

Social Networking Use and Psychological Well-Being in University Students: The Mediating Role of Need Frustration in Basic Psychological Need Satisfaction

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Abstract: The study investigates the university students' psychological experiences of social networking site (SNS) use, as it has become more common in recent times. In this study, we situate ourselves within the theoretical approach of the Self-Determination Theory and have as an object of study the indirect effect of the use of SNS on psychological needs' satisfaction held by the intermediate variable of needs' frustration. The data were collected from 270 undergraduate students with the use of two psychometric instruments, namely the Social Media Use Scale and the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS). Results revealed that increased use of the SNS is positively related to an increased need frustration, which is in turn negatively related to an increased satisfaction with all three dimensions of the SCARF (autonomy, competence, and relatedness). The implications of these insights are important for understanding motivational vulnerabilities in digital settings, especially of emerging adults in academic settings.

Key Words: Social Networking Sites Need Frustration, Basic Psychological Needs, Self-Determination Theory, University Students, Psychological Well-Being

Introduction

The theme of creativity encompasses all subjects; the same with social media and social networking websites. All of us think that in the era of the 21st century, creativity is key to development, and it should be taught in school and at other levels. Through creative students, our nation can build up to their bright future (Kamran et al., 2022; Arooj et al., 2021; Kamran et al., 2017). Social networking sites (SNSs) are an important part of students' social and academic experience. These sites provide a place to connect with others socially, express oneself, and share information, but emerging evidence shows that excessive and/or unregulated use of SNSs can have a negative psychological impact, especially amongst young adults in higher education (Beyens et al., 2020; Keles et al., 2020). These impacts are typically through dysfunction in some of the essential psychological processes, including thwarting of basic psychological needs for autonomy, competence, and relatedness (Ryan & Deci, 2017). Psychological well-being depends on achieving some level of satisfaction with the three basic psychological needs (Deci & Ryan, 2000) as proposed by Self-Determination Theory (SDT). However, need frustration arises when the environment or behaviors violate these needs, and can take the form of three aversive states: Active thwarting of the need for autonomy (feeling controlled); Active thwarting of the need for competence (feeling ineffective); Active thwarting of the need for relatedness (feeling rejected, isolated). According to recent adaptations of SDT, need frustration is a construct that does not necessarily equate with "lack of need satisfaction" but has further motivational implications with greater predictive power regarding psychological distress and maladaptive behavior outcomes (Bartholomew et al., 2011; Chen et al., 2015).

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Literature Review

Social Networking and Psychological Functioning

Studies of social media use and its effects on the psychological aspects are inconclusive. Some research focuses on the positive role of being online (Sheldon et al., [2021](#)); some research focuses on the negative of being online (Huang, [2022](#); Keles et al., [2020](#)). A large portion of these harmful ramifications is the result of a combination of psychological (social comparison, emotional regulation and inability to interact offline) as well as physical effects (Frison & Eggermont, [2016](#)). Fewer studies, however, have focused on the possible disruptions in the satisfaction of psychological needs, which play an important role in well-being in the SDT model.

Need Frustration as a Psychological Mechanism

In order to have a scale to capture both positive and negative dimensions of need experiences, the Basic Psychological Needs Satisfaction and Frustration Scale (BPNSFS) was introduced by Chen et al. ([2015](#)). Frustration measured by BPNSFS has been linked to higher levels of psychological distress, emotional dysregulation and burnout in educational and work settings. The positive association between social media overuse self-esteem and need frustration and the latter's prediction of lower life satisfaction and higher emotional exhaustion were demonstrated by Lukács and Barkóczy ([2021](#)). Frustrations are a strong intervening variable through which contextual and behavioral variables (such as digital behaviors) impact on the psychological functioning. Student frustration, in terms of SNSs, can result in a feeling of lack of autonomy due to compulsion of digital behavior and lack of competence when comparing themselves passively to others and lack of relatedness when the interaction is superficial or not reciprocal (Liu et al., [2020](#)).

SNS Use and Need Frustration in University Students

Being a young adult in a university context is especially at risk from digital stressors related to the developmentally salient issues of identity formation, academic performance, and peer affiliation. Prior research has shown that problematic SNS use is linked to decreased motivation, lower educational involvement, and increased emotional disturbance, which often acts as a mediator between use of SNS and reduced motivation (Servidio, [2019](#)). But empirical evidence is still sparse on the role played by need frustration as a mechanism linking SNS use to reduction in well-being for this population.

Rationale and Hypotheses

Based on SDT and the model of the BPNSFS, this current research anticipates that use of SNS would have a positive effect on psychological need frustration in turn leading to lower levels of psychological need satisfaction. We make these hypotheses:

- **H1:** There is a positive relationship between basic psychological needs and frustration and the use of social networking.
- **H2:** There is a negative correlation between basic psychological need frustration and psychological need satisfaction.
- **H3:** Need frustration is proposed to mediate the relationship between social networking use and need satisfaction.

This study adds to the literature by providing an empirical and theoretically underpinned explanation of the impact SNS engagement has on psychological functioning, and implications for digital well-being interventions with university students.

Method

Research Design

The design of this study was cross sectional correlational with survey approach. The general purpose was to investigate a mediation model that SNS use and PSNS was mediated by the frustration of basic psychological needs (BPNF).

Participants

A total sample population of 270 students (110 males and 160 females) from different public universities of Multan city Pakistan were selected that are engaged in Undergraduate and Post graduate Programs. Participants were aged between



18 and 28 years ($M = 22.3$, $SD = 2.4$). There were a majority (55.6%) who were unmarried and 44.4% married. The target population consisted of some of the active SNs users who regularly use the internet for academic purpose and this was achieved through purposive sampling method.

Measures

Social Media Use Scale (SMUS): A 17-item scale created by Tuck and Thompson (2024) measures nuanced patterns of social media use across four distinct validated subscales of social media use: Image Based, Comparison Based, Belief Based, and Consumption Based. The items are scored on a 9-point Likert scale (1 = Never, 9 = Hourly or more), tapping everyday actions like content sharing, social comparison, and otherwise. The internal consistency of the scale was high in the current sample ($\alpha = .89$) and it was appropriate for the use with students in the university.

Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS): which was originally developed by Chen et al. (2015) and adapted in the Turkish language by Selvi and Bozo (2020), measures six subdomains: satisfaction (autonomy, competence, relatedness) and frustration (autonomy, competence, relatedness). The internal consistency was $\alpha = .74$ to .84 across subscales.

Procedure

The participants were selected during visits at universities and represented by online. Informational consent was provided, and questionnaires were sent out either in print or on secure online forms. All participation was anonymous and on a voluntary basis. The study was in line with the ethical considerations of the institution.

Data Analysis

SPSS v25 and PROCESS macro (Model 4) were used for analyzing the data and testing mediation effects. Descriptive statistics and bivariate correlations were done. Independent-sample t-tests were taken to test gender difference and marital status difference. A p value cut-off of .05 was used throughout.

Results

Table 1

Demographic Characteristics of the Participants ($N = 270$)

Variable	Frequency	Percentage (%)
Gender		
Male	110	40.7
Female	160	59.3
Age Group		
18–21 years	120	44.4
22–25 years	130	48.1
26–28 years	20	7.4
Marital Status		
Married	120	44.4
Unmarried	150	55.6

The demographic characteristics of the sample is shown in Table 1. Finally, 270 students were included in the data set. The sample comprised 110 male (40.7%) and 160 female (59.3%) participants. Age was categorized into three groups: 18–21 years (44.4%), 22–25 years (48.1%), and 26–28 years (7.4%). According to marital status, 150 subjects (55.6%) were unmarried, and 120 subjects (44.4%) were married.

Table 2

Pearson Correlations among Study Variables

S#	Variable	1	2	3
1	Social Networking Usage	1		
2	Frustration Intolerance	.41**	1	
3	Basic Psychological Needs	-.34**	-.44**	1

Note: * $p < .05$, ** $p < .01$



Bivariate correlations are given in Table 2. SNS usage was positively related to frustration intolerance ($r = .41, p < .01$) and negatively related to psychological need satisfaction ($r = -.34, p < .01$). Also being negatively correlated with basic needs ($r = -.44, p < .01$), frustration intolerance provided further support for the proposed mediation pathway.

Table 3

Mediation Analysis (Direct and Indirect Effects)

Pathway	B	SE	t	p	95% CI
SNS Usage → Frustration Intolerance	0.62	0.10	6.20	<.001	[0.42, 0.82]
Frustration Intolerance → BPN	-0.71	0.08	-8.88	<.001	[-0.86, -0.56]
SNS Usage → BPN (Direct effect)	-0.26	0.09	-2.89	.004	[-0.43, -0.09]
SNS Usage → BPN (Indirect effect via FI)	-0.44	0.07			[-0.58, -0.31]

Note: * $p < .05$; BPNS = Basic Psychological Need Satisfaction, BPNF = Basic Psychological Need Frustration, SMUS = Social Media Use

Table 3 presents the mediation analysis results using Hayes' PROCESS Model 4. The path from social networking usage to frustration intolerance was statistically significant ($B = 0.62, p < .001$), indicating that greater SNS usage predicts increased frustration intolerance. In turn, frustration intolerance significantly predicted lower basic psychological need satisfaction ($B = -0.71, p < .001$). The direct effect of SNS usage on basic psychological needs remained significant ($B = -0.26, p = .004$), indicating partial mediation. Additionally, the indirect effect of SNS usage on need satisfaction via frustration intolerance was significant ($B = -0.44, 95\% \text{ CI } [-0.58, -0.31]$), as the confidence interval did not include zero, supporting the mediating role of frustration intolerance.

Table 4

Mean Comparisons Based on Marital Status

Variable	Marital Status	N	M	SD	t	p
Basic Psychological Needs	Married	120	38.16	8.20	-4.21	.00
	Unmarried	150	42.23	7.68		
Basic Psychological Need Frustration	Married	120	35.01	5.95	-1.22	.22
	Unmarried	150	35.98	6.00		
Social Media Use	Married	120	73.93	23.60	1.96	.04
	Unmarried	150	68.11	24.13		

Note: * $p < .05$; BPNS = Basic Psychological Need Satisfaction, BPNF = Basic Psychological Need Frustration, SMUS = Social Media Use, M = Mean, SD = Standard Deviation.

Independent-sample t-tests were conducted to explore differences in study variables based on marital status. Significant differences were found between social media use and need satisfaction. Married students scored higher on SNS usage ($M = 73.93$) than unmarried students ($M = 68.11$), $t(268) = 1.96, p = .04$. Unmarried students reported higher need satisfaction ($M = 42.23$) than married students ($M = 38.16$), $t(268) = -4.21, p < .001$. No significant difference was found in need frustration ($p = .22$).

Figure 1

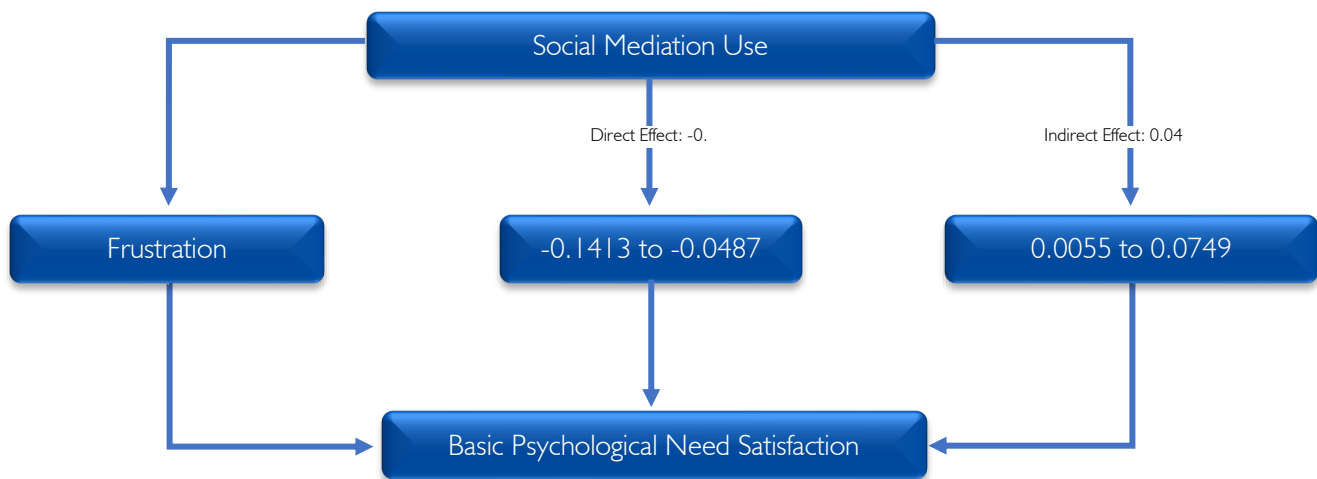
Conceptual Framework of the Study



This figure illustrates the hypothesized model based on the Self-Determination Theory. Social Networking Site (SNS) use is posited to influence Basic Psychological Need Satisfaction through the mediating role of Need Frustration.

Figure 2

Mediation Model with Standardized Path Coefficients



This figure displays the tested mediation model with standardized regression coefficients obtained via PROCESS Model 4. It shows that SNS Use positively predicts Need Frustration, which negatively predicts Need Satisfaction, indicating partial mediation.

Discussion

The present study intended to examine the mediating effect of basic psychological need (BPN) frustration in the association of social networking site (SNS) use and the psychological need satisfaction among university students. Based on Self-Determination Theory (SDT), findings suggest that the hypothesis is supported, which means that higher engagement with SNS platforms is related to the higher frustration of need for autonomy, competence, and relatedness and ultimately leads to lower overall need satisfaction. The relation between social media use and need frustration is positive and compatible with previous research which showed that high social media usage propels a digital scale with low levels of competence and autonomy and social disconnection felt by the user (Lukács & Barkóczi, [2021](#); Servidio, [2019](#)). Whereas these platforms seem to enable one to connect with others, what they actually promote is potentially social comparisons, passive consumption, and algorithmic content exposure, all of which have been linked to thwarted three basic psychological needs in SDT (Ryan & Deci, [2017](#)), could ultimately lead to poor well-being. Thus the finding of need frustration partially mediated the relationship between the use of SNS and need satisfaction, indicating the two sides of SNS use. SNS can be used to engage, express and support, but it can be used to block self-determination, thereby reducing psychological resilience, through their content and interactions. One of the meditations made in this study differs from that of Chen et al. ([2015](#)), because the absence of need satisfaction does not necessarily equate with the presence of need frustration, but rather this absence is another construct that can lead to occurrence of maladaptive consequences.

Furthermore, some evidence of demographic analysis was found that the unmarried students stated high need satisfaction whereas the married students reported high SNS use. The finding indicates that there may be differences in motivational orientation or in ways of regulating stress. Single students may have more opportunities to satisfy the need for real-life social and autonomy connections, and married students may maintain more extensive networks through SNS or manage multiple roles (student and spouse) which may lead to decreased need-satisfaction. The results will be very important for the design of well-being interventions in the digital space in universities. Change of SNS overuse might not be enough, change of emotional regulation and change of need-supportive environments students is/are

embedded in, should be changed as well. Offline activation programs have an impact on digitality and tolerance of not meeting one's needs/frustrations, which could counteract the potential negative psychological consequences that come with need and frustration in the digital world.

Conclusion

This study contributes towards understanding the effects of digital behaviors, especially social networking on psychological functioning from a need frustration perspective. It provides empirical evidence of the relevance of alienation (need frustration) as a mechanism linking the use of social media and reduced satisfaction with autonomy, competence and relatedness in the university. The study emphasizes the need to conceptualize digital wellness in relation to a comprehensive, theory-based perspective where SNS use is considered in the context of motivation and emotions. By those who educate at a university as well as by mental health workers and policy makers, the qualitative impact of being digitally involved among others must be understood. Future studies should continue the present study's results, using a longitudinal design, combined with objective digital tracking, and with the addition of more cultural or individual difference moderators (e.g., self-regulation, academic pressure and offline support systems). In today's constantly evolving digital landscape, opinions about the psychological impact of digital environments and the broader notion of learning in digital environments must also shift, but not necessarily in alarmist ways, in evidence-based manners, and through student inquiry.

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