is too smart for your own good: How social media alters human relationships. *The Journal of Individual Psychology*, 71(2), 114-121.

8.0 Appendix

Appendix 1 – Questionnaire Cover Sheet.

The Impact of Pphubbing and Age on Presence/Absence and Wellbeing within Romantic Relationships

My name is Olivia Grace and I am conducting research in the Department of Psychology that explores the impact of smartphone usage on romantic relationships. This research is being conducted as part of my studies and will be submitted for examination and will be used as part of an end of year presentation.

If you are over the age of 18 and own a smartphone, you are invited to take part in this study which involves completing a number of tick-the-box questions. Completing the questionnaire should take approximately 10-15 minutes. Your time and co-operation is greatly appreciated.

You are invited to take part in this study and participation involves completing and returning the attached anonymous survey. While the survey asks some questions that might cause some minor negative feelings, it has been used widely in research. If any of the questions do raise difficult feelings for you, contact information for support services are included in a post survey handout.

Participation is completely voluntary and so you are not obliged to take part.

Participation is anonymous and confidential. Thus responses cannot be attributed to any one participant. For this reason, it will not be possible to withdraw from participation after the questionnaire has been collected.

The questionnaires will be securely stored and data from the questionnaires will be transferred from the paper record to electronic format and stored on a password protected computer.

It is important that you understand that by completing and submitting the questionnaire that you are consenting to participate in the study.

Appendix 2 - Debrief Sheet

Thank you for taking the time to complete this questionnaire should you require any further information about this research, please contact me at the following email address xxxxxx@mydbs.ie and my supervisor can be contacted at xxxx@dbs.ie .

If any issues emerged as a result of taking this questionnaire please contact the Samaritans on the number below.

SAMARITANS

Whatever you're going through, call us free any time, from any phone on 116 123.

We're here round the clock, 24 hours a day, 365 days a year. If you need a response immediately, it's best to call us on the phone. This number is FREE to call. You don't have to be suicidal to call us.

Appendix 3 – Demographic Questionnaire

Please indicate below that you are over 18 years of age:

Yes	
-----	--

Please indicate below that you own a smartphone.

Yes	
No	

Age	
-----	--

GENDER	
Male	
Female	

At what age did you first use/own a smartphone?	
---	--

RELATIONSHIP STATUS	
Married	
Single	
Cohabiting	
Divorced	
Separated	
Widowed	
New Relationship (less than 12 months)	
Long-term relationship 12 months or more.	

Do you believe excessive use of your smartphone device impairs your ability to communicate within romantic relationships?	YES	NO
---	-----	----

Appendix 4 - Pphubbing Scale

PLEASE INDICATE HOW OFTEN THE FOLLOWING SCENARIOS OCCUR IN YOUR LIFE					
	Never	Rarely	Sometimes	Often	All the time.
During a typical mealtime that my partner and I spend together my partner pulls out and checks his/her cell phone.					
My partner places his/her cell phone where they can see it when we are together					
My partner keeps his/her cell phone in their hand when he or she is with me					
When my partners cell phone rings or beeps, he/she pulls it out even if we are in the middle of a conversation					
My partner glances at his/her cell phone when talking to me					
During leisure time that my partner and I are able to spend together, my partner uses his/her cell phone					
My partner does not use his/her cell phone when we are out together					
My partner uses her/her cell phone when we are out together					
If there is a lull in our conversation my partner will check his/her cell phone					

Appendix 5 - Present Absence Scale

PLEASE INDICATE HOW OFTEN THE FOLLOWING SCENARIOS OCCUR IN YOUR LIFE					
	Almost Never	Not Often	Neutral	Often	Almost Always
How often do you “abandon” your physical surroundings to use your phone or interact with someone else through your phone?					
How often do you keep your mobile phone on in inappropriate places such as in classes, meetings and libraries?					
How often do you have a face-to-face conversation and simultaneously send a text message or have a conversation on your phone?					
How often do you and your friends gather around using your own phones instead of talking or chatting to each other?					
How often do you use your phone while in a meeting, lecture or class?					

Appendix 6 - Satisfaction with Life Scale

Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

- 7 - Strongly agree
- 6 - Agree
- 5 - Slightly agree
- 4 - Neither agree nor disagree
- 3 - Slightly disagree
- 2 - Disagree
- 1 - Strongly disagree

___ In most ways my life is close to my ideal.

___ The conditions of my life are excellent.

___ I am satisfied with my life.

___ So far I have gotten the important things I want in life.

___ If I could live my life over, I would change almost nothing.

Appendix 7 – Smartphone Addiction Scale

Below is a list of statements looking at how your smartphone usage impacts your life, please indicate how strongly you agree or disagree with each statement by circling the appropriate number.

	Strongly disagree	Disagree	Weakly disagree	Weakly agree	Agree	Strongly agree
Missing planned work due to smartphone use	1	2	3	4	5	6
Having a hard time concentrating in class, while doing assignments, or while working due to smartphone use	1	2	3	4	5	6
Experiencing lightheadedness or blurred vision due to excessive smartphone use	1	2	3	4	5	6
Feeling pain in the wrists or at the back of the neck while using a smartphone	1	2	3	4	5	6
Feeling tired and lacking adequate sleep due to excessive smartphone use	1	2	3	4	5	6
Feeling calm or cozy while using a smartphone	1	2	3	4	5	6
Feeling pleasant or excited while using a smartphone	1	2	3	4	5	6
Feeling confident while using a smartphone	1	2	3	4	5	6
Being able to get rid of stress with a smartphone	1	2	3	4	5	6
There is nothing more fun to do than using my smartphone.	1	2	3	4	5	6
My life would be empty without my smartphone.	1	2	3	4	5	6
Feeling most liberal while using a smartphone	1	2	3	4	5	6
Using a smartphone is the most fun thing to do.	1	2	3	4	5	6
Won't be able to stand not having a smartphone	1	2	3	4	5	6
Feeling impatient and fretful when I am not holding my smartphone	1	2	3	4	5	6
Having my smartphone in my mind even when I am not using it	1	2	3	4	5	6
I will never give up using my smartphone even when my daily life is already greatly affected by it.	1	2	3	4	5	6
Getting irritated when bothered while using my smartphone	1	2	3	4	5	6
Bringing my smartphone to the toilet even when I am in a hurry to get there	1	2	3	4	5	6
Feeling great meeting more people via smartphone use	1	2	3	4	5	6
Feeling that my relationships with my smartphone buddies are more intimate than my relationships with my real-life friends	1	2	3	4	5	6
Not being able to use my smartphone would be as painful as losing a friend.	1	2	3	4	5	6

Feeling that my smartphone buddies understand me better than my real-life friends	1	2	3	4	5	6
Constantly checking my smartphone so as not to miss conversations between other people on Twitter or Facebook	1	2	3	4	5	6
Checking SNS (Social Networking Service) sites like Twitter or Facebook right after waking up	1	2	3	4	5	6
Preferring talking with my smartphone buddies to hanging out with my real-life friends or with the other members of my family	1	2	3	4	5	6
Preferring searching from my smartphone to asking other people	1	2	3	4	5	6
My fully charged battery does not last for one whole day.	1	2	3	4	5	6
Using my smartphone longer than I had intended	1	2	3	4	5	6
Feeling the urge to use my smartphone again right after I stopped using it	1	2	3	4	5	6
Having tried time and again to shorten my smartphone use time, but failing all the time	1	2	3	4	5	6
Always thinking that I should shorten my smartphone use time	1	2	3	4	5	6
The people around me tell me that I use my smartphone too much.	1	2	3	4	5	6
