The Relationship Between Social Media Use, Loneliness and Social Isolation.

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Abstract

Social media is a platform which allows individuals maintain relationships, although, persistent use may create an atmosphere where people use it to substitute traditional social interactions. Social media use has been suggested to impact psychological welfare, with studies suggesting a negative relationship with self-esteem. The existing literature surrounding the influence of social media on loneliness and social isolation is somewhat sparse and contains conflicting findings. The current study aimed to investigate the relationship between frequency of social media use, age, social isolation and loneliness in an adult population. The study used a quantitative cross-sectional design. A convenience sample of 161 participants (68.9% female; M(age) = 31.16; SD = 13.20) were recruited. Participants completed an online questionnaire that included demographic questions, measures of frequency of social media use, UCLA Loneliness Scale and Lubben Social Network Scale. A Spearman's Rho analysis indicated that there was a significant moderate negative correlation between age and frequent social media use ($p < .001$). Hierarchical multiple regression analyses indicated that, after controlling for the effects of age, time spent on social media was a significant predictor of loneliness ($p = .006$) but did not significantly predict social isolation. The findings suggest that frequent social media use is associated with higher levels of loneliness; further research is required to establish the direction of this relationship.

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Introduction

Loneliness and Social isolation

There are several characterisations that define loneliness, with one suggesting that loneliness is feeling absent from others while being surrounded by people (Holt-Lunstad, Baker, Harris, & Stephenson, 2015). Individuals that are lonely can be emotionally lonely or physically lonely, thus the feelings of loneliness can continue even when they are by themselves (de Jong Gierveld, Broese van Groenou, Hoogendoorn, & Smit, 2009). Another characterisation of loneliness is that there is a gap between the individuals desired and actual social interactions (Peplau & Perlman, 1982; Shankar, McMunn, Banks, & Steptoe, 2011). Holt-Lunstad et al. (2015) have suggested that loneliness is the perception of social isolation.

Social isolation differs from loneliness in that social isolation is defined as having few social relationships and infrequent social contact with these individuals (Holt-Lunstad et al., 2015; Holwerda et al., 2014). Peplau and Perlman (1982) state that social isolation is related to a lack of contact within their social network, or a lack of a social network. Social isolation is also defined as the avoidance of, or being withdrawn from social situations, which results in a lack of social contact (Delelis, & Christophe, 2018). Due to the lack of social contact in an individual that is socially isolated, they are also at risk of developing feelings of loneliness as they do not have enough social support (Dahlberg, Andersson, & Lennartsson, 2018; Duru, 2008). As loneliness is a subjective experience, and a symptom of loneliness relates to deficits in an individual's social experience (Peplau, & Perlman, 1982), this could also be perceived as being socially isolated.

Although, social isolation is an objective measure relating to the number of social relationships and the frequency of social contact, loneliness relates to the subjective experience (Holt-Lunstad et al., 2015; Wenger, Davies, Shahtahmasebi, & Scott, 1996). Even

though loneliness and social isolation are separate constructs, they are related, because of this they are often treated as though they are interchangeable (Khosravi, Rezvani, & Wiewiora, 2016).

Importance of Loneliness and Social Isolation

Loneliness and social isolation are important as they affect health behaviours because of their negative impact on social supports (Cacioppo, & Hawkley, 2003; Shankar et al., 2011) and may cause or encourage poor coping mechanisms (Valtorta, Kanaan, Gilbody, Ronzi, & Hanratty, 2016). Cacioppo and Hawkley (2003) suggest that individuals that present with higher loneliness scores are more likely than individuals that are not lonely to have health problems. While loneliness and social isolation both have adverse health benefits, studies show that loneliness impacts mental health, and social isolation impacts physical health (Cornwell, & Waite, 2009; Coyle, & Dugan, 2012; Perlman & Peplau, 1984; Russell, Cutrona, Rose, & Yurko, 1984; Tanskanen, & Anttila, 2016).

In a study conducted by Shankar et al. (2011) they found a relationship between social isolation, increased blood pressure and smoking. Reduced immune function was also noted in participants that reported feelings of loneliness and that were socially isolated (Cacioppo, Hawkley, & Berntson, 2003; Shankar et al., 2011). Loneliness has been suggested to play a role in other negative psychological effects such as depressive symptoms, increased suicidal ideation and alcoholism (Hawkley et al., 2008; Lee, & Goldstein, 2016). It has also been suggested that individuals with increased feelings of loneliness are more likely to disengage in their various social interactions (Cacioppo et al., 2015a) but this relationship is unidirectional (McHugh Power, Steptoe, Kee & Lawlor, 2019). Individuals that report feeling

lonely or socially isolated are likely to have a higher level of stress than those who engage with their social networks (Cacioppo et al., 2003; Tanskanen, & Anttila, 2016). This increase in the stress response can in turn damage the HPA axis, having a cyclical effect on the individual. Other studies have suggested that increased loneliness or social isolation can lead to increased cognitive decline, due to a lack of cognitive arousal (Boss, Kang, & Branson, 2015; Cacioppo & Hawkley, 2009; McHugh Power et al., 2019).

Impact of Age on Loneliness and Social Isolation

There is a focus on older adults in the loneliness literature, however, Lee and Goldstein (2016) state that there is a need to look at loneliness among younger adults as well. Luhmann and Hawkley (2016) also state that loneliness is not confined to older adulthood, instead they suggest that loneliness occurs when there are extensive changes occurring in an individual's life. Studies do suggest that older adults are considered more lonely than other age cohorts due to their increased risk factors for loneliness (Adams, Sanders, & Auth, 2004; Cacioppo, Grippo, London, Goossens, & Cacioppo, 2015b; Cohen-Mansfiel et al., 2013; Luhmann, & Hawkley, 2016). Older adults are considered to be more lonely because of considerable life changes such as retirement and experiencing bereavement (McLaughlin, Adams, Vagenas, & Dobson, 2011). As previously mentioned, loneliness impacts mental health of the individual more than physical health (Tanskanen, & Anttila, 2016) and as a result of this impact, loneliness is seen to affect sleep quality of younger adults (Matthews et al., 2017). Older adults experience of loneliness differs from that of younger adults, as loneliness in older adulthood is contingent on contact with family, marital status, health and place of residence (Drennan et al., 2008). Additionally, it was suggested because older adults'

feelings of loneliness are contingent on these variables that they may suffer from different types of loneliness e.g. romantic loneliness, social loneliness (Drennan et al., 2008).

There is also evidence that suggests that older adults are more likely than younger adults to suffer from social isolation (Pettigrew, Donovan, Boldy, & Newton, 2014). The suggestion for this increase in social isolation among older adults is attributed to retirement and bereavement (McLaughlin, Adams, Vagenas, & Dobson, 2011; Pettigrew et al., 2014). This increase in health problems among older adults and a lack of social support suggests that the effects of social isolation are more harmful and expansive than they would be for younger adults (Cornwell, & Waite, 2009). Older adults see the best way to combat the effects of social isolation are to join support groups (Pettigrew et al., 2014). Adults like children have developmental goals, these differ from young adulthood to older adulthood, these developmental goals are considered personal goals (McAdams, & Olson, 2010; Nikitin, & Freund, 2018). For younger adults developing new social connections is considered to be their goal, whereas for older adults this is not as important, older adults' goal is considered to be the avoidance of conflict (Nikitin & Freund, 2018). These differences in the social goals creates an opportunity to improve health as the continual introduction of new social connections could negate the negative health behaviours associated with social isolation (Cornwell, & Laumann, 2015).

Overall these studies suggest that the focus of loneliness and social isolation among the older adult population is due to their increased vulnerability to other adverse health behaviours. As older adults are suggested to be more socially isolated, if this is accompanied with feelings of loneliness these feelings are likely to be exacerbated due to the lack of social support (Lee, & Goldstein, 2016). While it is suggested that both loneliness and social isolation can occur at any stage in an individual's life, with life changes being a major cause

of this, older adults are at a greater risk than younger adults. Although while this literature is present and looks at both older adults and younger adults, there are mixed results, suggesting no specific individual is more likely to develop loneliness or social isolation.

Social Media

Social media or social networking sites have changed social interactions both profoundly and quickly (Kim, Wang, & Oh, 2016; McFarland, & Ployhart, 2015). People use social media to create and maintain their social connections (Brandtzæg, & Heim 2009; Kim, et al., 2016). Social media is very popular across the globe, with Instagram reporting over one billion active users worldwide in 2018 (Statista, 2018); Facebook reported 2.3 billion active users worldwide in 2018 (Statista, 2019b); Twitter reported 321 million active users in 2018 (Statista, 2019c); and Snapchat reporting 186 million users in 2018 (Statista, 2019d). These platforms can be described as image based e.g. Instagram, Snapchat, or communicative e.g. Facebook, Twitter (Pittman, & Reich, 2016). These sites allow for communication through instantaneous contact facilitating the development and maintenance of relationships.

The development of technology has had an influential impact on the way social media has developed and promoted its accessibility. Such developments include the readily accessible applications on smart phones (Kim et al., 2016). This increased accessibility increases the need for connection among users (McFarland, & Ployhart, 2015). Kim et al. (2016) found that younger adults are more inclined to use social media as it allows them to feel connected to others, and thus fulfil a psychological need for connection. Although, Wagner (2015) states that communication, and the connections that are maintained on social media are no longer personal. Wagner (2015) also maintains that social media mediates these

relationships and changes the way that individuals interact. Fulfilling this psychological need for connection allows for increased gratification or reward among users and thus increases the use of social media (Quan-Hasse, & Young, 2010).

There is evidence that there is an age-related variation in the use of social media; a much larger proportion of younger adults report regular use of social networking sites compared with that of older adults. It could be suggested that older adults do not feel the need to spend time on social media as they are maintaining their social connections through traditional methods, thus obtaining this reward when they see their friends or family (Wagner 2015). Perrin et al. (2015) showed that 51% of adults between 50 and 64 use social media, whereas 90% of adults between 18 and 29 use social media. Another study looking at the age variation and internet use showed that 34% of adults over 65 use social media, and 86% of adults between 18 and 29 use social media (Zichuhr, & Madden, 2012).

Social Media, Loneliness and Social Isolation

Oberst, Wegmann, Stodt, Brand, and Chamarro, (2017) suggest that individuals using social media are seeking some form of social connection. By doing this it suggests that individuals are trying to combat their feelings of loneliness or to dissipate their social isolation. Alternatively, the maintenance of relationships through social media has been suggested to hamper the ability to physically connect with individuals (Wagner, 2015). Ahn, and Shin (2013) also suggest that people are more inclined to substitute direct social contact with social media. It has been suggested that frequent social media use can increase loneliness despite social supports from an established relationship as it can defer socialisation with their significant other (Nongpong, & Charoensukmongkol, 2016). Further studies have suggested

that the increased use of social media has resulted in decreased familial communication and a decrease in other social connections (Sanders, Filed, Miguel, & Kaplan, 2000). A study conducted on a student population by Kim, LaRose and Peng (2009), states that individuals that feel increased levels of loneliness tend to spend more time on social media. They suggest that these individuals feel more confident maintaining their online relationships, rather than offline relationships (Kim, LaRose & Peng, 2009; Mckenna, Green, & Gleason, 2002; Tokunaga & Rains, 2009).

Other studies that have looked at the influence of social media on mental health, and state that increased engagement with social media showed an increase in loneliness among users (Kraut et al., 1998; Nowland, Necka, & Cacioppo, 2018). Valkenburg and Peter (2007) suggest that individuals that use social media are more likely to maintain online friendships rather than offline friendships. They also state that these online friendships are 'weak', and provide less emotional support and commitment, as they are unreliable. The extra effort require to maintain these relationships and lack of effect can lead to feelings of loneliness (Valkenburg, & Peter, 2007). Vogel, Rose. Roberts and Eckles (2014) suggest that people are likely to compare their imperfect 'offline' selves with an idealised 'online' version of themselves and their peers, creating a sense of inadequacy within themselves. By doing this these individuals are increasing their feelings of loneliness through the medium of comparison, and perception.

Social media falls into the information and communication technologies (ICT) categories, which are used to reduced social isolation and loneliness among older adults, by helping them create new relationships (Khosravi, Rezvani, & Wiewiora, 2016). Cotten, Anderson and McCullough (2013) suggest some older adults use the internet and possibly social media to bridge the gap created by their social isolation. Although, social media creates

a new platform to facilitate communication, some older adults that are not on social media may be involuntarily socially isolating themselves. While others embrace the technology to improve connections, thus showing that the use of social media can have positive impacts (Seifert, & Schelling, 2018). This also shows that not using social media can create a negative outcome, such as involuntary social isolation (Seifert, & Schelling, 2018). It has also been stated that social media use does not have the negative psychological effects that was once thought (Berryman, Ferguson, & Negy, 2017).

Rationale

Many studies that look at the psychological effects of social media assess the effects it has on self-esteem rather than loneliness and social isolation. Some studies that have looked at the effect of loneliness and social isolation as a result of social media use are by-products of other studies (e.g. Muench, Hayes, Kuerbis, and Shao, 2015).There are studies that focus on the communicative benefits that social media offers (Brandtzæg, & Heim 2009; Khosravi et al., 2016; Kim, et al., 2016) but rarely focus on loneliness and social isolation. However, the results from studies that have looked at loneliness and social isolation are inconsistent, and the studies are mostly focused on older adults (Berryman et al., 2017; Kim et al., 2009).

Due to the impact social media has on social connections, and the complexity at which they are maintained, this impact, as previously suggested, may increase loneliness as it does not create substantial social connections (Valkenburg, & Peter, 2007; Wagner, 2015). This lack of sincere or substantial social connections may also increase social isolation. The age discrepancies relating to the use of social media also appears to have an impact on individuals perceived social connections among the different age cohorts (Vogel et al., 2014).

Social media use is increasing among the population and the impact social media appears to be having on social connections needs to be assessed. As loneliness and social isolation pose their own negative health behaviours and because the literature surrounding loneliness and social isolation is sparse and conflicting, this study will be exploring this gap in the literature. This study hopes to explore the gap relating to loneliness and social isolation and the possible influence social media may have. This study will explore the gap to assess if there is a relationship between frequent social media use with both loneliness and social isolation. This study will also assess age differences in social media use and how they may impact on feelings of loneliness and social isolation.

Research Aims and Hypotheses

Due to the conflicting literature related to the effects of age on loneliness, social isolation and social media use, this study will have several aims. This study will aim to investigate the relationship of social media use with both loneliness and social isolation. The study also aims to investigate whether age is a significant predictor of these outcomes. Therefore, based on these aims, this study will have three hypotheses;

Hypothesis 1: There will be a negative correlation between age and time spent on social media.

Hypothesis 2: There will be a relationship between loneliness and time spent on social media.

Hypothesis 3: There will be a relationship between social isolation and time spent on social media.

Methods

Participants

A total of 162 people took part in the study, following the calculation of time on social media scores for participants, one participant was excluded as their total score exceeded total hours in the day. Therefore, for this study the data of 161 participants was used, 69.1% were female ($n = 111$), and 30.9% were male ($n = 50$). The participants had a broad age range of 19 – 77 years ($m = 31.1$, $SD = 13.2$). All participants that were sampled were over the age of 18.

Design

A quantitative design was used for this study. It was a cross sectional, self-report design. Participants were sampled using a form of convenient sampling through the internet. Participants were also sampled using a form of snowball sampling, as it was suggested to participants in the information sheet (see Appendix A) that if they were interested, they could share the survey with friends and family.

The independent variable for hypothesis one was age and the dependent variable was total time on social media. The independent variable for the second hypothesis was total time spent on social media and the dependent variable was loneliness. Similarly, for the third hypothesis, the independent variable was total time spent on social media and the dependent variable was social isolation. For both the second and third hypotheses age is being controlled for as a predictor variable.

Materials

Demographic questions (see Appendix C) regarding participants use and time on social media were collected. Only four social media websites were included, Facebook, Instagram, Twitter, and Snapchat. Time spent on social media was collected continuously, where participants reported their average time spent in a day on each medium. Age and gender were also collected. All questions included an additional option of "prefer not to say", except the social media questions, and age.

The UCLA Loneliness scale (see Appendix D) was used to assess participants levels of loneliness. Russell, Peplau, and Ferguson (1978) report a highly significant internal validity for this loneliness scale ($r(45) = .79$, $p < .001$), they also report an original coefficient alpha of .96, then test retest of .73 after two months for reliability. Within the current population a Cronbach's Alpha of .95 was obtained. The UCLA loneliness scale consisted of twenty questions with four options, with a score from zero to three. The original scale measured participants responses with answers such as "often" or "never", these responses were given numeric values of zero to three, with zero meaning never and three meaning often. A score of -99 was given to any participant that marked "prefer not to say". The scale contained questions such as 'I lack companionship' and 'I feel completely alone'. Participants could obtain a score from 0 – 60, with the higher the score indicated the more lonely the participant. No reverse coding was necessary for this scale.

The Lubben Social Network Scale (LSNS) scale (see Appendix E) was used to assess participants social connections. The scale was used, as it measured both family interactions and interactions with friends. It was also used due to its validity and reliability; where it received a Cronbach's Alpha of 0.70 in other populations (Gabrielson, & Holston, 2014;

Lubben, Gironda, & Lee, 2002). This scale obtained a Cronbach's Alpha of 0.82 within the current population.

The LSNS scale contained twelve questions, six questions about family interactions, and six about interactions with friends. Participants could respond with answers from "none" to "nine or more", or "less than monthly" to "daily" depending on the question. Each of these answers were measured from zero to five depending on the answer provided. Total scores ranged from 0 – 60 depending on answers provided. A score of -99 was provided if the option "prefer not to say" was ticked. The scale contained questions such as 'How many relatives do you feel close to such that you could call on them for help' and 'When one of your friends has an important decision to make, how often do they talk to you about it'.

Procedure

For the purpose of this study only four social media sites were chosen. Facebook, Twitter, Instagram and Snapchat. These were appropriate as they would cover various age demographics, and it gives two examples of communicative social media and image based social media. For ethical considerations of this study, the participants were only sampled if they were over the age of 18, and helplines were provided for anyone that may have felt distressed after taking part (see Appendix B).

A survey was created on the Google Docs forms, the survey was broken into sections depending on the nature of the questions. Consent was obtained through the survey where participants had to check a box that stated they had read and understood the informed consent (see Appendix A), otherwise they were unable to access the rest of the survey. As this was

aimed at an adult population no specific approvals were required. By checking the box of the informed consent, participants indicated that they were over 18.

Participants filled out the survey which included questions regarding their gender, age, the social media sites they use, and their average use of these sites in a day. They also filled out the UCLA loneliness scale and the LSNS. The task took approximately 10 minutes to complete.

The survey was distributed through various social media sites, this was then shared by friends and family of the researcher. To obtain a more diverse age cohort the survey was shared among a past pupil webpage via Facebook. As the questionnaire was distributed online there are no known locations of where they took place.

For the purpose of data analysis participants were asked to fill out average time spent on the relevant social media using hours and minutes (see Appendix C). For the participants that did not do this, they received a score of -99 which indicated a missing value. The average score of the participants answers was calculated by converting the hours and minutes into minutes, and then added up across each platform to keep scoring continuous.

For hypothesis one a Spearman's Rho correlation analysis was conducted. This was done as the total scores for loneliness and time spent on social media violated the test of normality. For hypothesis two a hierarchical regression was conducted. The relationship between loneliness and social media was being assessed after controlling for age. For hypothesis three a hierarchical regression was also conducted. The relationship between social isolation and social media was being assessed after controlling for age. See the results section for full results of these tests.

Results

Descriptive Statistics

Table 1 (for displaying information regarding categorical variables)

Frequencies for the current sample of adults that frequently use social media on each

demographic variable (N = 161).

Variable	Frequency	Valid Percentage
Gender		
Male	50	31.1
Female	111	68.9

Table 2 (Presenting descriptive statistics for continuous variables)

Descriptive results for the current sample of continuous variables and total scores.

	Mean (95% Confidence Intervals)	Std. Error Mean	Median	SD	Range
Age	31.16 (29.10 – 33.23)	1.05	25	13.20	19-77
Time on Social Media	185.55 (156.98 – 214.13)	14.47	125	183.59	0-975
Total loneliness	19.91(17.97 – 21.84)	0.98	19	12.43	0-54
Total Social Isolation	37.28(35.89 – 38.67)	0.71	38	8.94	12-56

Inferential Statistics

As this study contained more than 50 participants, the Kolmogrov-Smirnov test was used to assess normality. A test of normality was necessary as the skew and kurtosis of the necessary data appeared to be slightly skewed. Results of the Kolmogrov-Smirnov test indicate that the total social isolation score was the only variable to be normally distributed with a score greater than 0.05. As age and time on social media violated the test of normality, a non-parametric correlation was run.

Hypothesis 1.

Table 3 (Correlations between age and time on social media)

Variables	1	2
1. Age	1	
2. Time on social media	-.5***	1

Note. Statistical significance: *$p < .05$; **$p < .01$; ***$p < .001$

The relationship between age and time on social media was investigated using Spearman's Rho correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. There was a moderate to large, negative correlation between the two variables ($r = -.5$ [95% CI = -.62 - -.35], n = 159, $p < .001$). This indicates that the two variables share approximately 25% of variance in common. These results indicate that reports of a younger age are associated with reports of frequent social media use.

Hypothesis 2.

Table 4 (Hierarchical regression model predicting loneliness scores)

	R	R^2	R^2 Change	B	SE	B	t
Step 1	.25	.06	.06				
Age				-.24	.07	-.25**	-3.28
Step 2	.33	.10	.04				
Age				-.16	.08	-.17*	-2.06
Time on social media				.02	.01	.23**	2.81

Note. R^2 = R-squared; β = standardized beta value; B = unstandardized beta value; SE = Standard errors of B; Statistical significance: *$p < .05$; **$p < .01$; ***$p < .001$

Hierarchical multiple regression was performed to investigate the average amount of time an individual spends on social media to predict levels of loneliness, after controlling for age. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. Additionally, the correlations amongst the predictor variables (age and time on social media) were examined and these are presented in table 4. All correlations were weak ranging between -.37 - .29. This indicates that multicollinearity was unlikely to be a problem (see Tabachnick & Fidell, 2013). All predictor variables (PV's) were correlated with loneliness which indicates that the data was suitable for multiple linear regression analysis.

In the first step of hierarchical multiple regression, one predictor was entered: age. This model was statistically significant $F(1, 157) = 10.73$; $p = .001$ and explained 6.5% of variance in loneliness (see Table 4 for full details). After the entry of time on social media at Step 2 the total variance explained by the model was at 10% ($F(1, 156) = 9.55$; $p < .001$). The introduction of time on social media explained an additional 3.6% variance in loneliness scores, after controlling for age; a change that was statistically significant (R^2 Change = .04; F $(1, 157) = 5.09$; $p = .013$).

In the final model, both PV's uniquely predicted loneliness, to a statistically significant degree. Age was a negative predictor for loneliness and time on social media ($\beta = .20$. $p = .01$) was the strongest predictor (see Table 4 for full results).

Hypothesis 3.

Table 5 (Multiple regression model predicting social isolation scores)

	R	R^2	R^2 Change	B	SE	B	t
Step 1	.05	.003	.003				
Total time on social media				-.036	.054	-.05	-.68
Step 2	.11	.012	.009				
Total time on social media				-.061	.057	-.09	-1.07

Age	-.004 .004	-.10	-1.23

Note. R^2 = R-squared; β = standardized beta value; B = unstandardized beta value; SE = Standard errors of B; Statistical significance: *p < .05; **p < .01; ***p < .001

Hierarchical multiple regression was performed to investigate the average amount of time an individual spends on social media to predict levels of social isolation, after controlling for age. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. Additionally, the correlations amongst the predictor variables (age and time on social media) were examined and these are presented in table 3. All correlations were weak ranging between r = .05 to .11. This indicates that multicollinearity was unlikely to be a problem (see Tabachnick & Fidell, 2013). All PV's were correlated with social isolation which indicates that the data was suitable for multiple linear regression analysis.

In the first step of hierarchical multiple regression, one predictor was entered: age. This model was not statistically significant F (1, 158) = .46; p > .05 and explained 0.03% of variance in social isolation (see Table 5 for full details). After the entry of time on social media at Step 2 the total variance explained by the model was 0,12% (F (1, 157) = .99; p > .05). The introduction of time on social media explained an additional 0.09% variance in social isolation scores after controlling for age: a change that was not statistically significant (R^2 Change = .009; F (1, 157) = 1.51; p = .221).

In the final model, none of the PV's uniquely predicted social isolation to a statistically significant degree. Neither variables were predictors of social isolation and age (β = -.09 p = .29) was the strongest predictor (see Table 5 for full results).

Discussion

Review of Aims and Hypotheses

The aim of this study was to assess if there was a relationship between frequent social media use, feelings of loneliness and social isolation. This study also aimed to assess whether age impacted on this possible relationship. Based on these aims and the previous literature, it was hypothesised that age and social media use would be negatively correlated; that there would be a relationship between frequent social media use and feelings of loneliness; and that there would be a relationship between frequent social media use and social isolation.

Summary of Main Results

The results obtained from the correlation analysis for hypothesis 1 show that there is a significant moderate negative correlation between age and social media use. Therefore, with these results, the null hypothesis is rejected, where the null hypothesis assumes that there is no relationship. This shows that if a participant reports a younger age, they are more likely to report more time spent on social media. This relationship is in line with previous literature.

The results obtained from the hierarchical regression analysis for hypothesis 2 indicated that there is a significant relationship between social media use and loneliness. Therefore, based on these results, the null hypothesis will be rejected, again where the null hypothesis assumes that there is no relationship. This shows that social media use and loneliness are related and therefore are influenced by the other construct, but the direction of this relationship is yet to be determined.

The results from the hierarchical regression analysis for hypothesis 3 indicated that there was a non-significant relationship between social media use and social isolation. This

tells us that while loneliness and social media are related, social isolation is not related to social media use. These results fail to reject the null hypothesis.

Main Implications

Previous research indicates that there is an age bias within the loneliness literature, with more research aimed at older adults, implying that loneliness in younger cohorts is not a considerable issue. The results of this study indicate that younger adults are just as likely as older adults to suffer from feelings of loneliness and suggests that further research is warranted. The results also indicate that social media use and loneliness have a relationship, therefore, it could be inferred that younger adults that spend excess time on social media are at risk of developing feelings of loneliness. The exact relationship needs to be further studied to fully elucidate and validate these findings.

The results obtained from hypothesis 1 and 2 combined with the lack of older adults reporting frequent social media use, and the insincere connections that have been suggested to arise from social media relationships (Valkenburg, & Peter, 2007; Wagner, 2015) provides reason to focus on younger adults and their feelings of loneliness. While the use of social media creates social connections or helps to maintain them, the exact social supports they provide should be reviewed. While these inferences are based on the results from this study, there is not enough evidence to support their validity. However, the initial findings of this study provides grounds for further research in this area of loneliness. Although, previous research has suggested that individuals that have enhanced feelings of loneliness disengage from their social supports (Qualter et al., 2015). This could be increasing comorbidities

among younger adults, and therefore having adverse health benefits, again restating the need for further study in this area of loneliness and social isolation.

Furthermore, loneliness is associated with adverse health outcomes (Leigh-Hunt et al., 2017; Shankar, McMunn, Demakakos, Hamer, & Steptoe, 2017) therefore, it is important to address these feelings of loneliness in younger adults before they become debilitating. It has been suggested that increased feelings of loneliness has further adverse health effects as these feelings of loneliness may exacerbate any vulnerabilities such as low mood, or low self-esteem (Shankar et al., 2017). Another study has suggested that even if individuals do report poor health that if they have a good support system, they were less likely to experience feelings of loneliness and thus less likely to exacerbate their ill health (Holtfreter, Reisig, & Turanovic, 2016). In older adults who are more likely to have poor health and are more likely to suffer from feelings of loneliness and social isolation, addressing the loneliness and social isolation of individuals may offer a suitable therapy. If increased feelings of loneliness and social isolation are combatted while individuals are still young adults, or are in middle adulthood, these adverse health effects may not be so detrimental (Holtfreter, et al., 2016). Furthermore, by combatting the adverse health benefits caused by increased loneliness and social isolation such as cognitive decline (Boss, Kang, & Branson, 2015; Cacioppo & Hawkley, 2009; McHugh Power et al., 2019) in early adulthood, the symptomology may not progress in older adulthood.

As previously stated, loneliness is the perception of social isolation (Holt-Lunstad et al. 2015), however loneliness is also characterised by actual social interactions compared with the individuals desired social interactions (Peplau & Perlman, 1982; Shankar et al., 2011). The results obtained indicate that frequent social media use influences loneliness, although, previous literature had suggested that increased use of social media may buffer feelings of

loneliness (Yang, 2016). Although, it could be speculated that because loneliness is the comparison of actual and desired social interactions, individuals that engage in these comparisons, may also engage in it online, comparing their online selves with their offline selves (Vogel et al., 2014). Should this occur loneliness could then be influenced by social comparison theory (Festinger, 1954).

As previously mentioned, social isolation occurs due to individuals accessing limited social networks and infrequent contact with these networks or their members (Holt-Lunstad et al., 2015; Holwerda et al., 2014). Consequently, because social media creates a way for individuals to maintain their social connections (Wagner, 2015), it could be seen as a way to enhance interaction, but it is suggested that these connections are superficial (Valkenburg, & Peter, 2007). The superficial nature of these connections is not considered enough to combat feelings of loneliness but provides enough support to combat social isolation. While it was initially suggested, due to the changes in socialisation as a result of the influence of social media, that there would be an impact on social connections (Sanders, et al., 2000), the results of this study indicate this is not yet proven.

While the third hypothesis fails to reject the null hypothesis, this result is in line with the results of the study conducted by Berryman at al. (2017) who found that increased social media use does not yield any psychological implications, on the other hand social isolation is seen to have more physical implications. Thus, the results of the study conducted by Berryman et al. (2017) are only comparable to the results associated with loneliness. Although, the results obtained indicate that there is a significant relationship between loneliness and frequent social media use, therefore, challenging the study conducted by Berryman et al (2017), and staying in line with previous literature (Kim, et al., 2009; Mckenna, et al., 2002; Tokunaga & Rains, 2009).

The results from both hypothesis 1 and 2 help add to the literature that state that social isolation and loneliness are separate constructs (Khosravi et al., 2016), this was demonstrated as loneliness and social isolation yielded significant and non-significant results. As the majority of responses were from younger adults, the assessment of social isolation in younger adults needs further study, as previous literature states that older adults are more likely to suffer from social isolation (Havens, Sylvestre, & Jivan, 2004; Shankar et al., 2011).

The main implications of this study are that the moderate negative correlation between age and social media use, and the significant relationship between social media use and loneliness suggest that younger adults may have different risk factors for loneliness than older adults. These results also show that loneliness studies should change their focus from older adults to younger adults, as it has been suggested in previous literature (Luhmann, & Hawkley, 2016), and seen in this study, that younger adults are in fact at risk of loneliness. As there is no relationship between social media use and social isolation, this adds to the evidence that loneliness and social isolation are separate constructs. It also supports results by Berryman et al., (2017) suggesting that social media use has no implications.

Strengths and Limitations of the Current Study

The strengths of this study include the psychological measures that were used in this study were highly reliable and show great validity with reference to their common use in previous research. Having increased reliability and validity within scales is desirable in a study that uses self-report, this ensures that participants can give a valid representation of their feelings of loneliness and social isolation in their responses.

Additionally, the number of participants that took part in this study gave it plenty of power to run statistical analysis. This was beneficial as it protected for any type two errors that might occur.

Finally, another strength of this study is the age range of the participants. As loneliness and social isolation can occur at any stage in an individual's life being able to collect data from individuals in young adulthood, middle adulthood and older adulthood allows for good representation. The age range of the participants was 19 years up to 77 years and this also allowed for variation in the data. This also ensures that data across all age cohorts was collected adding to the generalisability of the results.

Some limitations of this study include the way in which data was collected, as it was collected using social media platforms this introduced a bias in favour of participants who use social media. The sample may spend excess time on social media.

Although the measures that were used are reliable and have been validated, the data was also collected using self-report scales that was distributed via social media platforms therefore environmental factors could have influenced the results.

Although there was a large sample size, the data was collected from a mostly young adult population with some responses from older adults, therefore there may not have been adequate power to assess hypothesis 3.

The study does not assess what individuals use social media for; including options such as 'I use it when I am bored' or 'I use it to keep in touch with friends and family', could allow for a more comprehensive assessment.

Recommendations for Further Research

Further research will have to look at the direction of the relationship between social media use and loneliness to establish causation. As previously stated, loneliness is suggested to impact social engagement although this disengagement was following depressive symptomology, where the relationship is unidirectional (McHugh Power et al., 2019).

As suggested in the implications, further research is needed to explore loneliness more thoroughly for younger adults engaging with social media. This research could further clarify any differing risk factors for loneliness between younger and older adults (e.g. use of social media). The negative health effects loneliness may have on younger adults could be lessened by identifying any potential risk factors for younger adults, as opposed to older adults.

With this suggestion for further research relating to a limitation of this study with its focus on respondents who are on social media future research should obtain data from individuals that do not use social media, to explore the comparison of levels of loneliness and social isolation. This would be beneficial as it creates further data for comparison, thus developing a greater understanding of those who use social media compared those that do not use social media regularly or at all. By collecting the data of individuals who do not use social media this may yield a greater diversity in the age of the participants.

Including a life satisfaction scale could assess how social media may be impacting on overall life satisfaction, and then using loneliness and social isolation scales can assess personal relationships. It has been suggested that loneliness is influenced by quality of life, therefore the future research could assess this relationship by controlling for quality of life (Hawkley et al., 2008). Including individuals that do not use social media may create a more even spread among participants as well. As mentioned throughout the study, loneliness and

social isolation are influenced by social supports, or perceived social supports. Therefore, including a Multidimensional Scale of Perceived Social Support could be used to measure participants social support and how their perceived social support may impact their feelings of loneliness and social isolation (Lee, & Goldstein, 2016). This result could be compared against the result of those who do not use social media, creating further comparison for the effects of social media on loneliness and social isolation.

Conclusion

As there is an inverse relationship between age and social media use, in this population, this shows us that older adults are not as socially connected online as younger adults. As there is a relationship between loneliness and social media use, and because younger adults spend more time on social media, this adds to the literature that suggests younger adults are also likely to feel lonely. This result is important as current literature focuses on older adults and the impact loneliness has on older adults. Although, the direction of this relationship does need to be established. As there was no statistically significant relationship between social media use and social isolation, no conclusions can be drawn on the role of social media plays on social isolation.

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Appendices

Appendix A

Information Sheet

My name is Emma Doolan, I am a third-year psychology student at the National College of Ireland, and I am conducting this research as part of my final year project. My research project will be supervised by Dr. Caoimhe Hannigan.

The aim of this research is to see if there is a relationship between the amount of time an individual spends on social media, their experience of loneliness and social connections. If you decide to take part of this research you will be asked to fill out an online questionnaire, this will include questions relating to demographic information, your social media use, your experience of loneliness, and relationships with your family and friends. This questionnaire should take approximately 10 minutes to complete.

Both men and women over the age of 18 are invited to take part in this study.

If you wish to take part in this study, it is completely voluntary. If you decide not to complete the questionnaire, there will be no negative consequences for you. If you do decide to take part, you can choose not to answer some of the questions, or can withdraw your participation at any time, without any consequences, by leaving the web page. The data will be collected anonymously, and therefore it will not be identifiable. Therefore, the removal of any data once it has been submitted will not be possible.

Please feel free to pass this on to any friends or family.

If you have any further questions in relation to the study, please contact me at x16428544@student.ncirl.ie or my supervisor Caoimhe.Hannigan@ncirl.ie.

If you agree to consent to take part in this study, please tick the box and click next.

Appendix B

Debrief Sheet

Thank you for participating in this study. I hope you enjoyed the experience. This section provides background about my research to help you learn more about why I am doing this study. If you have any questions or comments regarding the study, please email me at x16428433@student.ncirl.ie or my supervisor at Caoimhe.Hannigan@ncirl.ie.

You have just participated in a research study conducted by Emma Doolan, a final year Psychology student in the National College of Ireland.

The purpose of this study was to see if there is a relationship between the amount of time spent on social media and experience of loneliness and social connections.

As you know, your participation in this study is voluntary. If you so wish, you may withdraw after reading this debriefing page, by closing this web page, at which point all records of your participation will be destroyed. You will not be penalised if you withdraw. You will be unable to withdraw once you submit your data as this study is anonymous.

The data obtained from this study will be analysed, and the results will be presented in my final year thesis. I will also present my results to fellow students and my lecturers as part of this project.

If you have any further questions, please contact me by email at x16428544@student.ncirl.ie or my supervisor at Caoimhe.Hannigan@ncirl.ie.

If you feel in any way worried or distressed after taking part in this study please contact one of these helplines:

Aware - available 10 am to 10 pm everyday.

Call: 1800 80 48 48

Email: supportmail@aware.ie

Website: www.aware.ie

Mental Health Ireland - available 9 am to 5 pm Monday to Friday.

Call: (01) 284 1166

Email: info@mentalhealthireland.ie

Website: www.mentalhealthireland.ie

The Samaritans - available 24 hours a day.

Call: (01) 116 123

Email: jo@samaritans.ie

Website: https://www.samaritans.org/

Appendix C

Demographic Questions

Please include hour and minutes where relevant, and if not used please just put 0.

Gender:

Male

Female

Prefer not to say

Age:

Social media used (tick all that apply):

Instagram

Facebook

Twitter

Snapchat

Average time spent on Instagram in a day:

Average time spent on Facebook in a day:

Average time spent on Twitter in a day:

Average time spent on Snapchat in a day:

Appendix D

UCLA Loneliness Scale

INSTRUCTIONS: Indicate how often each of the statements below is descriptive of you.

O indicates "I often feel this way"

S indicates "I sometimes feel this way"

R indicates "I rarely feel this way"

N indicates "I never feel this way"

1. I am unhappy doing so many things alone O S R N

2. I have nobody to talk to O S R N

3. I cannot tolerate being so alone O S R N

4. I lack companionship O S R N

5. I feel as if nobody really understands me O S R N

6. I find myself waiting for people to call or write O S R N

7. There is no one I can turn to O S R N

8. I am no longer close to anyone O S R N

9. My interests and ideas are not shared by those around me O S R N

10. I feel left out O S R N

11. I feel completely alone O S R N

12. I am unable to reach out and communicate with those around me O S R N

13. My social relationships are superficial O S R N

14. I feel starved for company O S R N

15. No one really knows me well O S R N

16. I feel isolated from others O S R N

17. I am unhappy being so withdrawn O S R N

18. It is difficult for me to make friends O S R N

19. I feel shut out and excluded by others O S R N

20. People are around me but not with me O S R N

Appendix E

Lubben Social Network Scale

FAMILY: Considering the people to whom you are related by birth, marriage, adoption, etc…

1. How many relatives do you see or hear from at least once a month?

 0 = none 1 = one 2 = two 3 = three or four 4 = five thru eight 5 = nine or more

2. How often do you see or hear from the relative with whom you have the most contact?

 0 = less than monthly 1 = monthly 2 = few times a month 3 = weekly 4 = few times a week 5 = daily

3. How many relatives do you feel at ease with that you can talk about private matters?

 0 = none 1 = one 2 = two 3 = three or four 4 = five thru eight 5 = nine or more

4. How many relatives do you feel close to such that you could call on them for help?

 0 = none 1 = one 2 = two 3 = three or four 4 = five thru eight 5 = nine or more

5. When one of your relatives has an important decision to make, how often do they talk to you about it?

 0 = never 1 = seldom 2 = sometimes 3 = often 4 = very often 5 = always

6. How often is one of your relatives available for you to talk to when you have an important decision to make?

 0 = never 1 = seldom 2 = sometimes 3 = often 4 = very often 5 = always

FRIENDSHIPS: Considering all of your friends including those who live in your neighborhood…

7. How many of your friends do you see or hear from at least once a month?

 0 = none 1 = one 2 = two 3 = three or four 4 = five thru eight 5 = nine or more

8. How often do you see or hear from the friend with whom you have the most contact?

 0 = less than monthly 1 = monthly 2 = few times a month 3 = weekly 4 = few times a week 5 = daily

9. How many friends do you feel at ease with that you can talk about private matters?

 0 = none 1 = one 2 = two 3 = three or four 4 = five thru eight 5 = nine or more

10. How many friends do you feel close to such that you could call on them for help?

 0 = none 1 = one 2 = two 3 = three or four 4 = five thru eight 5 = nine or more

11. When one of your friends has an important decision to make, how often do they talk to you about it?

0 = never 1 = seldom 2 = sometimes 3 = often 4 = very often 5 = always

12. How often is one of your friends available for you to talk to when you have an important decision to make?

0 = never 1 = seldom 2 = sometimes 3 = often 4 = very often 5 = always