

Examining Relationship between Attitude towards Social Media Apps Usage and Loneliness among University Students: Self-Control as Moderator

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Abstract

With the rise of digital connectivity, social media applications have become deeply integrated into the daily lives of university students. While these platforms offer opportunities for communication and entertainment, they also raise concerns about mental health, particularly loneliness. This study explored the relationship between attitudes toward social media apps usage and loneliness, with self-control examined as a moderating variable. A cross-sectional survey was conducted among 387 university students (Male = 192; Female = 195) from Rawalpindi and Islamabad, using convenience sampling. Participants completed the Social Media Attitude Scale (SMAS), Revised UCLA Loneliness Scale, and Brief Self-Control Scale (BSCS). Statistical analyses, including correlation analysis, hierarchical multiple regression, and moderation analysis using PROCESS Macro (Model 1), were conducted via SPSS (v23). Results indicated a significant positive relationship between attitude towards social media usage and loneliness. Furthermore, self-control was negatively associated with both variables and did not moderate the relationship between attitude toward social media and loneliness. These findings underscore the importance of fostering digital literacy and self-regulatory behaviors to mitigate the adverse emotional outcomes of social media use in university populations. Interventions aimed at enhancing self-control may reduce the risk of loneliness and promote psychological well-being among students.

Keywords: Social media attitude, self-control, loneliness, university students

Introduction

Social media has changed the way we communicate, share information, and interact with others every day across all cultures and communities, but it is particularly evident among college/university students. Social media in Pakistan has proliferated, particularly through multiple platforms like Facebook, Instagram, WhatsApp, TikTok, Snapchat, and so forth. Urban and rural communities alike have seen dramatic changes in how people connect with each other, how they create their learning

environments, and how they experience emotions. While the social media channels have opened many ways for people to connect with each other, express themselves, and have fun, many people are now concerned with the effect that social media can have on an individual's psychological state (example, feelings of loneliness, perceived social isolation, engaged emotional health, etc.) (Hassan, Luo, et al., 2022).

Multiple studies suggest that excessive use or maladapted forms of use from social media may create feelings of loneliness, as real human relationships in one's life become replaced with surface-level connections on social media (Nowland et al., 2018; Twenge et al., 2018). The perceived quality of how a person uses social media appears to play a central role in relation to whether they may experience loneliness. For example, people who have a more positive attitude regarding their use of social media to maintain connections with others, express themselves, or receive support tend to report greater social connections and thus not feel lonely (Hassan, Malik, et al., 2022). Whereas those individuals who have a negative view of social media (i.e., dependent, unhappy, socially comparing) may be at an increased risk for feeling lonely (Verduyn et al., 2017; Keles et al., 2020). As in other countries, studies conducted within Pakistan have also revealed similar patterns to those found in other countries, where problematic and/or addictive social media use leads to increased feelings of loneliness, anxiety, stress, and decreased well-being (Irshad, 2014; Pahore et al., 2021; Zaka et al., 2024).

Personal attitudes towards social networking sites are made up of three main components: cognitive, affective, and behavioral, which determine how each user approaches their preferred forms of engagement with social networks. The type of user an individual may be can significantly impact their mental health status. Passive users typically experience a greater degree of loneliness due to increased levels of social comparison and reduced levels of meaningful social engagement compared to those who actively engage through posting and commenting. However, even though active users may experience increased feelings of connection, this benefit is not universal and is determined entirely by the user's unique psychological make-up (Keles et al., 2020; Karim et al., 2020).

According to Baumeister et al. (2007), one of the main factors influencing digital behavior is self-control, or one's ability to manage impulsivity, delay gratification, and control behavior toward goals over time. The main role of self-control is to moderate the pattern of digital behavior; for example, individuals who have a high level of self-control tend to manage their screen time more effectively and, therefore, may be less prone to experiencing negative emotions because of excessive or compulsive digital/social media use (Kuss and Griffiths, 2017). Conversely, low self-control individuals may be unable to resist compulsive (problematic), excessive (addictive), and unregulated usage of digital/social media, which subsequently results in a higher level of social isolation, anxiety and loneliness. The framework of the strength model of Self-Control posits that impaired self-regulatory skills likely lead to impulsive social media engagement (Mushtaque et al., 2022), but little empirical research has examined the extent to which self-control mediates the relationship between attitudes toward social media and loneliness in Pakistan.

There is also extensive research on the larger sociocultural dynamics that shape relationships, by the type of culture, of Pakistani society. As an example, Social Media use in the form of Social Network Sites, has emerged as a double-edged sword both a source to build community and a source of social disconnection, to create cyberbullying and to cause mental distress (Sabih et al., 2021; Zafar et al., 2024). Given the high level of daily social media engagement by university students and increased vulnerability to peer comparison and academic stress. Therefore, understanding the interaction between social media attitudes, feelings of loneliness and self-control is of critical importance. Although there is a significant body of international research on social media attitudes predicting loneliness, the research on self-control being a moderating variable is minimal and the research specifically related to South Asian/Pakistani university students is non-existent. Due to the rapidly increasing use of digital means to conduct life in Pakistan's universities has led to an increase in both mental health concerns and an urgent need to do an in-depth empirical investigation (Mushtaque, Rizwan, et al., 2021).

In conclusion, the study conducted the following objectives: a) Investigate the relationship between University Students' attitude toward Social Media Apps and their feelings of loneliness; b) The role of self-control as a moderating factor of this relationship. Integrating psychological, behavioral, and cultural perspectives, this study aims to clarify how University Students' subjective appraisals of social media affect their emotional well-being in conjunction with their self-regulatory abilities. The research may present developing evidence-based recommendations to enhance digital literacy, self-control techniques, and decrease loneliness in universities.

Hypothesis

1. Attitude towards social media apps usage positively relates to loneliness in university students.
2. Self-control negatively relates to loneliness in university students.
3. Self-control will negatively relate to attitude towards social media apps usage in university students.
4. Self-control will moderate relationship between attitude towards social media apps usage and loneliness in terms of reducing the impact of social media app usage attitude will reduce its impact on loneliness because of the interaction terms of self-control in university students.
5. Self-control will dampen positive relation between attitude towards social media apps usage and loneliness in university students.

Conceptual Framework

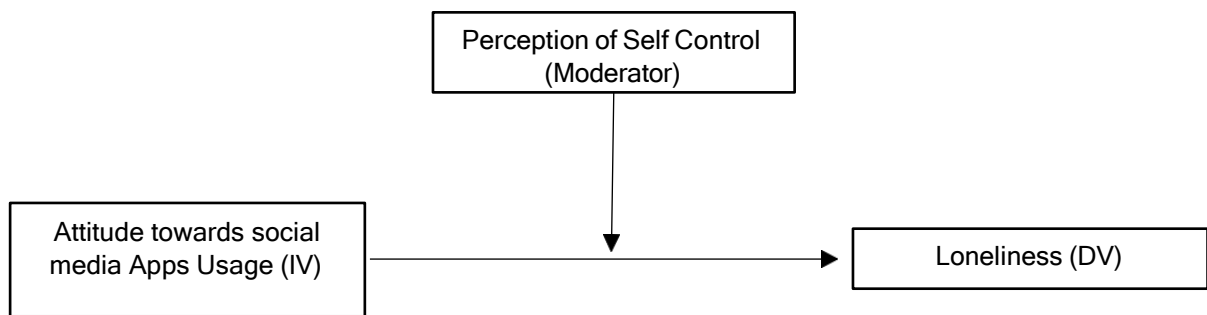


Figure 1. Conceptual Framework of the Present Study

Methodology

Research Design

It was a cross sectional, quantitative based survey. This design was used to carry out this study on university students of Rawalpindi and Islamabad.

Sample

The sample consisted of 387 participants from universities of Rawalpindi and Islamabad. Convenient sampling method was used in study. The detail of the sample is in table. The frequency and percentages for the demographic variables of the sample of participants (N = 387) appears. The mean age of participants was 28. While the minimum age of participants was 18 years old, and maximum were 35 years old. Regarding gender, there were 192 (49.6%) males, and 195 (50.4%) females. The sample was nearly 50 percent male and female. In terms of educational background, the majority belonged to BS level students. (298 participants, 77%), followed by MS (61 participants, 15%) and PhD (28, 7%).

Table 1: Demographic Information of Participants (N= 387)

Variables	F
Gender	
Male	192
Female	195
Age Range	18-35
Education	
BS	298
MS	61
PhD	28

Note. *f*= Frequency; % = Percentage; M= Mean; SD= Standard Deviation.

Demographic Sheet

The demographic sheet included names, age, gender, educational level and Institutes of students.

Social Media Attitude Scale

Social media attitude scale was developed by Argin and Otrar in 2015. This scale is used to assess attitude level of an individual towards social media. Number of items in social media attitude scale are 23. This scale has four sub dimensions which include sharing necessity, social competence, social isolation and relationship with teachers. The lowest possible score is 23 and highest possible score is 115. It is five-point Likert scale that has options ranging from strongly disagree to strongly agree. The Cronbach alpha internal consistency coefficient of social media attitude scale for current study 0.89 which is high internal consistency. In general Cronbach alpha value of 0.7 or higher is considered acceptable while values above 0.8 are considered good. Translation of the scale from Turkish to English language was done in four steps.

Step 1. Translation from Turkish to English (Forward Translation): In the initial step, social media attitude scale was translated into English language with the help of bilingual subject experts holding qualifications such as Bachelors, master’s and PhD with the expertise in Turkish language. Translation was conducted in such a way that integrity and accuracy of the original scale is maintained.

Step II: Committee Approach. In the second step committee-based approach was used to ensure the accuracy of the translation. After receiving three independent translated versions, a committee which included experts with diverse qualifications including one MS Scholar (Psychology) PhD Scholar (Psychology) and an experienced researcher was convened. The committee evaluated the translated items with reference to the grammar, wording and context. Moreover, they reviewed each item with so that both the versions carry the exact meaning. Conceptual equivalence was prioritized to provide common meaning and valid comparison with the original scale. Together, these efforts produced a professional translation that accurately conveyed the original scale content.

Step III: Backward Translation. All the accurate items were enlisted and provided to the bilingual experts for back translation. These experts comprised of graduate, post graduate and PhD scholar. To ensure that the content is the same in all versions, the experts were asked to back-translate the items into English. The aim was to maintain the meaning of the original scale and accurately reflecting the content.

STEP IV. The back-translated items were submitted to the committee for final selection. This committee consisted of a MS scholar (Psychology), PhD scholar (Psychology), and an expert researcher. They received the back-translated versions of the scale and evaluated concordance between both the versions. Only those items that conveyed the same meaning as the original one was selected. Some items were modified which were having problem in their back-translation.

Pilot study: Participants of pilot study were comprised of 30 university students, age ranged from 18 till 35 years. Data was gathered by convenient sampling. The participants were informed about nature of study and informed consent. The university students were approached to take their responses on English version of social media attitude scale. With a gap of one-week, same participants were approached twice to take their responses. The data gathered by same participants with a gap of one week helped establishing and confirming the reliability of translated version of social media attitude scale.

Revised University of California, Los Angeles Loneliness Scale

It was developed by Russell, Peplau and Cutrona in 1980. It consists of 20 items that assess feelings of loneliness and social isolation. Respondents rate each item on a 4-point scale, indicating how often they feel the way described. The response options are Never, Rarely, Often and Always. Cronbach alpha for the scale in current study is 0.81 (higher than 0.7) which depicts that scale has high internal consistency.

Brief Self-Control Scale (BSCS)

The brief self-control scale was developed by Tangey et al. (2008). It is 5-point Likert scale consisting of 13 items. The lowest possible score is 13 and highest possible score is 65. Cronbach alpha for the scale in current study is 0.71 which indicates that this scale has high internal consistency.

Data Analysis

For analyzing the data Statistical Package for the Social Sciences (SPSS) was used. Descriptive Statistics was conducted to summaries socio demographic characteristics of participants. Correlation Analyses (e.g., Pearson correlation) was conducted to understand basic relationship between the variables. Multiple hierarchal Regression Analysis was used to analyze whether social media attitude and self-control are predictors of loneliness or not. Moderation Analysis was used to assess the moderating role of self-control.

Ethical Considerations

The present research was conducted under professional supervision. Ethical approval was attained from Ethical Review Board, Department of Psychology, Ethics committee, along with the head of institutes. In addition, consent form was obtained from the participants, and they had the right to withdraw from the research at any point, on their own free will. None of the participants was forced to be participating in the current study. All details provided by the participants were kept confidential. Every participant was given a comprehensive clarification about why the study is conducted.

Procedure

In the present study, correlational research design was used. There were 387 participants in

the study. The sample was collected from university students of Rawalpindi and Islamabad, Pakistan. The sample was obtained by employing convenient sampling method. Participants were offered with written informed consent. Assurance was given to them that their information will be kept confidential and anonymous. The guidelines were provided in both written and verbal forms, to ensure that participants are completely aware of the study. The right to withdraw from the study was provided. After acquiring the informed consent, the participants were asked to sign the consent form after that they filled out the demographic variable sheet, Social Media Attitude Scale, Revised University of California Los Angeles Loneliness Scale and Brief Self Control Scale in the present study. In order to identify the results, SPSS was used for descriptive statistics, Correlation Analysis, Multiple hierarchal Regression Analysis and Moderation Analysis.

Results

The present study aimed to examine the relationship between social media attitude and loneliness among Pakistani university students. Furthermore, it aimed to investigate the moderating relationship between social media attitude and loneliness. The major objective of the study was to examine the moderating role of self-control in relationship between social media attitude and loneliness. The data was collected from 387 university students of Rawalpindi and Islamabad.

Table 2: Psychometric Properties of the Scales and their Sub-Scales (N=387)

Scales	K	M	SD	Range		A	Skewness	Kurtosis
				Potential	Actual			
RULS	20	46.94	9.40	20-80	20-75	.81	-.17	.37
BSCS	13	40.97	7.87	13-65	13-64	.71	-.15	.52
SMAS	23	49.99	12.79	23-115	18-85	.89	-.03	-.32
Relation with teachers	3	7.14	3.54	3-15	3-15	.88	.38	-.89
Social Competence	6	17.28	5.29	6-30	6-30	.78	.12	-.56
Sharing Necessity	8	25.57	6.52	8-40	8-40	.82	-.25	-.27

Note. RULS = Revised University of California Loneliness Scale; BSCS= Brief Self Control Scale; SMAS = Social Media Attitude Scale; α = Alpha reliability; M = Mean; SD = Standard Deviation.

Table 2 displays, for each scale used for the current study, several psychometric qualities including reliability, the ranges of scores, and the characteristics of the data distributions. The Revised University of California Loneliness Scale (RULS) has an M of 46.94, with an SD of 9.40, as a potential score range from 20 to 80, and actual score range of 20 to 75. The scale reliability indicated by α is .81, which demonstrates good internal consistency. The skewness value of -.17 indicates a slight negative skewness, and the kurtosis value of .37 indicates the distribution is relatively normal. The Brief Self-Control Scale (BSCS) has an

M of 40.97, an SD of 7.87, as a possible score range of 13 to 65, and the actual score range from 13 to 64. The reliability coefficient α for this scale is .71, which suggests a moderate level of internal consistency. The skewness value of -.15 and kurtosis value of .52 indicate that the distribution is relatively symmetric and has a slight degree of flatness. The Social Media Attitude Scale (SMAS) has an M of 49.99, an SD of 12.79, as a possible score range of 23 to 115, and an actual score range of 18 to 85. The α coefficient is .89, indicating excellent reliability; the skewness of -.03 and kurtosis of -.32 indicate a nearly normal distribution. For the, "Relation with Teachers" scale, the M across participants is 7.14; there is a relatively large SD of 3.54, indicating a more diverse response range. The reliability coefficient for that scale is .88, suggesting very good internal consistency. The skewness value is .38, indicating a slight positive skew; the kurtosis value of -.89 indicates a distribution that is platykurtic (flat).

The Social Competence scale has an M of 17.28, combined with an SD of 5.29, as a possible range of 6 to 30, and the same actual range of 6 to 30. The reliability is .78, indicating good internal consistency. The skewness is .12, indicating a slight positive skew, while the kurtosis value is -.56, indicating a somewhat flat distribution. Finally, the Sharing Necessity scale demonstrates an M of 25.57 and an SD of 6.52, with both a possible and actual score range of 8 to 40. The scale has a good reliability coefficient of .82, and the distribution shows a slight negative skewness (-.25) and a kurtosis nearly normal (-.27). Overall, the reliability values, α , are a good range across the scales; this suggests the scales used in the current study are useful tools for measuring the intended constructs.

Table 3: Correlational matrix between all the variables (N=387)

Variables	1	2	3	4	5	6
1. Loneliness	-					
2. Age	-.13*	-				
3. Gender	-.05	-.10*	-			
4. Education	-.01	.75**	-.07	-		
5. Social media attitude	.12*	.03	.13*	.03	-	
6. Self-control	-.32**	.01	.09	.07	-.01	-

Table 3 lists all correlations between study variables (N = 387). Age was negatively correlated with loneliness ($r = -.13, p < .05$) and gender was negatively correlated with age ($r = -.10, p < .05$) and positively correlated with social media attitude ($r = .13, p < .05$). Education indicated a strong positive correlation with age ($r = .75, p < .01$). Social media attitude was positively correlated with gender ($r = .13, p < .05$) and loneliness ($r = .12, p < .05$), while its correlation with age or education was not significant. Self-control was negatively correlated with loneliness ($r = -.32, p < .01$), suggesting higher self-control was associated with lower levels of loneliness. This analysis provides an overview of the main associations between demographic variables, attitudes towards social media, self-control and levels of loneliness.

Table 4: Multiple Hierarchal Regression Analysis Predicting Loneliness (N=387)

Variables	B	T	P	R ²	ΔR^2	F	p
Model 1							
Constant	-	13.27	.000	.020		2.64	0.04
Age	-.13	-1.80	.073				

Gender	-.11	-1.51	.132				
Degree Program	.00	0.02	.985				
Model 2							
Constant	-	11.78	.000	.035	.015	5.9	0.01
Age	-.14	-1.85	.065				
Gender	-.14	-1.47	.143				
Degree Program	-.00	-0.03	.975				
Attitude (SMAS)	.12	2.43	.016*				
Model 3							
Constant	-	13.64	.000	.11	.082	35.51	0.000
Age	-.14	-1.68	.095				
Gender	-.06	-0.72	.475				
Degree Program	-.00	-0.03	.976				
Attitude (SMAS)	.11	2.19	.029*				
Self-Control (BSCS)	-.30	-5.98	.000**				

Note. ΔR^2 = per unit change; **B**= standardized coefficient; **SE**= standard Error; **CI**= Class Interval; **LL**= lower limit; **UL**= upper limit; * $p < .05$. ** $p < .01$.

A hierarchical multiple regression was conducted to examine the predictive effects of attitude toward social media (SMAS) and self-control (BSCS) on the outcome variable, controlling for age, gender, and degree program. In Model 1, demographic variables accounted for a small but significant portion of variance ($R^2 = .020$, $F(3, df) = 2.64$, $p = .04$), though none of the predictors were individually significant. Adding attitude in Model 2 significantly improved the model ($\Delta R^2 = .015$, $F(4, df) = 5.90$, $p = .01$), with attitude ($\beta = .12$, $p = .016$) emerging as a significant positive predictor, while demographics remained non-significant. In Model 3, the inclusion of self-control significantly enhanced the model fit ($\Delta R^2 = .082$, $R^2 = .11$, $F(5, df) = 35.51$, $p < .001$). Self-control was a strong and significant negative predictor ($\beta = -.30$, $p < .001$), and attitude remained a significant predictor ($\beta = .11$, $p = .029$). These results indicate that lower self-control and more positive attitudes toward social media are associated with higher levels of the outcome, whereas demographic factors did not significantly contribute to the prediction.

Table 5: Moderating role of self-control in relationship with attitude and loneliness (N=387)

<i>Step</i>	<i>Predictor</i>	<i>SE</i>	<i>B</i>	<i>T</i>	<i>P</i>	<i>R²</i>	ΔR^2	<i>F(df)</i>
1	Attitude (SMAS)	0.16	0.03	0.17	.869			
	Self-Control (BSCS)	0.21	-0.44	-0.31	.000	0.1062	-	15.1 (3, 383)
2	Attitude \times self-control	0.003	0.00	0.31	.756	0.1064	0.02	0.10 (1, 383)

Note. ΔR^2 = Per unit change, **B**= Standardized Coefficient; **SE**= Standard Error; **CI**= Class Interval; **LL**= Lower Limit; **UL**= Upper Limit.

A moderation analysis was conducted to examine whether self-control moderates the relationship between attitude toward social media (SMAS) and loneliness (N = 387). In Step 1, both attitude and self-control were entered as predictors. The model was significant, $F(3, 383) = 15.17, p < .001$, accounting for 10.62% of the variance in loneliness ($R^2 = .1062$). Among the predictors, self-control was a significant negative predictor ($\beta = -0.31, p < .001$), suggesting that individuals with higher self-control tend to experience less loneliness. In contrast, attitude toward social media was not a significant predictor ($\beta = 0.03, p = .869$). In Step 2, the interaction term (Attitude \times Self-Control) was added to assess moderation. However, the interaction effect was not significant ($\beta = 0.00, p = .756$), and the change in explained variance was minimal ($\Delta R^2 = .0002$), $F(1, 383) = 0.10$. This indicates that self-control does not moderate the relationship between attitude toward social media and loneliness. While self-control independently predicts loneliness, its effect does not depend on individuals' attitudes toward social media.

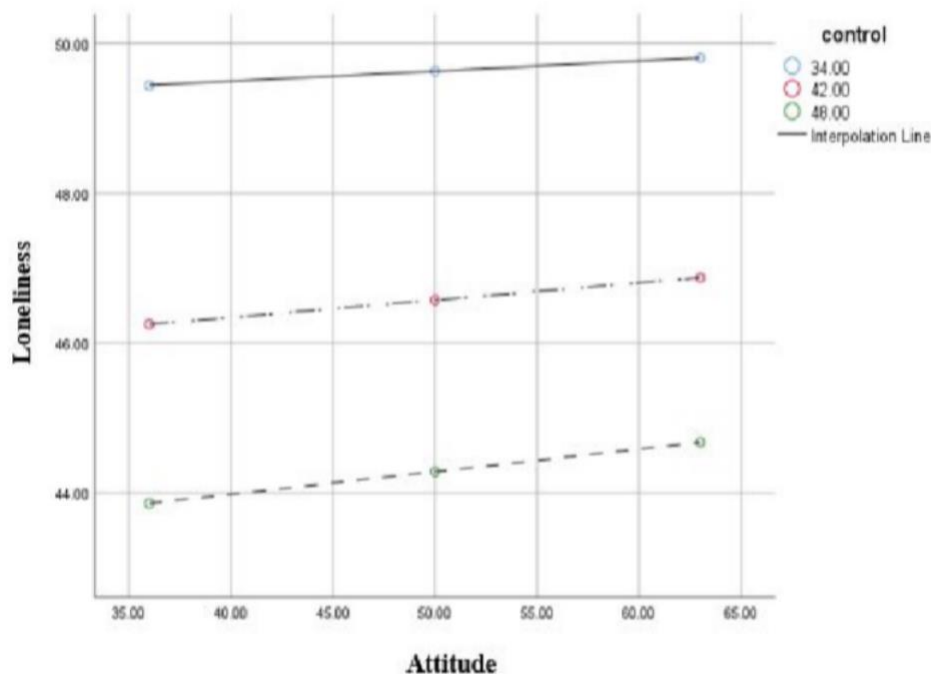


Figure 2. Mod Graph Showing the Moderating Role of Self-Control in Predicting Loneliness from Social Media Attitude

The graph illustrates the relationship between attitude towards social media and loneliness, with self-control as a moderating variable. The x-axis represents "Attitude" (attitude towards social media), and the y-axis represents "Loneliness". Three lines on the graph correspond to different levels of self-control: 34.00, 42.00, and 48.00. All three lines exhibit a slight positive slope, indicating that as attitude towards social media increases, loneliness also tends to increase, albeit not dramatically. The relatively parallel lines suggest that self-control does not have a significant moderating effect on the relationship between attitude towards social media and loneliness, as the relationship between attitude and loneliness

remains similar across different levels of self-control. The results showed that both attitude and self-control were entered as predictors into the model, and the model was statistically significant. Self-control was found to be a significant negative predictor of loneliness, indicating that higher self-control is associated with lower loneliness. However, attitude towards social media was not a significant predictor of loneliness. Furthermore, the interaction term (SMAS \times BSCS) was not significant, indicating that self-control did not moderate the relationship between attitude towards social media and loneliness.

Discussion

In this study, researcher explored the relationship between loneliness and attitudes about use social media applications, specifically for Pakistani university students, along with whether an individual's ability to exert self-control interacts with this relationship. Based on the findings, we were able to conclude that self-control plays a major role in predicting loneliness in university students, and that attitudes toward using social media applications are not as important as the ability to self-regulate when it comes to predicting loneliness.

The current research aligns with previous research, confirming a positive relationship between social media engagement and social media attitudes and loneliness. The relationship shows that students exhibiting higher levels of social media engagement and positive attitudes toward social media were more likely to report feelings of loneliness. These results support previous findings (i.e., excessive investment of one's resources, time and emotion, into social media usage may create increased feelings of social isolation, especially if individuals engage in social media instead of establishing a meaningful relationship with others). Similar findings were also reported amongst students in Pakistan. Problematic use of social media has been associated with increased feelings of distress and feelings of burnout and loneliness (e.g., Irshad et al., 2014; Sabih et al., 2021; Zaka et al., 2024). The findings are supportive of prior research, demonstrating that social media can serve as a double-edged sword in that it may foster the growth of individuals' well-being and support the diminishment of individuals' well-being, depending upon how the user utilizes social media.

When using regression models to investigate, it was found that self-regulation was a stronger predictor of emotional effects than anything related to social media usage. It may be that the emotional effect of social media is less about views towards it and more to do with an individual's ability to control their actions (Schmeichel et al., 2009). The strong inverse relationship between self-regulation and feelings of loneliness supports the idea of the strength model of self-regulation in that those who have more effective impulse management and can refrain from harmful behaviors experience higher levels of stability (Baumeister et al., 2009). This is consistent with numerous studies showing that people with strong self-regulation are less likely to develop compulsive social media use, problematic screen behaviors, and associated emotional problems (Hofmann et al., 2011; Kuss & Griffiths, 2011).

In contrast to previous research, self-control was not found to play a moderating role on students' social media attitude and their level of loneliness, as previous research had suggested that the use of self-regulation would buffer against the negative psychological impacts of using social media too often and/or with a high level of emotional investment in their use (Brevers & Turel, 2019). There are several factors that could explain this differing outcome. One possible reason is that cultural and contextual factors could explain a difference in outcomes. In the context of Pakistani Universities, self-control may have a direct protective effect and would not be as significant in changing the pathways that students have in creating loneliness when they have negative views of how frequent they utilize social media. Students who have higher levels of self-control may already be employing more positive behaviors through their digital habits such as maintaining a presence in offline social communities, and better coping strategies, thus leading to lower levels of loneliness

regardless of their attitudes toward social media (Mushtaque, Waqas, et al., 2021). On the other hand, students who do not have high self-control are experiencing loneliness because of not being able to manage their emotional state or to complete tasks because of their use of social media.

Since the influence of social media was not moderated by attitudes toward social media, the findings indicate that individuals who possess a high degree of self-control are likely to feel a greater impact of social media. Prior research has suggested that psychological characteristics tend to influence individuals' overall wellbeing to a greater extent than technological-related attitudes; therefore, individuals' likenesses toward social media do not serve as good predictors of an individual's feelings of loneliness (Orben & Przybylski, 2019). Demographic characteristics (e.g., An individual's age, their gender, and their degree program) had no significant effect on loneliness. Although there were small differences in loneliness between older and younger university students, the overall differences were minor. Therefore, these findings suggest that psychological characteristics impact loneliness more than demographic variables for university students within Pakistan and confirm findings of a global trend towards increased loneliness in the digital era (Özdemir & Tuncay, 2018). Ultimately, the results indicate that self-control is a more substantial reason of students' social and emotional wellbeing rather than social media knowledge. Therefore, promoting effective strategies for digital self-regulation, healthy social media habits, and emotional coping skills among students will be essential.

Limitations of Study

The study incorporates a few limitations. The cross-sectional design does not allow for the establishment of causal connections between social media attitude, self-control, and loneliness, so we cannot tell if one factor influences another. The data collection method of self-reporting can result in problems, either related to recall or in terms of presenting oneself in a good light (social desirability). The sample consisted solely of students from Rawalpindi and Islamabad, limiting how well we can generalize our results to students from other provinces/cities in Pakistan or students of different age groups. Additionally, while we examined the attitudes of individuals towards social media, we did not research their actual use of social media; therefore, actual use data would likely provide additional valuable insight into how we viewed individuals' use of social media and loneliness. Lastly, the study does not include psychological factors like fear of missing out (FoMO), social comparison, or personality traits, which are other possible influences on the degree of loneliness experienced by individuals.

Conclusion

The present study examined the relationship between attitudes toward the use of social media apps as well as loneliness among university students in Rawalpindi and Islamabad, Pakistan. The findings showed that self-control positively predicted loneliness with higher self-control associated with lower loneliness. On the other hand, attitudes toward social media apps did not positively predict loneliness suggesting that self-control could more directly relate to the experiences of loneliness rather than simply holding a positive or negative attitude toward the use of social media. The moderation analysis indicated that self-control does not play moderating role in relationship between social media attitude and loneliness.

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