Impact of Phubbing Behavior on Loneliness Among Young Adults: Moderating Role of Self-Esteem

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ABSTRACT

This study explored the relationship between phubbing, self-esteem, and loneliness in young adults. Phubbing, the act of ignoring someone to focus on a smartphone, is a behavior frequently reported by young adults in modern life that can disrupt social interaction. Self-reported phubbing behavior was measured using a standard scale, along with reported self-esteem and loneliness, with a sample of 350 undergraduate university students. A statistically significant negative correlation was found between phubbing and self-esteem and a positive relationship was found between phubbing and loneliness. Moderation analysis also indicated that loneliness moderated the relationship between phubbing and self-esteem; therefore, young adults reporting higher loneliness reported a greater loss of self-esteem when reporting more phubbing behavior. The results of the study reinforce the negative effect of too much time spent using a smartphone in terms of psychological impact on young adults and potential recommendations for healthier digital behavior. The study extends the awareness of recent literature on digital behavior and mental health and has behavioral relevance for educators, psychologists, and policymakers in fostering healthier relationships.

Phubbing Behavior

Phubbing, a combination of the words "phone" and "snubbing", is the active decision to ignore someone while in the company of a cell phone to focus on it instead. The act of phubbing is becoming more common among young adults due to the ubiquitous use of smart device technologies and social media (Roberts & David, 2016). In the context of interpersonal settings, phubbing shows a transition away from face-to-face

engagement and interactive moment, while introducing a virtual channel of engagement, which may interfere with social cues and emotional connectedness.

Prior research has demonstrated that individuals that reported they were phubbed often believed that they were socially excluded and rejected, particularly within close relationships (Chotpitayasunondh & Douglas, 2018). The act of being ignored in favor of an object such as a smart device is often perceived as disrespectful and invalidating and creates emotional distance, reducing the mutual sense of belonging and being present in the context of a conversation. Additional studies show that phubbing experiences reduce emotional connectedness in settings such as friendships and romantic couples, where emotional reciprocity is essential to relational functioning.

Specific past research has demonstrated that phubbing behavior is negatively correlated with relationship satisfaction and social engagement. For instance, McDaniel & Coyne (2016) examined partner phubbing among dating and married couples and found evidence that partner phubbing predicted conflict and relationship dissatisfaction and ultimately drives emotional distance. The impacts of phubbing behaviors extend beyond romantic partners. Furthermore, interactions surrounding phubbing can negatively impact social confidence, self-worth, and value in subsequent experiences as disconnects unfold in universities, work and family settings. As smartphone usage continues to rise, understanding the psychosocial consequences of phubbing becomes essential. While previous research has mostly focused on relationship satisfaction or conflict, there is a growing interest in how phubbing contributes to broader emotional outcomes such as loneliness and psychological distress (Błachnio et al., 2021). Given the role of real-time human interaction in emotional well-being, phubbing may serve as a subtle but significant trigger for loneliness.

Loneliness

Loneliness is a subjective experience of isolation that arises when there are differences between desired and actual social relationships (Perlman & Peplau, 1981). It is an emotional state that is prevalent among young adults, particularly in a time of technological fullness, where the opportunities for face-to-face interactions are limited. Loneliness is not solely being alone; it involves a perceived sense of lack of connection, or sense of belonging to a social group.

Chronic loneliness is linked to various psychological and physiologic issues, including depression, anxiety, self-esteem, and even cognitive decline (Hawkley & Cacioppo, 2010). In the technological age, online connection can contribute to feelings of loneliness, which may seem contradictory to the experience of connection. Negative, real-life social experiences, may be worsened by phubbing (present but missing) when it reminds them of the feeling of being alone, even in social contexts, when being ignored.

Research has identified a relationship between neglect in social contexts and feelings of loneliness. When people are excluded from social interactions, either directly or indirectly, they are more likely to report feelings of being lonely and feelings of emotional disconnection (Nowland et al., 2018). Because phubbing represents a modern-day risk factor of social exclusion, young adults who value attention, or inclusion from social groups, may find themselves more likely exposed to loneliness.

Furthermore, loneliness itself is cyclical, as those who feel lonely tend to reduce social behavior, which only worsens the condition. In young adults' lives, specifically, who are developmentally predisposed to form truly meaningful peer

relationships, the rejection involved in phubbing may be even more harmful (Allen et al., 2014). Therefore, examining the emotional consequences of being phubbed may have the potential to shed light on potential ways to understand loneliness in young adults and lessen the concern.

Self-Esteem

Self-esteem refers to an overall subjective evaluation of one's worth and competence (Rosenberg, 1965). People with high self-esteem tend to have an overall positive evaluation of themselves and may be more resilient in social stressors (Rosenberg, 1965), while people with low self-esteem may have greater sensitivity to perceived rejection or exclusion through phubbing during conversation.

Research suggests self-esteem moderates the consequence of negative social experiences; for instance, people with high self-esteem are less likely to internalize rejection and are more likely to maintain their psychological well-being under interpersonal strain (Leary & Baumeister, 2000). It is possible self-esteem could moderate the detrimental effects of phubbing, creating an emotional buffer from the consequences of loneliness and social anxiety.

Conversely, people with lower levels of self-esteem may show greater sensitivity to the meaning of being ignored or excluded. For a person with low self-esteem, phubbing, which communicates disconnection and no interest, may be interpreted as social evidence of the individual's low social value, thus escalating feelings of loneliness (Koban et al., 2019). In this way, self-esteem affects not only the person's interpretations of social cues but also the person's emotional change associated with them.

Understanding self-esteem's moderating influence is necessary for formulating interventions aimed at particular people in prevention programs, by, bundling self-esteem development elements together to help vulnerable people cope with cyber rejection. This emphasizes the role of individual differences as an important moderating variable affecting the context of and psychological effect of technologically mediated sociability.

Literature Review

Phubbing, an acronym for phone snubbing, is characterized by ignoring someone while on your smartphone in social situations (Chotpitayasunondh & Douglas, 2018). As our reliance on smartphones increases during social interactions, phubbing behavior has become a nuanced form of social behavior, with significant but often imperceptible consequences. It can interfere with personal relationships and has negative psychological effects, especially in adolescents and young adults (Roberts & David, 2016).

One of the many negative outcomes associated with phubbing behavior is the impact it can have on self-esteem. If an individual is ignored or snubbed repeatedly in favor of a digital device, they may start to internalize these experiences as feelings of rejection and insignificance. Over time, these repeated experiences can actually erode a person's self-image (Leary & Baumeister, 2000). Błachnio et al. (2021) found associations between overutilization of social media and lower self-esteem, and activities such as phubbing and lower life satisfaction related to excessive concern about managing their online presence and getting feedback.

Phubbing (the experience of being phubbed) can be detrimental to an emotionally important relationship, namely romantic or significant friendships. McDaniel and Coyne (2016) developed the term "technoference" to discuss the interruptions in relationships due to the use of technology. Their data on technoference showed that distractions related to technology often yield conflict,

dissatisfaction, and lower well-being in close relationships. In this light, phubbing is not simply a distraction, but a behavioural pattern that can alter a person's view of self-worth and trust in others.

Loneliness functions as an important moderating variable in this relationship. Those who experience loneliness may be especially susceptible to the impact of being phubbed. Perlman and Peplau (1981) defined loneliness as a perceived discrepancy between desired and actual social relationships. When lonely people are phubbed, it may reinforce their exclusion from social relationships and enhance their emotional isolation (Hawkley & Cacioppo, 2010), which may interfere with the impact of phubbing on their self-esteem.6

Furthermore, digital behavioral patterns of social comparison and excessive reliance on virtual engagement may also contribute to feelings of loneliness and a negative self-concept. Notably, Nowland, Necka, and Cacioppo (2018) pointed out that while some people utilize the internet to ease the effects of loneliness, passive and excessive use can exacerbate it. In such scenarios, phubbing can be a cause of loneliness, but might equally be circumstantial and symptomatic within a broken loop of social disconnection. The perpetuation of phubbing as a habit, on the other hand, may also and instead indicate or represent a much larger disconnection from meaningful offline social interactions (Koban et al., 2019).

Curiously, some studies have indicated that not all social media engagement is a detriment. Allen et al. (2014) stated that when digital engagement is constructive, digital technology can promote social connectedness. However, digital habits that impact face-to-face engagement, such as phubbing, rupture emotional attunement in the moment, which is of particular importance to vulnerable populations, such as adolescents. Ultimately, context and what a person intends to do with their smartphone, combined with what psychosocial resources they possess (e.g. resilience, or face-to-face emotional support), were relevant in considering whether smartphone engagement would be helpful or harmful.

In summary, phubbing behavior can have a serious effect on a person's self-esteem, especially when loneliness is taken into account. The repeated feeling of being rejected can impact an individual's self-identity and self-esteem, and especially when an individual is already experiencing a disconnection from others. As our dependency on technology continues to fuse with our daily interactions, the influence of limitations on physical interactions, initiated by phubbing behavior, must be explored to aid in helping individuals foster better and healthier relationships along with their psychological well-being.

Research Methodology

Purpose

The main purpose of the current study is to examine the relationship between phubbing behavior and self-esteem among university students. The study aims to examine how excessive use of smartphones in face-to-face interpersonal relationships (phubbing) can negatively impact individuals' perception of self-identity and self-esteem. The secondary purpose of the study is to assess the moderating effect that loneliness has on this relationship. Specifically, the study aims to determine whether higher levels of loneliness would exacerbate the negative impact of phubbing on self-identity and self-esteem.

Hypotheses

Drawing from theoretical frameworks and prior empirical research, the following hypotheses were proposed:

H1: There will be a significantly negative association between phubbing behavior and self-esteem in young adults.

H2: Phubbing behavior has a considerable effect on loneliness in young adults.

H3: Loneliness will moderate the relationship between phubbing and self-esteem such that the negative relationship of phubbing with self-esteem will be stronger among individuals with greater loneliness.

Instruments

Phubbing Behavior Scale

Phubbing behavior was assessed with the Phubbing Scale developed by Chotpitayasunondh and Douglas (2018) that assesses frequency of phone use during social interactions in terms of perceived distraction and avoidance in a 9-item scale. Participants rated each item on a 5-point Likert scale from 1 (never) to 5 (always). The scale has good internal consistency and construct validity in both Eastern and Western populations ($\alpha > .80$).

Rosenberg Self-Esteem Scale

Self-esteem was measured using the Rosenberg Self-Esteem Scale (RSES) created by Rosenberg (1965). The RSES is a 10-item scale that is widely used to measure global self-worth by measuring both positive and negative feelings about the self. Each of the 10 items is rated on a 4-point Likert scale where 1 = strongly disagree and 4 = strongly agree. Higher scores indicate higher self-esteem. The RSES has demonstrated high internal reliability for a variety of populations ($\alpha = .85 – .88$) and is considered a gold standard for studies of self-esteem.

UCLA Loneliness Scale

Loneliness was reported out of the UCLA Loneliness Scale Version 3, created by Russell (1996). This 20-item instrument measures feelings of loneliness and social isolation. Participants choose from a 4-point Likert scale where 1 = never and 4 = often. Higher scores indicate more perceived loneliness. The UCLA Loneliness Scale has excellent reliability ($\alpha > .90$) and has been used extensively in populations of adolescents and adults.

Results

Table 1

Descriptive Properties of the Study Sample (N=350)

Sample Data		n	%
Age			
	18-25	184	53
	26-34	166	47
Gender			
	Men	205	60
	Women	145	40
Family Structure			
	Joint	165	46.66
	Nuclear	185	53.33
Residential area			
	Rural	181	52
	Urban	169	48

The current study had a sample of 350 participants where the majority of the demographic (53%) were aged between 18-25 years with the remaining 47% aged 26-34 years of age. The demographic also consisted of 60% male and 40% female respondents. In terms of family structure, 53.33% had a nuclear family while 46.66% have a joint family. The demographic also reflected 52% rural participants and 48% urban participants. The variety of demographic data increased the representativeness of the study and generalizability of the results.

Table 2

Descriptive Properties of all the Scales (N=350)

Scales	k	M	SD	Range		Skew	Kurt
				Actual	Potential		
PS	9	14.56	6.23	9-43	9-45	.43	.51
RSES	10	16.45	5.43	15-38	10-40	.41	.51
UCLA-LS	20	56.57	7.32	28-75	20-80	.76	.65

Note: PS=Phubbing Scale; RSES= Rosenberg Self-esteem Scale; USLA- Loneliness Scale

Descriptive statistics for the three psychological measures included in the study, Phubbing Scale (PS), Rosenberg Self-Esteem Scale (RSES), and UCLA Loneliness Scale (UCLA-LS) are summarized in Table 2. Each measure is presented in terms of the number of items, means and standard deviations of scores, actual and potential score ranges and distributional details (skewness and kurtosis). The actual score ranges fell within their respective potential score ranges, meaning the instruments were functioning as intended. Additionally, the skewness and kurtosis values for all three measures were acceptable, meaning the data indicated approximately normal distribution. These results confirmed the appropriateness of the selected instruments for this sample.

Table 3

Correlation matrix between Study Variables (N=350)

Variables	1	2	3
PS	-		
RSES	-.39 **	-	
UCLA-LS	. 44**	-.48**	-

Note: PS=Phubbing Scale; RSES= Rosenberg Self-esteem Scale; USLA- Loneliness Scale

Table 3 displays the correlation matrix of the key study variables, including phubbing behavior, self-esteem, and loneliness. The data show a negative correlation between phubbing and self-esteem, which indicates that the more that individuals choose to phub in their own lives, the more negatively those individuals describe their self-esteem. There is a positive correlation between phubbing and loneliness, which indicates that more phubbing behaviors are going to relate to more report of loneliness. The table also reflects a negative correlation between self-esteem and loneliness, indicating that individuals with higher self-esteem likely experience lower levels of loneliness.All correlations were significant and fit with the proposed theoretical framework of the study.

Table 4

Regression Coefficients of Independent Variables on Dependent Variable (Self-esteem)

Variables	B	SE	t	p	95%CL
Constant	24.56	7.9	3.11	.00	11.56–37.56
PS	-4.34	1.02	-4.25	.00	-6.34 – -2.34
UCL-LS	-2.34	.85	-2.75	.01	-4.01- -.67

Note: PS=Phubbing Scale; USLA- Loneliness Scale

Table 4 summarizes the multiple regression analysis results for the study on the predictive role of phubbing behavior and loneliness on self-esteem. The regression model has two independent variables (phubbing behavior (PS), loneliness (UCLA-LS)), and one dependent variable (self-esteem). The results suggest that phubbing and loneliness appear to predict levels of self-esteem. The model indicates that higher reports of phubbing and lower reports of loneliness were predictive of lower self-esteem levels. This suggests that greater awareness of phone-related social disconnection and feelings of social isolation may contribute to some adolescents' perception of diminished self-worth. These components of the model allow us to help shape intervention strategies that, aimed at improving adolescents' psychological well-being, address phubbing and loneliness.

Table 5

Moderating Role of loneliness between Phubbing Behavior and Self-esteeem(N=350)

	95% CI		
	B	*LL*	*UL*
Constant	28.76***	13.49	44.03
Phubbing Behavior	- .28***	-.35	-.21
Loneliness	-.12***	-.02	-.04
Phubbing Behavior * Loneliness	.05*	.01	.09
R²	.46***		
ΔR²	.07*		
F	181.03***		

*Note: *p<.05; ***p< .001*

Table 5 shows the result of the moderation analysis that looked at loneliness as a moderating variable examining phubbing behaviour's relationship with self-esteem. Consistent with previous research, both phubbing behaviour and loneliness were significant predictors of self-esteem. Additionally, the moderation model found that phubbing impacts self-esteem differently given the different levels of loneliness. The model explained a substantial amount of variance in self-esteem and the change in R^2 due to the interaction term was significant. The results suggest that loneliness amplifies the detrimental relationship between phubbing and self-esteem, illustrating that the other interpersonal emotional influences need to be considered when investigating the psychological implications of digital behaviors.

Discussion

The current study examined the relationships between phubbing, self-esteem, and loneliness among young adults, as well as tested whether loneliness moderated the relationship between phubbing and self-esteem. The results provide important

contributions to the growing literature about the psychosocial effects of how we use mobile phones, especially as it relates to interpersonal neglect and digital social interactions.

Consistent with Hypothesis 1, the results indicated that phubbing behavior was significantly negatively related to self-esteem, such that greater phubbing was associated with lower self-esteem among young adults. This finding is consistent with the previous research that described how people who are phubbed, or individuals who phub others, report feelings of disconnection and being socially undervalued which ultimately lowers self-esteem (Roberts & David, 2016; David & Roberts, 2021). Frequent neglect when with other people in face-to-face situations (specifically looking at a smartphone) can lead people to believe they are less than the device, which ultimately can reinforce negative self-evaluations (Al-Saggaf & O'Donnell, 2019).

Hypothesis 2 was confirmed, as results indicated that individuals who engaged in phubbing behavior experienced higher levels of loneliness. This is consistent with past research, which has indicated that phubbing interferes with the ability to have meaningful interpersonal communication, replacing wewnorship or meaningful social interactions with superficial or non-existent meaningful ones (Koban et al., 2019; Kircaburun et al., 2020). When individuals engage with others in a virtual format, they are missing the opportunities to achieve emotional closeness through all of the physical cues and interactions found in face-to-face conversation. Use of technology as a replacement for real-life social interaction in this way limits the opportunities for emotional attachment which promotes the experience of closeness or intimacy in an interaction (Błachnio et al., 2021). This is especially concerning for young adults who are in a developmental stage where they are trying to find a sense of belonging with adults or individuals, which may also be linked to aversion to a positive social experience (Nowland et al., 2018).

The regression analysis also supported the outcome, which showed that both phubbing and loneliness act as individual predictors of self-esteem. High levels of both phubbing and loneliness resulted in significantly lower self-esteem. This suggests that these variables are not necessarily related to each other, instead they are both factors in developing an individual's judgements of themselves. This seems to indicate that the effects of these variables are compounded, so that phubbing leads to loneliness, which instills low self-esteem, which results in possible withdrawal from social interaction or increased compensating online behaviors (Servidio et al., 2021).

The moderation analysis (Hypothesis 3) showed that loneliness significantly moderated the relationship between phubbing and self-esteem. Specifically, the negative effect of phubbing on self-esteem held stronger for those who were lonely. This is consistent with sociometer theory of self-esteem (Leary & Baumeister, 2000), which posits that self-esteem reflects one's perceived social belongingness. To the individuals already experiencing social isolation, being phubbed or phubbing someone else may lead to greater levels of rejection and inadequacy, thus worsening their self-image (Hawkley & Cacioppo, 2010).

In addition, this interaction effect can be contextualized using compensatory internet use theory, which posits that individuals in emotional distress (i.e., loneliness) may resort to social media to satisfy their unmet social needs (Elhai et al., 2017). Ironically, this coping mechanism may facilitate an excessive use of phones that results in phubbing someone else or being phubbed by someone else and may perpetuate the loneliness and low self-esteem it was intended to address.

Interestingly, the findings from this study also corroborate trends evident in recent studies across cultural contexts. For instance, Xie et al. (2023) found that Chinese university students who experienced phubbing also suffered greater levels of loneliness and depressive symptoms when their social support was lower. Similarly, Demirci et al. (2020) indicated phubbing was an important predictor of psychological distress in Turkish adolescents, suggesting its importance across cultures and contexts. The present findings have important implications for mental health programs and digital awareness programs. It is now necessary for educators, support workers, and parents to raise awareness of the potential psychological impact of phubbing, mindful technology use, and healthy offline social engagement. Improving social skills, assertive communication, and emotions management through programs to assist young adults with real-world connections may help to lessen the impact of excessive phone use.

In conclusion, this study supports the view that phubbing is not only an irritating behavior, but a substantial psychosocial phenomenon, with quantifiable effects on self-esteem and loneliness. Future studies should utilize longitudinal designs to test for causality, and qualitative methods to investigate the lived experiences of individuals impacted by phubbing. Interventions based on positive psychology and self-compassion training could also be examined as protective factors to mitigate negative psychological sequelae from phubbing for at-risk populations.

Conclusion

This study examined the complicated dynamics between phubbing behavior, self-esteem and loneliness in young adults. The results suggest that greater engagement in phubbing behavior leads to significantly lower self-esteem and higher loneliness. In addition, loneliness served as a moderator between phubbing and self-esteem, amplifying the negative effects of phubbing. Overall, these results are consistent with the current literature showing that too much smartphone use and the distraction of technology may harm our emotional and interpersonal connections (Roberts & David, 2016; Hawkley & Cacioppo, 2010). Herein, we highlight and alert readers to additional psychological concerns in the age of technology. Phubbing behavior is an important start to talking about a legitimate social and mental health issue.

Limitations

The current study provides useful insights, but there are some limitations. The cross-sectional design used in the present study restricts our ability to infer causation between constructs. The use of self-report measures may have induced response bias or social desirability effects, while the sample was confined to university students, and therefore, this may not represent a broader population of young people from diverse backgrounds, or with varied educational statuses. Future studies should conduct longitudinal studies, utilize more diverse samples across age and cultural perspectives, and draw on qualitative methodologies to explore deeper understandings of what it means to phub and the psychological ramifications.

Recommendations

Based on the results of the current study, it is also recommended that awareness programs be developed within academic settings to educate young adults on the detrimental impacts of phubbing on their mental health and relationships. Programs could include workshops focusing on digital mindfulness, communication skills, and emotional intelligence, and the aim of empowering individuals to rationalize smartphone use. Mental health professionals may evaluate phubbing within their assessments, particularly with clients exhibiting low self-esteem or social withdrawal.

Furthermore, psycho-educational modules may be implemented into university curriculum in an effort to foster healthier digital habits and social functioning.

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