

## 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:** In response to the growing reliance on digital platforms among university students, this study explores the psychological consequences of social networking site (SNS) engagement. Anchored in Self-Determination Theory, the research examines the indirect impact of SNS usage on psychological need satisfaction via the mediating role of need frustration. Data were gathered from 270 undergraduate students using two psychometric tools: the Social Media Use Scale and the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS). Findings from mediation analysis indicate that increased SNS use is linked to elevated need frustration, which subsequently diminishes satisfaction across autonomy, competence, and relatedness domains. These insights offer valuable implications for understanding the motivational vulnerabilities that arise in digital contexts, particularly among emerging adults in academic settings.

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

### Introduction

Creativity is a topic which covers all subjects, and the same goes for social media and social networking sites. We all believe that creativity is the heart of development in the 21<sup>st</sup> century, and it should be taught at school and 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) have become an integral component of students' social and academic lives. While these platforms offer avenues for social connection, self-expression, and information sharing, emerging evidence indicates that excessive or unregulated engagement with SNSs can exert negative psychological effects, particularly among young adults in higher education (Beyens et al., [2020](#); Keles et al., [2020](#)). These effects are often mediated through disruptions in key psychological processes, such as the satisfaction of basic psychological needs for autonomy, competence, and relatedness, as posited by the Self-Determination Theory (Ryan & Deci, [2017](#)). According to SDT, psychological well-being is contingent upon the extent to which individuals experience satisfaction with their basic psychological needs (Deci & Ryan, [2000](#)). When environmental or behavioural factors undermine these needs, individuals may experience need frustration—an aversive state characterized by the active thwarting of autonomy (feeling controlled), competence (feeling ineffective), and relatedness (feeling rejected or isolated). Recent extensions of SDT emphasize that need frustration is not merely the absence of need satisfaction but a distinct construct with stronger predictive power for psychological distress and maladaptive outcomes (Bartholomew et al., [2011](#); Chen et al., [2015](#)).

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## Literature Review

### Social Networking and Psychological Functioning

Research on the psychological impact of social media use has yielded mixed findings. While some studies highlight the benefits of online connectivity (Sheldon et al., [2021](#)), others underscore its association with depression, anxiety, and loneliness (Huang, [2022](#); Keles et al., [2020](#)). These adverse outcomes are often mediated by psychological mechanisms such as social comparison, emotional dysregulation, and reduced offline engagement (Frison & Eggermont, [2016](#)). However, relatively less attention has been paid to how SNS usage may disrupt the satisfaction of psychological needs, a critical determinant of well-being within the SDT framework.

### Need Frustration as a Psychological Mechanism

Chen et al. ([2015](#)) introduced the Basic Psychological Needs Satisfaction and Frustration Scale (BPNSFS) to capture the positive and negative dimensions of need experiences. Need frustration, as measured by the BPNSFS, has been associated with increased psychological distress, emotional dysregulation, and burnout in academic and occupational contexts. Lukács and Barkóczy ([2021](#)) found that overuse of social media was positively associated with need frustration, which predicted lower life satisfaction and greater emotional exhaustion. Need frustration is a powerful mediating mechanism by which contextual and behavioural variables—including digital behaviours—affect psychological functioning. In the context of SNSs, frustration may arise when students perceive their autonomy to be undermined by compulsive digital habits, their competence eroded by passive comparison, and their relatedness thwarted by superficial or nonreciprocal interactions (Liu et al., [2020](#)).

### SNS Use and Need Frustration in University Students

Young adults in university settings are particularly vulnerable to digital stressors due to the developmental salience of identity formation, academic performance, and peer affiliation. Existing studies have demonstrated that problematic SNS use is associated with reduced motivation, lower academic engagement, and heightened emotional distress, often mediated by motivational impairments (Servidio, [2019](#)). Yet, empirical evidence remains limited regarding the specific role of need frustration as a mechanism linking SNS use to diminished well-being in this population.

### Rationale and Hypotheses

Building on SDT and the BPNSFS model, the current study hypothesizes that SNS usage contributes to basic psychological need frustration, which in turn leads to lower psychological need satisfaction. We propose the following hypotheses:

- ▶ **H1:** Social networking usage is positively associated with basic psychological needs and frustration.
- ▶ **H2:** Basic psychological need frustration is negatively associated with psychological need satisfaction.
- ▶ **H3:** Need frustration mediates the relationship between social networking use and need satisfaction.

This study contributes to the literature by offering an empirically supported, theoretically grounded explanation of how SNS engagement impacts psychological functioning, with implications for digital well-being interventions among university students.

## Method

### Research Design

This study employed a cross-sectional, correlational design using survey methodology. The primary objective was to test a mediation model in which basic psychological need frustration mediates the relationship between social networking site (SNS) usage and psychological need satisfaction among university students.

### Participants

The sample comprised 270 university students (110 males and 160 females) enrolled in undergraduate and postgraduate programs at public institutions in Multan, Pakistan. Participants were aged between 18 and 28 years ( $M = 22.3$ ,  $SD = 2.4$ ). The majority (55.6%) were unmarried, while 44.4% were married. A purposive sampling strategy was employed to ensure the inclusion of active SNS users with routine academic internet use.



## Measures

**Social Media Use Scale (SMUS):** This 17-item instrument developed by Tuck and Thompson (2024) measures nuanced patterns of social media engagement across four validated subscales: Image-Based, Comparison-Based, Belief-Based, and Consumption-Based use. Items are rated on a 9-point Likert scale (1 = Never, 9 = Hourly or more), capturing daily behaviours such as content sharing, social comparison, and viewing habits. The scale demonstrated strong internal consistency in the present sample ( $\alpha = .89$ ) and was suitable for use with university students.

**Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS):** Originally introduced by Chen et al. (2015) and adapted in Turkish by Selvi and Bozo (2020), this 24-item tool assesses six subdomains: satisfaction (autonomy, competence, relatedness) and frustration (autonomy, competence, relatedness). Internal consistency ranged from  $\alpha = .74$  to  $.84$  across subscales.

## Procedure

Participants were recruited via university classroom visits and digital outreach. After informed consent was obtained, questionnaires were distributed either in print or via secure online forms. Participation was voluntary and anonymous. The study was conducted in accordance with institutional ethical guidelines.

## Data Analysis

Data were analysed using SPSS v25 with the PROCESS macro (Model 4) to test mediation effects. Descriptive statistics and bivariate correlations were computed. Independent-sample t-tests were used to examine gender and marital status differences. A significance threshold of  $p < .05$  was adopted throughout.

## Results

**Table 1**

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

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

Table 1 presents the demographic characteristics of the sample. The final dataset included 270 students. 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%). In terms of marital status, 150 participants were unmarried (55.6%), and 120 were married (44.4%).

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

Table 2 presents bivariate correlations. SNS usage was positively correlated with frustration intolerance ( $r = .41$ ,  $p < .01$ ) and negatively associated with psychological need satisfaction ( $r = -.34$ ,  $p < .01$ ). Frustration intolerance also showed a strong negative correlation with basic needs ( $r = -.44$ ,  $p < .01$ ), supporting 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% 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*

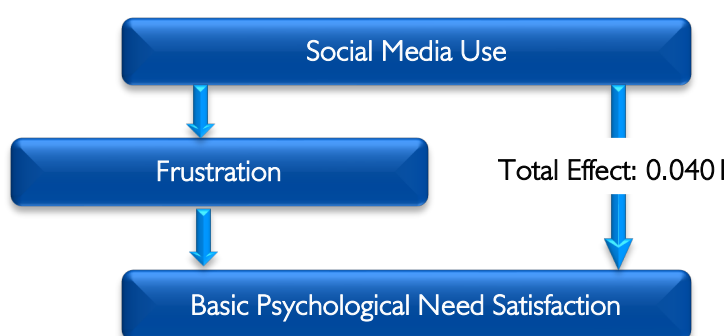
Variable	Marital Status	N	M	SD	t	p
Basic Psychological Needs	Married	120	38.16	8.20	-4.21	.00
	Unmarried	150	42.23	7.68		
Basic Psychological Need Frustration	Married	120	35.01	5.95	-1.22	.22
	Unmarried	150	35.98	6.00		
Social Media Use	Married	120	73.93	23.60	1.96	.04
	Unmarried	150	68.11	24.13		

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

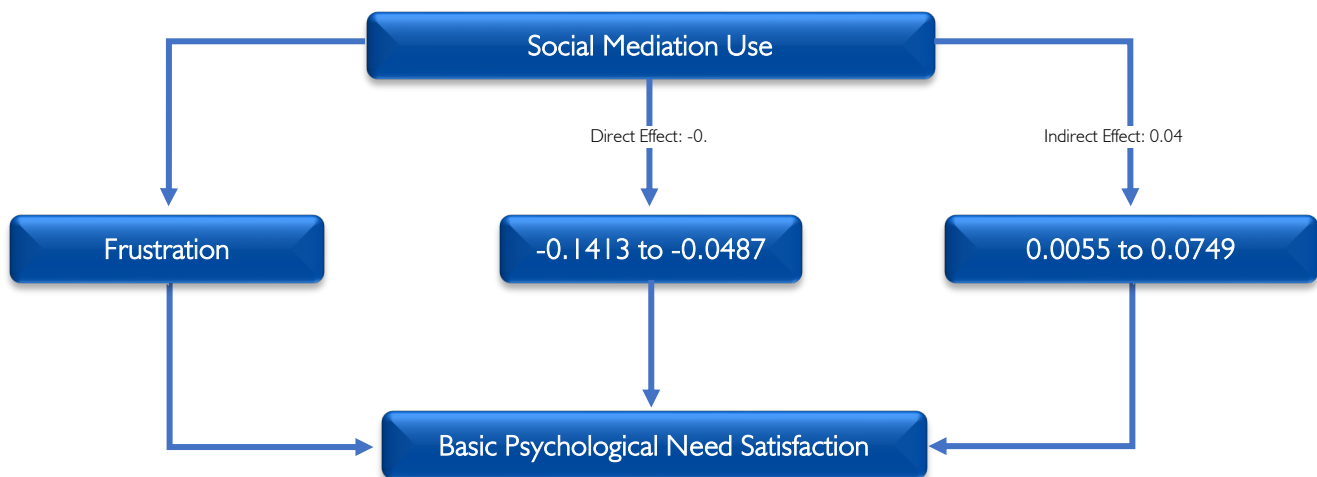
Independent-sample t-tests were conducted to explore differences in study variables based on marital status. Significant differences were found between social media use and need satisfaction. Married students scored higher on SNS usage ( $M = 73.93$ ) than unmarried students ( $M = 68.11$ ),  $t(268) = 1.96$ ,  $p = .04$ . 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 hypothesised 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 Standardised 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

This study aimed to explore the mediating role of basic psychological need frustration in the relationship between social networking site (SNS) usage and psychological need satisfaction among university students. Grounded in Self-Determination Theory (SDT), the findings support the hypothesis that excessive engagement with SNS platforms is associated with greater frustration of autonomy, competence, and relatedness needs, which in turn predicts lower overall need satisfaction.

The positive association between SNS use and need frustration aligns with previous research suggesting that high levels of social media engagement can create a digitally mediated environment where users feel less autonomous and competent and often socially disconnected (Lukács & Barkóczi, 2021; Servidio, 2019). Such platforms, while offering the illusion of connection, may, in fact, facilitate social comparison, passive consumption, and algorithm-driven content exposure—all of which have been found to undermine the three core psychological needs defined in SDT (Ryan & Deci, 2017). The finding that need frustration partially mediates the relationship between SNS use and need satisfaction highlights the dual impact of social media. On the one hand, SNS platforms may offer tools for engagement, expression, and support; on the other, they may erode psychological resilience by exposing users to content and interactions that thwart self-determination. This mediation is consistent with Chen et al. (2015), who argue that need frustration is not merely the absence of need satisfaction but a separate construct that actively contributes to maladaptive outcomes.

Moreover, demographic analysis revealed that unmarried students reported higher need satisfaction, while married students used SNS more frequently. This finding suggests potential differences in motivational orientation or stress regulation strategies. Married students might rely on SNS to maintain broader relational networks or manage dual roles (academic and familial), while unmarried students may have greater opportunities for fulfilling real-life social and autonomy needs, hence reporting higher need satisfaction. These results carry important implications for the design of digital well-being interventions in university settings. Addressing SNS overuse alone may not be sufficient; interventions should also target the emotional regulation and need-supportive environments in which students operate. Programs that foster offline engagement promote digital literacy and build tolerance for unmet expectations, which may help mitigate the adverse psychological effects associated with need and frustration in digital spaces.

## Conclusion

This study contributes to the understanding of how digital behaviours, particularly social networking, affect psychological functioning through the lens of need frustration. It provides empirical support for the role of need frustration as a key mechanism that links social media use to reduced satisfaction of autonomy, competence, and relatedness among university students. By situating SNS use within a motivational and emotional framework, the study underscores the need for holistic, theory-driven approaches to digital wellness. University educators, mental health professionals, and policymakers must recognize the qualitative impact of digital engagement—not just its frequency or duration.

Future research should build on these findings by adopting longitudinal designs, integrating objective digital tracking, and exploring cultural or individual difference moderators such as self-regulation, academic pressure, and offline support systems. As digital environments evolve, so must our understanding of their psychological implications, rooted not in alarmism but in evidence-based, student-centred inquiry.

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