

Exploring the Link Between Facebook Engagement, Loneliness, and Feelings of Belonging in Users

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ABSTRACT

The use of social media in our daily lives has transformed social interaction and connectedness. Individuals' personalities, emotional regulation and considerations of making online friends as true genuine friends may shape their social media use. The current study aims to investigate Cr Our study used a secondary dataset of 509 participants. The sample included 267 (52.5%) females and 242 (47.5%) males. The findings indicated that Facebook use on weekdays was a significant predictor but small association with loneliness ($B = 0.56$, $\beta = 0.16$, $t = 2.07$, $p = .039$), while during weekends was not ($B = -0.20$, $\beta = -0.06$, $t = -0.74$, $p = .462$). Also, people who perceive their Facebook interactions as more genuine tend to report slightly higher levels of belonging ($B = 0.087$, $\beta = 0.16$, $t = 3.68$, $p < .001$) having a modest effect. Gender had a significant effect on Facebook use during weekdays ($F(1, 497) = 6.33$, $p = .012$) and weekends ($F(1, 497) = 4.52$, $p = .034$). Specifically, male students reported higher Facebook use both on weekdays ($M = 2.57$, $SD = 1.58$) and weekends ($M = 2.68$, $SD = 1.52$) compared to female students (weekdays: $M = 2.24$, $SD = 1.38$; weekends: $M = 2.41$, $SD = 1.47$). For this reason, our study draws the attention of policymakers to take necessary steps to promote meaningful, balanced, and authentic social media use that may support individuals' social and emotional well-being.

INTRODUCTION

In today's digital world, the use of social media has transformed our social interaction and connectedness. Social media is a digital social networking site (SNS) where people create profiles, make content and share with each other. This increases the interpersonal networking and connectedness (Kapoor et al., 2017; Oestreicher-Singer & Zalmanson, 2013). It is a web-based communication platform that enables users to share, receive and interact with each other through a network connection (Ellison & Boyd, 2013). Social media has become a salient part of our everyday life and has contrasted our social identities. Moreover, it has reshaped individual social interaction and sense of belonging within digital space (Liu & Guo, 2015). According to the Statista 2025 report, "social media is the most widely used digital platform with over five billion users globally who spend more than two hours each day on different social networking platforms" (Dixon, 2025). According to a global data and statistics report from 2025, Facebook remains one of the most popular SNS with more than 3.15 billion active users who prefer

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Facebook to other SNS (Larson, 2015). SNS are developing each day with new features and new application sites. In a survey conducted in Canada found that about 71% of people use Facebook primarily for getting the daily updates of news (Hermida et al., 2012). Another study found that till March 2018 in the USA, about 68% of adults had Facebook accounts and 75% among them were daily active users (Smith, 2018). However, there is a lack of the most recent data of current Facebook users. For having the largest user base, Facebook has become an important media site for research. Facebook has been found to have a dual impact on psychological well-being, both for increased mental wellbeing and increased loneliness (Ashida et al., 2017). Although social media is widely adopted, its impact on psychological and mental well-being remains unclear.

To better understand how social media affects psychological well-being, it is important to understand the patterns of social media use. Interestingly, social media use has been defined in a normative way, and it has been presented in a negative way, such as “problematic social media use,” “addictive social media use,” or “pathological social media use.” Social media use has been widely defined as a precursor of internet use. Early studies defined the term “Internet addiction” as excessive and uncontrolled Internet use (Young, 1999), while the more accurate term “pathological internet use” was suggested for defining multidimensional overuse of the Internet (Davis, 2001). But the psychological implications were missing in the operational definitions of social media use that motivated the researchers to take a closer look at the patterns to the users of the internet through social media. In 2015, the Pew Research Center defined social media users as those who ever used an SNS like Facebook or LinkedIn (Perrin, 2015). However, in our study we termed social media use as the frequency of active use of Facebook on a daily basis rather than problematic use.

Literature research on social media use and psychological well-being suggests that most of the research has followed cross-sectional study design along with mixed methods. The impact of social media has been found to have dual implications on psychological well-being. Some researchers have studied independent factors to understand the impact of social media use appropriately. For example, social media use was found as a positive predictor of overall psychological well-being, emotional regulation, trust and life satisfaction (Valenzuela et al., 2009; Pittman & Reich, 2016). Similarly, other researchers have found that higher social media use reduces mental and physical health conditions (Verduyn et al., 2017). Research found specific underlying addictive tendencies causing lower levels of self-esteem (Kalpidou et al., 2011), higher levels of depression (Donnelly, 2017; Lup et al., 2015; Rosen et al., 2013; Shensa et al., 2017), negative social comparison (Tandoc et al., 2015) and higher loneliness (Verduyn et al., 2017; Song et al., 2014). However, some studies were unable to find any relationship between social media use and its impact on mental well-being (Berryman et al., 2018; Coyne et al., 2020). Alongside, some studies have reported methodological constraints (Jenson, 2017; Leng, 2013) that limit drawing any firm conclusion on the associations in the real world. For this reason, there is a need to dive deeper to gain insights into how social media is related to psychological well-being.

The effects of active and passive use of social media may oversimplify the understanding of individuals’ complex interactions with the digital world for socialization. Recent studies suggest that the simple active-passive dichotomy is insufficient to understand the complex interaction of social media behavior.

As stated before, previous researchers have found both positive and negative impacts of SNS on an individual's psychological well-being. These inconsistencies across studies have reflected the need for using self-reported measures of social media use. Moreover, other studies have investigated different factors (e.g., dispositional susceptibility, developmental susceptibility, social susceptibility and active-passive use) that can influence the individual's urges and habits of using social media (Valkenburg & Peter, 2013; Verduyn et al., 2022). People experience social isolation, anxiety and rejection due to many reasons and this ultimately makes them feel lonely (Cacioppo et al, 2015; Fung et al., 2017). Due to anxiety and depression, people limit opportunities to form any social interaction and become highly susceptible to social isolation, which leads to persistent loneliness (Cacioppo et al., 2015; Teo et al., 2013). Moreover, they also tend to transform their in-person relationship and social interaction with digital networking sites (Kall et al., 2020; Bessiere et al., 2008). Individuals' personality, their emotional regulation mechanisms and their considerations of making online friends as true genuine friends may shape their social media use patterns and frequency and can influence their mental health (Alphenaar et al., 2025; Piccerillo & Digennaro, 2025, Angelini & Gini, 2025). Other studies also found that those who find digital interactions authentic and meaningful can find a sense of belonging and feel more socially connected (Galioto et al., 2025). On the contrary, individuals may feel lonely and emotionally detached if they do not find interest and connections to social media. Gender differences play an important role in the use of social media. Studies have found that there is a significance difference in the motivation level to use social media between men and women (Ma, 2022). Gender is a critical factor in regulating emotional competence (the perception and adoption of emotional identification, knowledge and regulation). It has been found that men usually use social media for communication, expressing own opinions and experimenting with the new information whereas women use it as their self-portrayal and social relationship (Haferkamp et al., 2012). However, there is limited research exploring the gender differences in belongingness of social media use and social connectedness.

Our study aims to expand research by exploring the impact of Facebook use on feelings of loneliness, belongingness and social connectedness across genders. The main goal of the study is to understand the relationship between Facebook engagement (usage patterns and perceived authenticity of Facebook interactions) to individual's psychological well-being (sense of belonging and loneliness) and social connectedness through investigating the following research questions:

1. Does the frequency of Facebook use on weekdays and weekends predict loneliness?
2. Do individuals with higher perceived genuineness of Facebook interactions have more sense of belonging?
3. Does gender influence Facebook use and levels of social connectedness?

THEORETICAL BACKGROUND

This study was grounded within the existing theoretical frameworks of Social Comparison Theory, Social Capital Theory and well-being Models.

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In the digital social environments, many inspired and idealized contents have been shared which may influence others' perceptions and responses. In the SNSs, individuals may try to make a comparison between themselves with others. The Social Comparison Theory also suggests that individuals have the tendency to evaluate themselves with others (Festinger, 1954; Vogel et al., 2014). For this reason, on weekdays, people may have higher use of Facebook and may be more likely to engage in making comparisons with their peers and friends. As a result, they may have low self-perception and increased level of loneliness which negatively affects their emotional well-being.

The Social Capital Theory provided an understanding of the relation between perceived genuineness in SNSs. In the Facebook platform, individuals can find online friends as true and genuine friends in life which can facilitate both bonding and bridging social capital. Individuals can find more mental support and can feel more sense of belonging if their Facebook friends become genuine and on the other hand, they face loneliness and emotional distress if their friendship ties are weaker (Putman, 2000; Ellison et al, 2007). This framework suggests that perceived genuineness of friendship that is meaningful and supportive can predict the sense of belonging. It is not matter how big the connection size is rather than the quality of connection between friendship affects the user's emotional well-being.

The Well-being Models provides a multidimensional insight of the relationship between psychological and social well-being (Ryff, 1989; Diener, 1984; Keyes 1998). These models suggested that social connectedness, belonging and emotional regulations are interrelated with others. In the Facebook platform, the contents are shared greatly impact the individuals not only by the frequency use but also the context and authenticity of interactions.

Taking together these theoretical foundations, the present study hypothesis suggests a higher use of Facebook on weekdays due to social comparison which may increase their loneliness. However, if their online connections become genuine and meaningful reflecting stronger social capital, may be more likely to increase their sense of belonging.

METHODS

Transparency and Openness Statement

The current study used secondary data from a publicly available dataset from the Open Science Framework (<https://osf.io/hn83w/>). The original study was conducted by Shaw et al., 2022. The data set, accompanying codebook and supplementary materials are accessible via the OSF repository. There was no need to seek additional ethical approval to conduct the present study using a secondary dataset. The primary study stated that all participants gave informed consent to participate and to share their anonymized data.

Study Setting and Participants

Our study has used secondary analysis data collected globally by Shaw et al. (2022). The original data was collected across different countries worldwide. A cross-sectional online survey design was employed.

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The survey was distributed online to reach a diverse population of social media users. Prolific Academic (www.prolific.com) was used to recruit the participants. It is a crowdsourcing platform (Peer et al., 2022). The eligibility criteria for the participants were-

1. Native speaker of English so that can read and understand the questionnaire and instructions
2. Must be ≥ 18 years of age
3. Must have a Facebook account
4. Must be a Facebook user
5. Must have a digital device to access and complete the survey
6. Be able to finish the survey at a time

Initially, 622 participants were sampled, however, 69 of them were excluded for not completing the survey. A further 25 participants were excluded as they submitted the survey repeatedly. Two participants later reported that they do not use Facebook and were also excluded. Another 17 participants were removed for having multiple responses in Multidimensional Social Competency Scale. Finally, 509 participants were used for data analysis.

Data Collection Procedure

The recruited participants were requested to sign up in Prolific Academic directed to the Qualtrics survey form (<http://www.qualtrics.com/>). They were requested to provide their consent after acknowledging the study objectives. The participants were given 7.50 pounds per hour to complete the survey. It took about 45 minutes to complete the full survey. Data anomaly was strictly maintained for the study.

Measures

All the measures used for this current study were described in the original study by Shaw et al. (2022). Here, we have described the measures that are related to the objectives of our study. The internal reliability on the final sample is presented in Table 1. The demographic variables were also collected.

Measures	Cronbach's α	McDonald's ω
Loneliness Scale Short Form	0.87	0.88
Sense of Belonging Instrument	0.95	0.95
Social Connectedness Scale	0.95	0.95

Table 1. Internal reliability of the measures.

Self-reported Facebook Usage Hours

From the publicly available dataset (Shaw et al., 2022), we have found the self-reported frequency of Facebook use across a typical week. Two separate questions were asked to the participants: (1) "On April 2026

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average, how much do you use Facebook on a weekday (Monday - Friday)?" and (2) "On average, how much do you use Facebook on a weekend (Saturday & Sunday)?" The self-reported answers were recorded.

Perceived Genuineness

Perceived genuineness reflects the extent to which an individual takes anything authentic and meaningful. In the digital platform, perceived genuineness reflects the extent to which online friendship or connections are taken as genuine, authentic and emotionally significant (Ellison et al., 2007; Burgoon et al., 2000). In our study perceived genuineness was assessed based on participants' views of how authentic their online friendships are. The online social network size was measured. To evaluate perceived genuineness, three separate questions were asked: (1) "How many Facebook friends do you have?" (2) "What percentage of your Facebook friends do you consider to be 'genuine' friends?" and (3) "How many friends do you have in your offline social circle? (e.g., friends in real life)."

Loneliness

The UCLA Loneliness Scale Short Form (Hays & Dimatteo, 1987) was used to measure loneliness. It has 8 items and has higher reliability ($\alpha = 0.87$). This scale includes questions like "There is no one I can turn to," on a 4-point likert scale which was coded 1 as Never and 4 as Always. Higher score indicates a high level of loneliness.

Sense of Belonging

An 18-item Sense of Belonging Instrument (SOBI-P, Hagerty & Patusky, 1995) was used to measure the sense of belonging among participants. The reliability of this scale for the current study is high ($\alpha = 0.95$). This scale is a 4-point likert scale (1 = Strongly agree to 4 = Strongly disagree) and includes questions like "I often wonder if there is any place on earth where I really fit in". The likert scale was reversed coded in our study compared to the original study due to easy data interpretation purpose. High scores reflect a high sense of belonging.

Social Connectedness

Social connectedness was assessed by the Social Connectedness Scale (SCS, Lee & Robbins, 1995) which includes 20-items with a high reliability ($\alpha = 0.95$). A 6-point Likert scale was used (1 = strongly disagree to 6 = Strongly agree) and includes question like "I feel close to people". The higher scores reflect higher social connectedness.

DATA ANALYSIS

The original dataset by Shaw et al., 2022 was cleaned for data analysis according to the objectives of our study. SPSS version 26.0 was used for data analysis. Descriptive statistics (frequencies, percentage, mean, standard deviation) were calculated for the socio-demographic and key variables. Multiple linear regression, simple linear regression analysis and one-way multivariate analysis of variance were performed to address the research questions.

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RESULTS

Socio-demographic Characteristics of the Participants

Our study included a total of 509 participants. The mean age of the participants were 31.0 years (SD = 11.40). The sample included 267 (52.5%) females and 242 (47.5%) were males. Most participants identified as white (47%), followed by Hispanic (32%), Asian (9%), and African American (3.1%). Most of the participants are from the United Kingdom (30.8%) and the United States (27.5%), followed by Poland (10.4%) and Portugal (7.9%) (please see figure 2 for geographic distribution). Participants reported having an average of 413 Facebook friends (SD = 448.33) and 27 offline friends (SD = 24.63). Most participants who engage on Facebook use it 1-2 days per week, both on weekdays (69.7%) and on weekends (58.2%). Below, Table 2 offers a detailed overview of the demographics and characteristics of the participants.

Variable	n (%)	M ±SD
Age		31 ± 11.40)
Gender		
Female	267(52.5)	
Male	242(47.5)	
Ethnicity		
White	239(47)	
Hispanic	163(32)	
Asian	46(9)	
African American	16(3.1)	
Other	45(8.8)	
Residency		
UK	157(30.8)	
USA	140(27.5)	
Poland	53(10.4)	
Portugal	40(7.9)	
Canada	24(4.7)	
Italy	16(3.1)	
Mexico	12(2.4)	
Spain	12(2.4)	
Greece	10(2)	
Scotland	9(1.8)	
Hungary	8(1.6)	
Chili	7(1.4)	
Other	21(4.1)	

Number of Facebook friends		413 ± 448.33
Number of offline social circle friends		26.71 ± 24.63
Facebook use (weekdays)		
< 1 – 2 days	322(69.74)	
3-5 days	142(27.90)	
> 5 days	36(7.06)	
Facebook use on (weekends)		
< 1 – 2 days	296(58.15)	
3-5 days	174(34.18)	
> 5 days	36(7.06)	

Table 2. Characteristics of the participants (N = 509).

Geographical distribution of the participants

Country

Canada	Chile	Greece	Hungary	Italy	Mexico	Poland	Portugal	Spain
United Kingdom	United States of America							

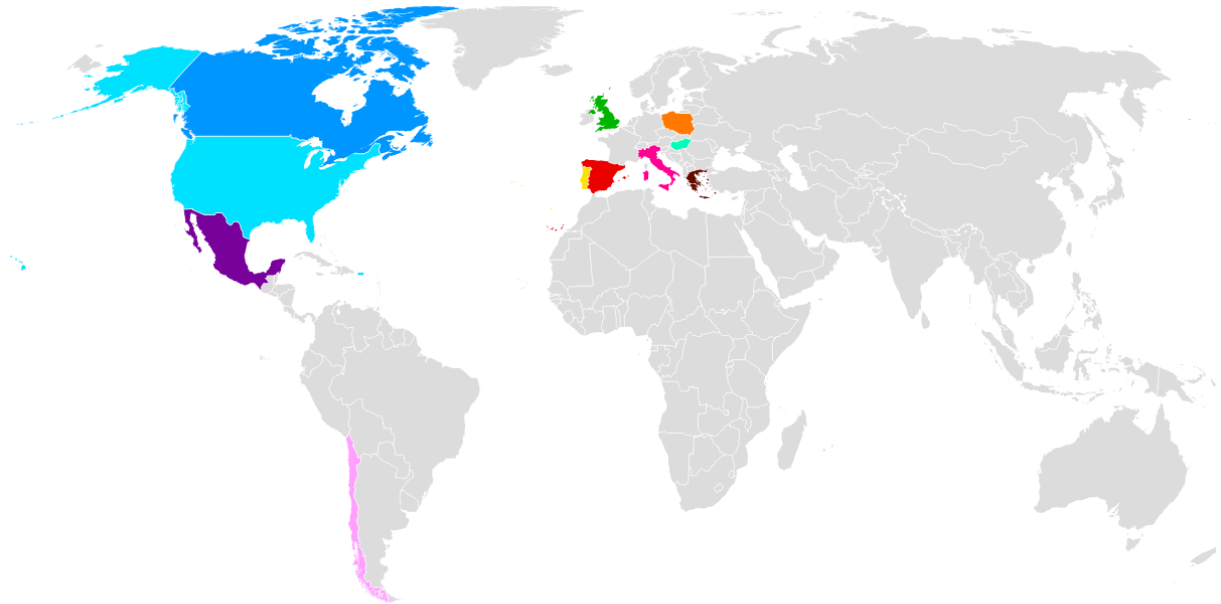


Figure 1. Geographical distribution of the participants.

Predicting Loneliness from Facebook Usage

A multiple linear regression was performed to assess whether Facebook use on weekdays and weekends was associated with loneliness among students. The overall model was weak ($R = .12$, $R^2 = .014$, Adjusted $R^2 = .010$). It explained only about 1% of the variance in loneliness due to Facebook use suggesting that Facebook use showed a statistically significant but small association with loneliness due to having a limited proportion of variance. Facebook use during weekdays significantly was associated with higher loneliness ($B = 0.56$, $\beta = 0.16$, $t = 2.07$, $p = .039$), while Facebook use during weekends did not ($B = -0.20$, $\beta = -0.06$, $t = -0.74$, $p = .462$) (see Table 3).

Predictor	Unstandardized Coefficients B	Standardized Coefficients β	<i>t</i>	<i>p-value</i>
Usage of Facebook in weekdays	.560	.157	2.069	.039
Usage of Facebook in weekends	-.202	-.056	-.736	.462

p-value was measured at 95% confidence intervals.

Table 3. Coefficients for the Multiple Regression Predicting Loneliness from Facebook Use on Weekdays and Weekends.

Predicting Sense of Belonging from Perceived Genuineness of Facebook Interactions

A simple linear regression was performed to determine whether the perceived genuineness of Facebook interactions was associated with people’s sense of belonging. The overall model was significant ($R = .16$, $R^2 = .026$, $Adjusted R^2 = .024$, $F(1, 508) = 13.57$, $p < .001$). The model accounted for only about 24% of the variance in people’s sense of belonging. Perceived genuineness of Facebook interactions was significantly associated with people’s sense of belonging ($B = 0.087$, $\beta = 0.16$, $t = 3.68$, $p < .001$) (Table 4) however it explained a small proportion of variance indicating a modest effect. This indicates that people who perceive their Facebook interactions as more genuine tend to report slightly higher levels of belonging.

Predictor	Unstandardized Coefficients B	Standardized Coefficients β	<i>t</i>	<i>p</i>
Facebook friends considered to be 'genuine' friends?	.087	.161	3.684	<.001

Table 4. Coefficients for the Simple Linear Regression Predicting Sense of Belonging from Perceived Genuineness of Facebook Interactions.

Gender Differences in Social Connectedness and Facebook Use

Gender differences in social connectedness and social media use were examined through A one-way multivariate analysis of variance (MANOVA). The Between-Subjects Effects tests showed that gender had a significant effect on Facebook use during weekdays ($F(1, 497) = 6.33$, $p = .012$) and weekends ($F(1, 497) = 4.52$, $p = .034$) (Table 5). Specifically, male students reported higher Facebook use both on weekdays ($M = 2.57$, $SD = 1.58$) and weekends ($M = 2.68$, $SD = 1.52$) compared to female students ($M = 2.24$, $SD = 1.38$; $M = 2.41$, $SD = 1.47$, respectively) (Table 5). However, there were no significant gender differences in social connectedness ($F(1, 497) = 1.01$, $p = .315$) or in the number of Facebook friends ($F(1, 497) = 1.09$, $p = .298$).

Variable	Male (M ± SD)	Female (M ± SD)	F	p
Social Connectedness	79.45 ± 19.36	81.23 ± 19.90	1.013	.315
Facebook use on weekdays	2.57 ± 1.58	2.24 ± 1.38	6.330	.012
Facebook use on weekends	2.68 ± 1.52	2.41 ± 1.47	4.517	.034
Number of Facebook friends	431.53 ± 531.30	389.77 ± 352.62	1.087	.298

Table 5. Tests of Between-Subjects Effects for Gender Differences in Social Connectedness and Facebook Use.

DISCUSSION

The aim of the study was to examine the association between the use of Facebook, the perceived genuineness of online interactions, and its impact on an individual's psychological well-being, including loneliness, social belonging, and social connectedness. These findings were correlational in nature; therefore no causal relationships could not be established. A higher percentage of the white population and a higher percentage of users from Westernized countries such as the United Kingdom and the U.S. suggest that Facebook was the most popular way to socialize. A greater number of Facebook friends indicate an increased interest in digital interactions for social connectedness. The findings from our regression analysis indicated that Facebook use on weekdays was a significant predictor of loneliness with a small effect association. Previous research also found that excessive social media use, both for active and passive use, is significantly associated with increased levels of loneliness and decreased mental well-being (Kim, 2017; Kross et al., 2013; Kross et al., 2021). These findings imply that the context of Facebook use may play a more important role in shaping emotional well-being than the frequency of use. People may experience isolation and emotional distress caused by the heavy workload. During that time, Facebook use, scrolling, or seeing others' fun posts may make people feel left out or lonely. On the other hand, at weekends people usually feel relaxed and go for fun activities. Facebook usage on weekends makes people more excited and happier to share their feelings with others, which in turn induces active social interaction. For this reason, the impact of Facebook use largely depends on the context and situation on people's psychological well-being. Therefore, there is no such research to date that could understand and explain these context-specific social media interactions and their impact in depth. Our findings highlight the need for future research examining the impact of the timing and context of social media use on people's mental well-being.

The findings of our study reported that the perceived genuineness of Facebook interactions significantly predicted individuals' sense of belonging. It suggests that people who find their social media interactions more meaningful and authentic may have a greater sense of belonging. This finding supports the idea that quality, rather than quantity, may have a greater positive impact on people's psychological well-being.

Some previous research also supports this finding. They have found that SNS have a positive impact on social support, stress management, and happiness (Nabi et al., 2013; Kim & Lee, 2011). For these reasons, Facebook can be a useful tool to promote a sense of belonging for socially isolated and lonely individuals. However, to our knowledge, no research has been found to measure the authenticity of digitally exchanged information and sources. This can result in misinformation among people. According to the results of our study, gender significantly influenced the usage patterns of Facebook. Male used Facebook more both on weekdays and weekends compared to women. This finding suggests that male and women has different level of motivation to use Facebook which matches with the previous findings (Ma, 2022). Similarly, one study found that men prefer to use Facebook more for networking and examining new information whereas women use more for social interactions and emotional connectedness (Muscanell & Guadagno, 2012). Facebook friends are a great source of social connectedness. Our study did not find any significant difference between social connectedness and the number of Facebook friends. Interestingly, no study was found to examine this finding. For this reason, there is a need to understand the complexity of social media behaviors across genders.

The current study implies that social media use impact on psychological health depends on specific context. It is influenced not only by the frequency of use but also by individuals' usage patterns and behaviors. Digital literacy and critical evaluation of the information is crucial during social media use to help individuals to mitigate loneliness and social isolation.

Overall, our research findings reveal that social media use on psychological effects is context dependent. The impact on mental well-being not only depends on the frequency of social media use but also on how and when people are using social media. Mindful social media use can help individuals to mitigate loneliness on weekdays. However, there is a need for future research that can employ longitudinal studies for a better understanding of the causal-impact relationship between social media usage patterns and their impact on mental well-being. Extensive experimental study designs should be undertaken to find out the in-depth relation between metacognition and social media use in different contexts. Furthermore, qualitative studies can help explore people's perceptions of digital interactions and their experiences.

CONCLUSION

Social media has transformed the digital interactions in our everyday lives. It has many advantages especially in communications, information, education and healthcare. However, social media addiction has proven to be problematic. The need for trying new things and keeping updated with new technology and information, makes people addictive to social media. This ultimately results in adverse mental health outcomes. For this reason, a mindful, balanced and informative social media use should be promoted to support individual's social and emotional well-being.

LIMITATIONS

Our study has several limitations. First, the present study only examined the current trends of Facebook as a representative of SNS in social media. For this reason, the results may not generalize to other social media sites and networks. Second, the study design includes self-reported measures which may introduce bias such as recall bias, subjective interpretation of constructs and social desirability. Third, the cross-sectional study design only shows the associations among the variables which limits the ability to present any conclusion on the cause-and-effect relationships among the variables. So, longitudinal or experimental studies should be designed for better understanding of causal relationships among variables where possible. This will help the researchers to examine a more comprehensive understanding of digital connectedness. Fourth, most of the participants were from Western countries, which limits the cultural generalizability of the findings. Future research should be carried out using a diverse SNSs to understand the digital connectedness across contexts.

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