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Exploring Digital Dynamics: The Role of Self-Expression and Social Acceptance Seeking in Shaping Psychological Well-Being

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ABSTRACT

This study aims to investigate a mediation model where Social Networking Site (SNS) use mediates the impact of self-expression and social acceptance on psychological distress, alongside a moderation model examining whether self-esteem (SE) affects the relationship of SNS addiction and psychological distress. Using a quantitative research design with purposive sampling approach, the study targets exclusively women on Facebook due to their specific SNS engagement patterns and potential vulnerability to psychological distress. Data were gathered from 262 participants through online close-ended questionnaires. Validated instruments were used, including Kessler Psychological Distress Scale (10K) (α = 0.93), the Rosenberg Self-Esteem Scale (α = 0.934), SNSs addiction (α = 0.861), self-expression (a = 0.927), and social acceptance (a = 0.879). Descriptive analysis was conducted using SPSS version 21, while hypotheses were tested using SmartPLS 4.0. The findings revealed a significant positive relationship between self-expression and SNSs addiction, and a negative relationship between social acceptance and SNS addiction. SNS addiction was positively correlated with psychological distress. Furthermore, self-esteem did not moderate the relationship between SNS addiction and psychological distress, possibly due to cultural and demographic factors. These findings draw attention to the need to alleviate the adverse outcomes of SNS use and to promote improved psychological well-being.

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1. Introduction

In today's digital era, individuals use social networking sites (SNSs) to fulfill underlying social and psychological needs in addition to entertainment seeking, as asserted by Uses and Gratifications Theory (UGT) (Katz et al., 1973). This viewpoint underscores that media users demonstrate goal-oriented behavior and engage with platforms that address their cognitive, emotional, and integrative needs (Bhatiasevi, 2024). Accordingly, users portray their identities and share personal thoughts and beliefs on SNSs to satisfy their social integrative needs such as self-expression (SLF-EXP), and personal integrative needs such as social acceptance (SA) (Luo & Hancock, 2020; Wadsley et al., 2021). The pursuit of these needs subsequently affects users' mental health (Steers, 2016). Amid the rise of digital technologies, social networking is extensively used by individuals ranging from young to older adults around the globe (Pande et al., 2024). According to DataReportal (2025), 5.41 billion individuals are actively engaged on social media among the total 5.7 billion internet users globally. This widespread engagement with social media can stimulate behavioral addiction in some individuals, negatively affecting their psychological well-being and contributing to dysfunctional behaviors, such as aggression, compulsive actions, social withdrawal, and even substance-related behavioral patterns (Miranda et al., 2023; Yuste et al., 2026). Social media users often engage in various behaviors to shape others' perceptions and opinions about them (Al-Shatti & Ohana, 2021). This behavior leads to addictive SNS use driven by motivations such as SLF-EXP which refers to individuals' motives to express their opinions and feelings (Pertegal et al., 2019), and SA which denotes individuals' perception that others regard them with warmth and positivity (Asher et al., 1996). Driven by these motivations, users express their identities and disclose personal thoughts and beliefs (Luo & Hancock, 2020; Wadsley et al., 2021). Thus, motivational needs reflected in building public profiles and seeking higher follower counts on SNSs like Facebook, drive user behavior, intensify social comparison, and subsequently impact mental health (Salinas-Quiroz et al., 2023; Sciara et al., 2021; Sezgin & Uzun, 2023; Steers et al., 2016). These mental health issues often require psychological treatment.

Likewise, another significant psychological factor associated with SNS use is SE, which refers to "a favorable or unfavorable attitude toward the self" (Rosenberg, 1965, p. 15). Research indicates that the relationship between SNS use and SE varies across individuals due to personal vulnerabilities and particular ways they use these platforms (Cingel et al., 2022). However, a substantial body of literature suggests that active social media use encourages individuals to seek social approval, thereby enhancing SE (Gonzales & Hancock, 2011; Valkenburg et al., 2021; Yang et al., 2024). Yet, further investigation is needed to explore whether individual differences in SE influence the strength or direction of the association between SNS addiction and PSY-DS. SE has been widely investigated either as a mediating or outcome variable with SNS addiction (Acar et al., 2022; Cingel et al., 2022; Hou et al., 2019; Kircaburun et al., 2019; Köse & Doğan, 2019; Lin et al., 2022; Pop et al., 2022; Saiphoo et al., 2020), but the moderating role of SE in the relationship between SNS addiction and PSY-DS has received limited scholarly attention, and this study intends to address this gap. Moreover, studies exploring the antecedents of SNSs addiction have focused on factors such as the personality traits of individuals (Balakrishnan & Griffiths, 2017; Brailovskaia et al., 2020), fear of missing out (Brailovskaia & Margraf, 2024), social comparison (Kim et al., 2021), and lower level of SE (Acar et al., 2022). Previous studies have additionally examined antecedents like the need for escapism, the need for social interaction, and the need for self-image in the context of SNS use (Kim et al., 2020; Miranda et al., 2023). However, a significant gap in examining other antecedents of SNS use, such as the need for SLF-EXP and SA, remains underexplored to enhance the understanding of SNS addiction. It is essential to address this gap, as the need for SLF-EXP and SA significantly influences users' engagement with SNSs, thereby providing a more comprehensive understanding of the factors contributing to SNS addiction and promoting healthier SNS use.

In addition, Zeng et al. (2021) examined the relationship between SE and problematic internet use among Chinese undergraduate students and emphasized the need for future research to account for variations in demographic characteristics and age groups. In response to this call, the present study seeks to address this gap by employing a gender-specific sample with broader demographic representation, thereby accounting for both cultural and individual differences. In particular, it examines the moderating role of SE in the relationship between SNS addiction and psychological

distress outcomes. Additionally, as highlighted in the limitations of a study by Miranda et al. (2023), different motivations may result in distinct psychological processes underlying SNS addiction. In this context, Miranda et al. (2023) recommended exploring SLF-EXP as a distinct motivational factor. Accordingly, this study investigates SLF-EXP as a key antecedent of SNS addiction.

According to Statista (2025), in Pakistan, out of 117 million internet users, 79.9 million are actively engaged in social media platforms. Thus, addressing the growing number of SNS users and providing recommendations for the responsible use of SNSs is a significant challenge. Additionally, this study explicitly targets women, as they primarily use SNSs for establishing relationships and accessing social information across both familiar and distant networks (Krasnova et al., 2017). Several studies have investigated gender differences in social media use, particularly regarding their engagement and motivations across social networking platforms (Theophilou et al., 2024). These studies show that women are more engaged users of social networking platforms than men and show greater vulnerability to mental health issues, associated with behaviors such as social interaction, relationship maintenance, and social comparison (Campbell et al., 1986; Scott et al., 2020). Studies additionally suggest that in contrast to women's use of SNSs, men primarily use these platforms for information and pleasure seeking (Joiner et al., 2014; Krasnova et al., 2017; Lewis et al., 2008; Lu et al., 2010). Furthermore, global agencies, such as the United Nations, UNESCO, and the Organization for Economic Co-operation and Development (OECD), report that access to technological resources differs significantly across the regions due to digital divide. In male-dominated environments this gap is clearly observable due to the influence of gender inequality, cultural values, and power structures on technology adoption (Ali Aksar et al., 2022; Luckhurst, 2003). Pakistani women's use of SNSs is shaped by cultural constraints, which in turn influences their psychological well-being and social relationships, necessitating a safer digital environment (He et al., 2024). Despite these gender-specific trends, few studies have directly examined the impact of SNS use on women's mental health, underscoring the need for targeted empirical inquiry (Scott et al., 2020). By focusing on this demographic, the findings of the current study may offer significant contributions toward developing strategies to address gender-specific challenges associated with SNS use. Additionally, the findings may enhance user awareness regarding the significant psychological, physical, and social harms associated with the addictive use of SNSs and encourage healthier SNS consumption patterns, thereby alleviating negative impacts. Furthermore, the findings can provide actionable insights to SNS administrators to improve interface designs prioritizing users' psychological well-being. It may raise awareness among users and public health authorities about the causes of excessive SNS use (Miranda et al., 2023). This effort is consistent with another study that accentuates the significance of excessive and addictive use of SNSs (Yu & Luo, 2021).

Employing Uses and Gratification Theory (UGT) (Katz et al., 1973), this study intends to investigate the relationship of need for SLF-EXP and need for SA with SNS addiction, further accelerating PSY-DS. UGT posits that individuals interact with social media to fulfill their psychological needs, thereby shaping their sense of well-being, by either achieving desired gratifications or unintentionally exacerbating adverse outcomes. UGT further highlights that media users engage purposefully with platforms to meet social integrative needs, such as SLF-EXP, and personal integrative needs, including SA (Luo & Hancock, 2020; Wadsley et al., 2021). Consistent with UGT framework, SE, defined as a personal integrative need (Bhatiasevi, 2024), serves as a behavioral trait to examine its moderating role in the association between SNS addiction and PSY-DS. Hence, gratifications may reinforce an individual's cognitive and affective behaviors in a compulsive fashion, and trigger habitual behavior over time (Brand et al., 2016, 2019). Ultimately, this compulsive engagement catalyzes addiction (Wegmann et al., 2022), which adversely impacts mental health (Yin et al., 2018). Thus, grounded in the UGT framework, this study examines the following research questions:

RQ1. Is there a relationship between the need for self-expression and SNS addiction?
RQ2. Is there a relationship between the need for social acceptance and SNS addiction?
RQ3. Is there a relationship between SNS addiction and psychological distress?
RQ4. Does SNS addiction mediate the relationship between the need for self-expression and psychological distress?

RQ5. Does SNS addiction mediate the relationship between the need for social acceptance and psychological distress?
RQ6. Does self-esteem moderate the relationship between SNS addiction and psychological distress?

2. Theoretical Background and Hypotheses Formulation

2-1. Uses and Gratification Theory as Theoretical Background

This research study is primarily guided by UGT (Katz et al., 1973), which posits that individuals enthusiastically engage with media to fulfill personal and social needs. Consistent with contemporary perspectives in mass communication (McQuail, 1987), Katz's foundational idea underscores that media consumption is driven by the desire to obtain specific gratifications. Additionally, UGT establishes a critical framework to understand the formation of addiction to SNSs, emphasizing how users' needs and satisfactions drive their involvement and possible excessive use (Katz et al., 1973). Contemporary studies further highlight that UGT is appropriate to understand new media dynamics, offering important understanding of users' evolving beliefs and behaviors (Ruggiero, 2000). Recent investigations including Miranda et al. (2023), use the UGT framework to study contributing factors like escapism and social interaction that lead to SNS addiction, demonstrating the adaptability of the theory in modern research. Additionally, methodical research grounded in UGT has investigated its correlations with problematic internet use, demonstrating its persistent significance and usefulness in comprehending current media consumption habits (Wei et al., 2024). To sum up, UGT remains instrumental to provide a robust foundation to investigate how individuals interact with media, delivering perspectives into both the reasons behind their engagement and the possible outcomes, particularly in the digital age. This theoretical framework has played a key role to investigate trends in internet and social media use, revealing mechanisms that trigger problematic behaviors.

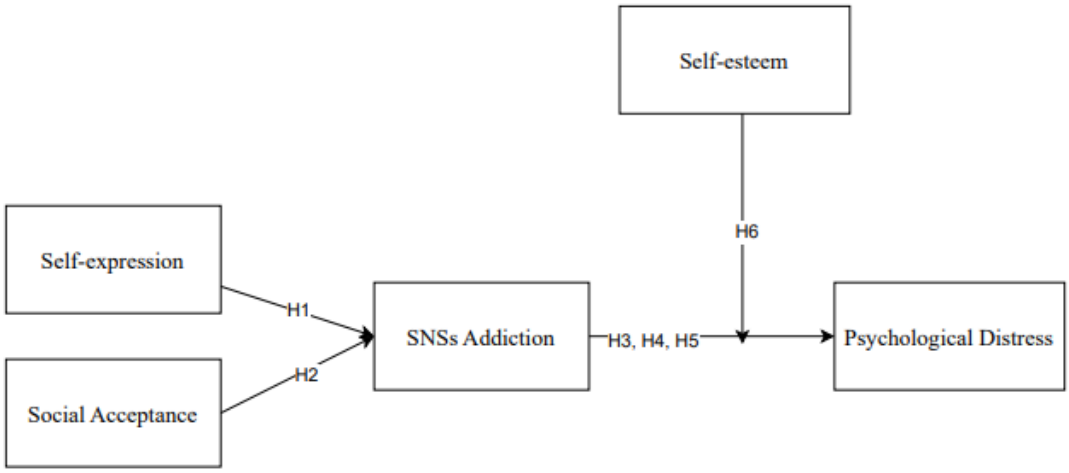


Fig. 1. Theoretical Framework

2-2. Self-Expression, Social Acceptance, and SNS Addiction

Shifting psychological motives for using SNSs are associated with problematic social media engagement and may result in adverse mental health outcomes (Stockdale & Coyne, 2020), such as SLF-EXP and SA (Arslan, 2018; Kim, 2019; McLaren & Challis, 2009; Scannapieco et al., 2007). Among these, SLF-EXP—the desire to express one's thoughts, opinions and feelings—emerges as a fundamental human need that encourages excessive use of social networking platforms (Flecha-Ortíz et al., 2021; Pertegal et al., 2019). SNSs provide users with unprecedented opportunities to fulfill SLF-EXP needs (Huang & Liu, 2020). According to UGT, individuals enthusiastically engage with media to fulfill specific needs, such as SLF-EXP and SA (Katz et al., 1973). For example, Kim (2019) investigated that SLF-EXP alongside relationship maintenance and perceived enjoyment significantly serve as key motivator of SNS compulsion. Similarly, Pertegal et al. (2019) discovered a positive correlation between online SLF-EXP and a greater desire for social support. These findings are well aligned with the insights discovered by Masur et al. (2014), who highlighted that motivations such as

socialization, information seeking, self-presentation, and escapism are positively linked to the intensive usage of Facebook—all of which echo broader SLF-EXP themes. Similar patterns can be observed in newer platforms such as TikTok. Research indicates that escapism, entertainment, curiosity, information-seeking, and SLF-EXP are among the fundamental motivations for TikTok use (Bucknell Bossen & Kottasz, 2020; Meng & Leung, 2021; Vaterlaus & Winter, 2025). This pattern across platforms provides evidence that the need for SLF-EXP is a significant predictor of SNSs and consequent addictive user behavior.

Alongside SLF-EXP, the need for SA also significantly influences SNS behavior. SA refers to an individual's desire of perceived inclusion, encouragement, recognition, and approval by others (Duru, 2015). SA has been theorized as an element of social belongingness that contributes to a feeling of connectedness and attachment of individuals with their social surroundings (Malone et al., 2012; Nepi et al., 2015). Empirical evidence further supports this notion, highlighting that perceived social support and SA serve as protective factors for both physiological and psychological health (Arslan, 2018; McLaren & Challis, 2009; Scannapieco et al., 2007). However, being merely accepted does not ensure high-quality relationships and there is a significant distinction between being accepted and being chosen as a favored person, as demonstrated by Nepi et al. (2015) in a school setting. Moreover, Smith et al. (2021) examined the impact of technology on adolescents' psychosocial development to elucidate the relationship between SNS use, perceived loneliness, and social belonging. Their findings indicate that SNSs have multifaceted nature, as they provide platforms for seeking gratifications while exacerbating the feelings of social isolation and inauthenticity. Additionally, aligned with the Uses and Gratifications Theory (UGT), studies indicate that self-gratification and social values are key drivers of platform engagement and loyalty (Gamage et al., 2022). In the social media context, Gamage et al. (2022) suggest that the pursuit of self-expression and social acceptance, as primary social gratifications, contributes to SNS addiction. This study was conducted in a hotel setting and demonstrates SNS addiction for decision-making in other digital ecosystems.

Together, this body of literature provides a sound theoretical and empirical base for the current study. Notably, the analysis demonstrates that individuals driven by the need for SLF-EXP or SA may be more vulnerable to SNS addiction. Thus, based on the literature, the following hypotheses have been formulated:

H_1: There is a significant relationship between the need for self-expression and SNS addiction.
H_2: There is a significant relationship between the need for social acceptance and SNS addiction.

2-3. SNS Addiction and Psychological Distress

SNSs (e.g., Facebook, WhatsApp, and Twitter/X) facilitate users' sharing of content through verbal and nonverbal interactions (Kircaburun et al., 2020). While these platforms provide entertainment, information, and other social benefits, a growing body of research highlights psychological and physiological effects of these platforms on individuals' health (Huang et al., 2023). Griffiths (2013) suggested that SNS addiction causes notable psychological problems, including salience, mood changes, and social withdrawal. Similarly, Tullett-Prado et al. (2023) found a significant association between SNS addiction and PSY-DS. Additionally, Kessler et al. (2002) reported that SNS addiction not only represents a problematic use but also a severe mental health condition. They further established the K10 scale for evaluating psychological distress in population-based studies, which is widely used to measure the general mental health of individuals. Further confirming this, Satici et al. (2023) suggested that compulsive social media use is associated with PSY-DS. These foundational studies support contextualizing present study within an accepted research foundation.

Collectively, these studies demonstrate the significant influence of SNS addiction as a contributing factor to PSY-DS, offering a sound foundation to propose a meaningful correlation between the two. Additionally, building on the motivational factors previously discussed—namely SLF-EXP and SA—it can be posited that SNS addiction may function as a mediating variable in the relationship between these needs and PSY-DS. Accordingly, the following hypotheses are proposed:

H_3: There is a significant relationship between SNS addiction and psychological distress.
H_4: SNS addiction mediates the relationship between self-expression and psychological distress.

H_5: SNS addiction mediates the relationship between social acceptance and psychological distress.

2-4. Self-Esteem as a Moderating Variable

Self-esteem **(**SE), defined as a psychological assessment of an individual's self-respect, self-acceptance, and perceived self-worth, has consistently been associated with a psychological factor, such as loneliness (Dhal et al., 2007; Vanhalst et al., 2013), and subsequent SNS addiction (Aydm & San, 2011; Kim & Koh, 2018). As a core psychological factor, SE refers to individuals' interpretation and response to their social environment, including their engagements on SNSs. With an increasing trend of media engagement, along with frequent exposure to others' life events, individuals may significantly experience fluctuations in SE (Maerevoet et al., 2025). Empirical evidence supports this notion by demonstrating that adolescents who spend more time on social media develop symptoms of online addiction and subsequent lower levels of SE (Martínez-Iniesta et al., 2025).

However, the findings remain somewhat inconsistent across studies; for example, recent research found a significant relationship between social network addiction behaviors and adolescents' self-esteem, suggesting that the effects of SNSs use on self-esteem may vary depending on contextual and individual factors (Martínez-Iniesta et al., 2025). Notably, SE is recognized as an adaptable self-regulation tool that can help alleviate anxiety (Dong et al., 2023). SE, due to its impact on susceptibility, may shape individuals' patterns of SNS engagement and its impact on PSY-DS. Given these considerations, the current study examines SE as a moderating variable in the relationship between SNS addiction and PSY-DS, with a specific focus on women. Based on this reasoning, the following hypothesis is proposed:

H_6: Self-esteem moderates the relationship between SNS addiction and PSY-DS such that individuals with lower self-esteem experience a significant increase in PSY-DS.

3. Material and Methods

3-1. Participants and Procedures

In this study, data were collected through a purposive cross-sectional online survey administered through SNSs, specifically targeting female social media users. This sample selection is informed by Uses and Gratifications Theory (UGT), which suggests that individuals passionately use social media to seek gratifications such as SLF-EXP and SA (Katz et al., 1973). Furthermore, existing studies highlight that women primarily use SNSs for socializing and maintaining relationships within both familiar and remote networks (Krasnova et al., 2017). These motivations are consistent with foundational constructs and hypotheses within the study framework. Additionally, few studies have directly examined the impact of SNS use on women's mental health, such as lower SE and PSY-DS (Na et al., 2025; Scott et al., 2020). Therefore, selecting women as the target population offers theoretical and empirical justification to test the proposed relationships, particularly the mediating role of SNS addiction and the moderating effect of SE. Purposive sampling method was employed for data collection. The purposive sampling approach is beneficial in cases when a unique, homogeneous sample with specific features is necessary, and sampling frame (with full, representative characteristics) is not feasible (Rowley, 2014), yet it carries a limitation of sampling bias that restricts broader generalization (Creswell & Poth, 2016). Moreover, employing a probability sampling method was not practical due to the unavailability of a sampling frame of women SNS users. To address sample diversity, an online self-administered questionnaire was distributed across various social media platforms with broad geographic reach, including public and private social media groups on Facebook. Because the use of social networking platforms for data collection has emerged as a prominent tool in academic research (Van Wingerden et al., 2018), Facebook was utilized to reach a heterogeneous sample of women due to variations in ages, social classes, and geographic areas, thereby supporting demographic disparities within the purposive sampling framework (Creswell, 2014). Before data collection, permission was obtained from the administration of the selected social media groups and all participants gave their informed consent. The study focused exclusively on Facebook due to its extensive reach and popularity, demographically diverse audience, and its established role in enabling social interaction unlike Instagram and TikTok, which predominantly attract younger users (Statista,

2023). Additionally, the use of Facebook allowed efficient and low-cost access to a sample with a geographical distribution, which was similar to the previous research on the use of SNSs conducted by Van Wingerden et al. (2018).

Facebook communities were purposively chosen guided by their suitability with the study's demographic interest, i.e., women. Emphasis was placed on both public and private groups regularly participating in conversations concerning the use of social media, psychological well-being, and women-related topics. To establish the relevance of participants, a preliminary note clarified that the survey was aimed at women who frequently use SNSs. Ongoing communication was maintained with participants, encouraging them to post questions in the comments section to ensure clarity and facilitate understanding. Additionally, to enhance the response rate, a follow-up approach was practiced so that respondents could be reminded to submit their response. Responses were screened for eligibility, and entries that did not meet the inclusion criteria were excluded from the final dataset (Rowley, 2014). Finally, a total of 262 self-reported and valid responses were obtained.

Ethical approval was obtained from the relevant Institutional Review Board (IRB) prior to data collection, as the study involved human participants. The research emphasizes analytical generalization with the purpose of contributing to theoretical understanding rather than generalizing results across populations (Yin, 2018). Thus, these findings may not be generalized to all women using SNSs (Rowley, 2014).

Furthermore, both procedural and statistical measures were applied to address common method variance. Procedural measures were implemented in the questionnaire design, and Harman's single-factor analysis was used, as described by Podsakoff et al. (2003).

3-2. Measures

3-2-1. Need for Self-Expression

For this research, SLF-EXP was evaluated using a unidimensional construct, which was implemented through a 16-item framework introduced by Seidman (2013). This scale examined participants' use of Facebook for self-presentation across six specific domains: general self-disclosure, emotional disclosure, attention-seeking, and the expression of actual, hidden, and ideal facets of the self. Each domain was rated using a 7-point Likert scale and exhibited satisfactory internal reliability. General self-disclosure was measured by items related to status and profile updates, as well as posting about events and photographs. Emotional disclosure and attention-seeking behaviors were assessed by items targeting these aspects. Meanwhile, expressions of the actual, hidden, and ideal self were assessed based on the frequency and manner in which participants depicted them on Facebook. Sample items from the scale included, "How often do you post photographs of daily events on Facebook?"

3-2-2. Social Acceptance

To measure participants perceived SA, a 5-items scale, used by Wang et al. (2018), was adopted. Sample item is: "On SNSs, most people understand me."

3-2-3. SNS Addiction

For assessing SNS use, a 9-item scale, developed by Kim et al. (2014), was adapted. Sample item is: "I feel anxious when I am not able to check my social network account."

3-2-4. Psychological Distress

This study measured PSY-DS using the 10-item Kessler PSY-DS Scale (K10). The K10 was initially developed with a focus on disorders within the anxiety-depression spectrum, with its items primarily addressing symptoms associated with these conditions (Kessler et al., 2003). Sample item included: "Do you feel so sad that nothing could cheer you up?"

3-2-5. Self-Esteem

Rosenberg SE Scale (Rosenberg, 1965), comprising 10 items, was adopted to measure SE. Sample item included: "I feel that I'm a person of worth or at least on an equal plane with others."

4. Results

Table 1. Demographic Analysis

Description	Classes	Frequency	Percentages
Age	Below 20	18	6%
	21 – 30	64	24%
	31 – 40	91	34%
	Above 40	89	33%
Education Level			
	Less than Intermediate	40	15%
	Graduation	102	38%
	MPhil	55	20%
	PhD	2	1%
	Other	63	24%
Monthly Income			
	Less than 50,000	29	11%
	50,000 - 100,000	88	33%
	101,000 - 150,000	81	30%
	151,000 - 200,000	38	14%
	More than 200,000	26	09%
Working Status			
	Housewife	149	56%
	Professional	113	44%

Within the cohort of 262 respondents, 56% were identified as housewives, while the remaining 44% were engaged in various professions. Furthermore, within the subgroup of women who reported a higher frequency of online purchases, 34% were aged between 31 and 40 years, while 38% had attained a graduate-level education.

Table 2. Indicator Reliability, Convergent Validity, and Internal Consistency

Constructs	Loading	VIF	a	CR[a]	AVE[b]
Self-Expressions (SLF-EXP)		2.467	0.927	0.931	0.497
SLF-EXP1	0.692				
SLF-EXP2	0.808				
SLF-EXP3	0.554				
SLF-EXP4	0.711				
SLF-EXP5	0.768				
SLF-EXP6	0.739				
SLF-EXP7	0.747				
SLF-EXP8	0.752				
SLF-EXP9	0.703				
SLF-EXP10	0.665				
SLF-EXP11	0.732				
SLF-EXP12	0.728				
SLF-EXP13	0.661				
SLF-EXP14	0.503				
SLF-EXP15	0.747				
Social Acceptance (SA)		3.283	0.879	0.889	0.675
SA1	0.804				
SA2	0.883				
SA3	0.828				
SA4	0.780				
SA5	0.809				
Social Networking Sites Addiction		3.847	0.861	0.87	0.475
SNS1	0.756				
SNS2	0.799				
SNS3	0.726				
SNS4	0.663				
SNS5	0.739				
SNS6	0.612				
SNS7	0.553				
SNS8	0.699				
SNS9	0.614				

Table 2.

Constructs	Loading	VIF	a	CR[a]	AVE[b]
Psychological Distress (PSY-DS)		3.231	0.932	0.94	0.661
PSY-DS2	0.516				
PSY-DS3	0.879				
PSY-DS4	0.895				
PSY-DS5	0.874				
PSY-DS6	0.872				
PSY-DS7	0.858				
PSY-DS8	0.800				
PSY-DS9	0.663				
PSY-DS10	0.876				
Self-esteem (SE)		2.416	0.922	0.934	0.588
SE1	0.746				
SE2	0.834				
SE3	0.793				
SE4	0.732				
SE5	0.804				
SE6	0.784				
SE7	0.787				
SE8	0.778				
SE9	0.723				
SE10	0.674				

4-1. Measurement Model

Traditional fit measures, which rely on residual covariance assumptions, are not applicable to PLS-SEM due to its estimation process. Nonetheless, this study reported a Standardized Root Mean Square Residual (SRMR) value of 0.07 as a measure of model fit (Henseler & Chin, 2010). Generally, an SRMR value up to 0.10, preferably below 0.10, is considered indicative of a good model fit (Gold & Bentler, 2000).

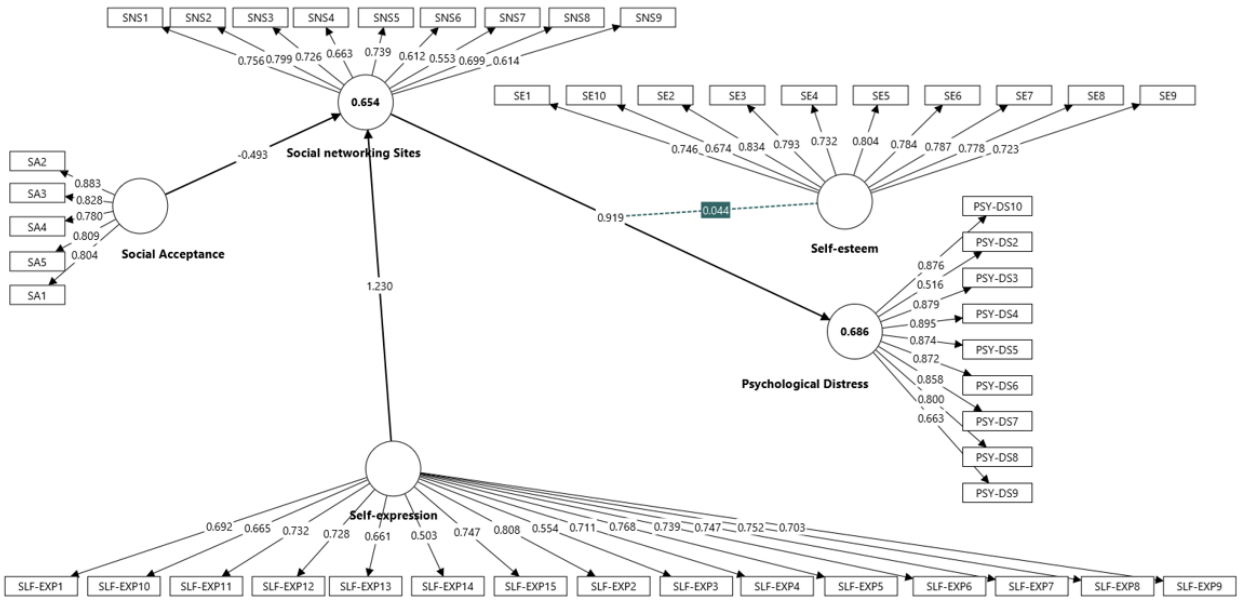


Fig. 2. Measurement Model Assessment

4-2. Composite Reliability

Composite reliability (CR) scores confirmed internal reliability, with values for PSY-DS (0.940), SLF-EXP (0.931), SE (0.934), SNS use (0.870), and SA (0.889) exceeding the recommended threshold of 0.7 (Tinsley & Kass, 1979), as shown in Table 2.

4-3. Convergent Validity

Convergent validity was tested using the outer loadings of construct items and the average variance extracted (AVE). Generally, outer loadings of 0.7 or higher are deemed acceptable, and an AVE of 0.5 or above indicates satisfactory convergent validity (Avkiran, 2017). Nonetheless, Chin et al. (1997) noted that values up to 0.6 can also be considered acceptable. According to practical significance criteria (Hair et al., 2014), loadings of 0.50 or above are deemed acceptable. Indicators with outer loadings between 0.40 and 0.70 were evaluated for possible removal; thus, PSY-DS1 and SLF-EXP16 were removed, while the remaining construct items showed outer loadings above 0.5, thereby confirming convergent validity. Furthermore, all constructs achieved the recommended AVE threshold of 0.5 (Avkiran, 2017), further supporting the validity of the constructs (see Table 2).

All constructs fulfilled the acclaimed threshold value, i.e., 0.5 for AVE (Avkiran, 2017)—PSY-DS (0.661), SE (0.588), SLF-EXP (0.497), SNS Use (0.475), and SA (0.675)—thus confirming the convergent validity of the constructs (see Table 2). Average Variance Extracted (AVE), as a measure related to composite reliability, should ideally be greater than 0.5. However, if the composite reliability (CR) surpasses 0.6, an AVE greater than 0.4 is considered adequate (Hair et al., 2014).

Table 3. Heterotrait-Monotrait Ratio (HTMT) Matrix

Variables	PSY-DS	SE	SLF-EXP	SNSs	SA
PSY-DS					
SE	0.468				
SLF-EXP	0.585	0.905			
SNSs	0.887	0.718	0.816		
SA	0.467	0.801	0.881	0.702	
SE x SNSs	0.127	0.480	0.470	0.275	0.488

Discriminant validity (DV) was tested employing the Heterotrait-Monotrait (HTMT) and Fornell-Larcker (1981) criteria. HTMT values below 0.9 were found in this study, indicating satisfactory discriminant validity (Table 3). This confirms the adequacy of our measurement model for internal reliability and convergent validity (CV) across variables.

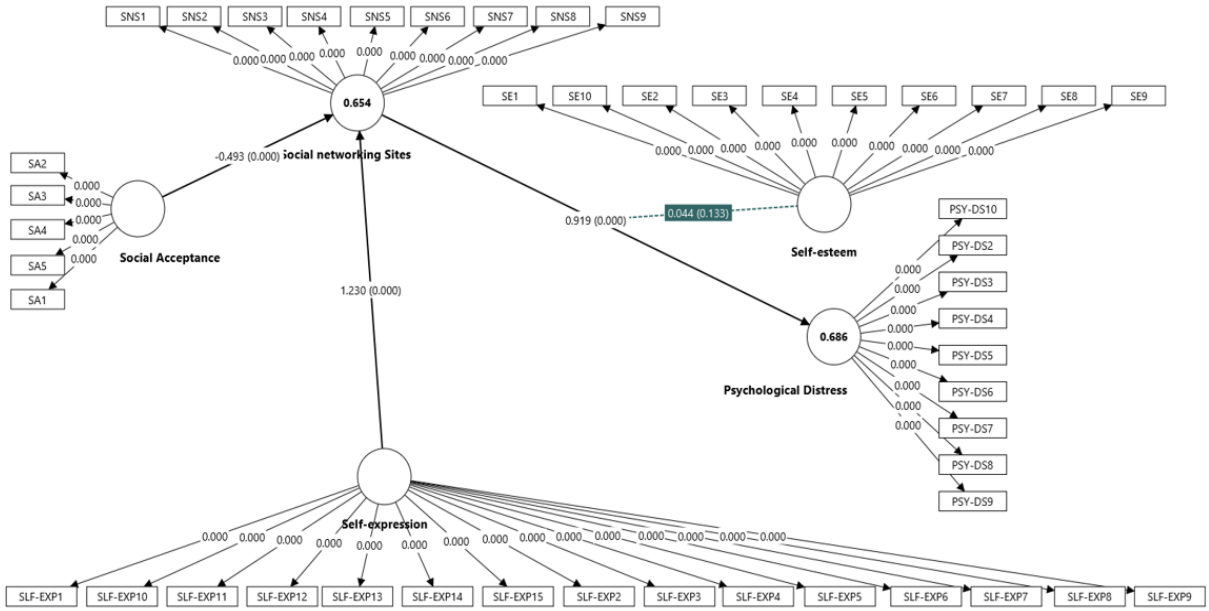


Fig. 3. Structural Model Assessment

Prior to evaluating the structural model, collinearity was assessed using the Variance Inflation Factor (VIF), with values below 5.0 for all constructs, indicating no issues of multicollinearity. Bootstrapping with 5,000 resamples, following the procedure recommended by Hair et al. (2014), confirmed the statistical significance of the model.

Table 4. Hypotheses Testing

Hypothesis	Beta	Mean	STDEV	BCI LM	BCI UL	t-Value	p-Value	Decisions
SLF-EXP -> SNSs	1.23	1.225	0.081	1.07	1.388	15.125	0	Accepted
SA -> SNSs	-0.49	-0.49	0.104	-0.689	-0.282	4.73	0	Accepted
SNSs -> PSY-DS	0.919	0.922	0.034	0.856	0.989	26.814	0	Accepted
SA -> SNSs -> PSY-DS	-0.45	-0.45	0.093	-0.618	-0.253	4.857	0	Accepted
SLF-EXP -> SNSs -> PSY-DS	1.131	1.128	0.079	0.972	1.28	14.258	0	Accepted
SE x SNSs -> PSY-DS	0.044	0.044	0.029	-0.014	0.101	1.501	0.133	Rejected

Results in Table 4 support Hypothesis 1 ($\beta = 1.230$, $p < 0.05$), revealing a positive relationship between SLF-EXP and SNS addiction. This suggests that the need for SLF-EXP is associated with SNS addiction among women, supporting H1. Furthermore, the results indicate a negative correlation between SA and SNS addiction (H2: $\beta = -0.493$, $p < 0.05$), indicating that a one-standard-deviation increase in SA is associated with a 0.493-standard-deviation decrease in SNS addiction. Moreover, results show a positive correlation between SNS addiction and PSY-DS (H3: $\beta = 0.919$, $p < 0.05$), determining that a one-standard-deviation increase in SNS addiction corresponds to a 0.919-standard-deviation increase in PSY-DS, thereby supporting H3. The mediating effect of SNS addiction in the relationship between SLF-EXP and PSY-DS is significant, as indicated by the path coefficient (H4: $\beta = 1.131$, $p < 0.05$), supporting H4. Furthermore, the mediating effect of SNS addiction in the relationship between SA and PSY-DS is significant, as indicated by path coefficient (H5: $\beta = -0.453$, $p < 0.05$), thereby supporting H5. Additionally, SE does not moderate this relationship as indicated by the path coefficient (H6: $\beta = 0.044$, $p > 0.05$), thereby rejecting H6.

4-4. Explanatory Power

In Table 5, the R-squared values in the study, ranged from 0.683 for PSY-DS to 0.651 for SNSs, indicated a moderately predictive influence of the exogenous variables. Therefore, the model explained 68.3% of the variance in PSY-DS and 65.1% in SNSs.

Table 5. R-Square

Variables	Adjusted R-square
PSY-DS	0.683
SNSs	0.651

Table 6. f^2-Square

Variables	Psychological Distress	Social Networking Sites
SE	0.027	
SLF-EXP		0.762
SA		0.122
SNSs	1.55	

In Table 6, the effect size was calculated using f^2 to assess the impact of each predictor variable. Based on Cohen's (1988) benchmarks, effect sizes are classified as small (0.02), medium (0.15), and large (0.35). In this study, the effect sizes varied across different paths, with some indicating strong effects and others reflecting smaller, less pronounced effects.

5. Discussion

Employing Uses and Gratifications Theory, this study aimed to examine the influence of SA and SLF-EXP needs as predictors of SNS addiction along with the nexus between SNS addiction and PSY-DS among women in Pakistan. The findings of this study extend Uses and Gratifications Theory (UGT), demonstrating that SLF-EXP and SA, beyond their conventional conceptualization as motivational factors, may become risk factors for psychological distress in the absence of their successful gratification. While highlighting both the rewards and risks associated with digital need fulfillment, the study also suggests that seeking gratification through SNSs may produce dual effects: satisfying immediate psychological gratifications while exacerbating chronic PSY-DS, thereby offering a more comprehensive understanding of UGT in the context of compulsive social media use. This study offers

a more nuanced understanding of previously held assumptions regarding the roles of SLF-EXP and SA in social media use. In the published literature, SLF-EXP and SA have been treated as potential drivers of SNS engagement and gratification; prior literature often treats both needs as equally potent drivers of engagement and gratification (Luo & Hancock, 2020; Wadsley et al., 2021). The present findings indicate a divergent effect: SLF-EXP is positively associated with SNS addiction, whereas SA shows a negative association. This questions the accepted assumption that all integrative needs increase dependence on social media platforms. Instead, the findings suggest that individuals who experience adequate SA in offline environments have little need for the supplementary interactions offered by SNSs, which reduces the probability of developing SNS addiction. Conversely, an excessive dependence on SLF-EXP through SNSs may strengthen psychological vulnerability. Hence, this study introduces an enhanced conceptualization of motivational needs within UGT, emphasizing that gratifications do not uniformly lead to similar patterns of use or consequences. Further discussion integrates the findings with the theoretical framework, recognizes the limitations of the study, and considers practical implications.

Leveraging Uses and Gratification Theory (Katz et al., 1973), the study lends empirical weight to the hypotheses that SLF-EXP and SNS addiction are significantly and positively associated. Consistent with this perspective, SLF-EXP acts as a primary driver of addiction or predicts higher levels of it (Kim, 2019). Furthermore, the significant correlation between SLF-EXP and SNS addiction found in the current study is consistent with the existing literature, indicating that social networking fulfills needs related to escapism, entertainment, social interaction, information-seeking, curiosity, and SLF-EXP (Bossen & Kottasz, 2020; Katz et al., 1973; Meng & Leung, 2021). In contrast to the findings on SLF-EXP, the results regarding SA indicate a negative correlation between the need for SA and SNS addiction. Consistent with the literature, the finding suggests that individuals who possess strong SA in offline environments often cultivate substantial bonding social capital, which serves as a protective factor against the excessive use of SNSs for building and maintaining relationships to satisfy social validation needs. Subsequently, they are less vulnerable to developing addictive behaviors toward SNS use (Ellison et al., 2007). This is theoretically grounded in Compensatory Internet Use Theory (CIUT), which posits that individuals turn to online platforms when their real-life social needs are not fulfilled. Conversely, individuals who possess adequate SA in offline environments experience a diminished necessity for the mediated interactions offered by SNSs, mitigating the risk of developing SNS addiction (Kardefelt-Winther, 2014). Moreover, the findings of the current study reveal a substantial association between SNS addiction and increased levels of PSY-DS. This congruence with existing literature lends robust support to H3, which posits that social media addiction carries adverse psychophysiological implications on individuals' health (Huang et al., 2023). To further contextualize these findings, the study also draws on Self-Determination Theory (Deci & Ryan, 2012), which underscores intrinsic motivational drivers underlying personality and social behavior, to examine key determinants of psychological well-being. Subsequently, individuals demonstrating psychological symptoms stemming from unfulfilled fundamental psychological needs are vulnerable and may rely on the internet to strive for need fulfillment by engaging in digital behavior (Wong et al., 2015). Hence, individuals who mainly depend on SNSs for social validation are likely predisposed to experience distress without achieving continual social approval.

Regarding H6, which posits that SE moderates the relationship between SNS addiction and PSY-DS, the findings suggest that low SE may exacerbate PSY-DS among individuals addicted to SNS use. In support of this notion, Bowlby's (1969) Attachment Theory provides a valuable framework for understanding individual differences in forming emotional responses to SNS use. SNS users demonstrating elevated attachment-related anxiety may intensify their platform engagement to fulfill unmet attachment needs. This behavior is particularly widespread among individuals with low SE, who are prone to PSY-DS (Flynn et al., 2018). Yet, the findings indicate that SE does not moderate the relationship between SNS addiction and PSY-DS. These findings are embedded within cultural and contextual factors, including social norms, peer influence, and the SNS environment—which may diminish the moderating effect of SE. As the sample population of the current study comprises women who are educated and have peer influence and social support, they are resilient to low SE. Consequently, diminished self-esteem does not necessarily lead to an exacerbation of psychological distress within this demographic. This notion is also supported by the literature suggesting that

contextual factors, such as social support, may weaken the effect of SE (Yang & Bradford Brown, 2016). Furthermore, findings show that SNS addiction mediates the relationship between SLF-EXP and PSY-DS, supporting H5. These findings are consistent with previous studies suggesting that positive self-expression is associated with enhanced subjective well-being, whereas when self-expression becomes linked to SNS addiction, it may contribute to psychological distress (Bailey et al., 2020; Choi & Sung, 2018). Additionally, findings show that SNS addiction mediates the relationship between SA and PSY-DS, supporting H5. Studies provide a strong support to these findings reporting that the pursuit of social approval and acceptance (SA) leads to addictive SNS use. When users rely on digital sites for their self-worth and do not receive the expected feedback, their mental health (PSY-DS) declines (Boursier et al., 2020).

5-1. Theoretical Implication

This study provides novel insights into the body of literature. Previous studies investigating the antecedents of SNS addiction identified factors such as individuals' psychological and personality traits (Balakrishnan & Griffiths, 2017; Brailovskaia et al., 2020), fear of missing out (Brailovskaia & Margraf, 2024), social comparison (Kim et al., 2021), and low SE (Acar et al., 2022). Prior studies further explored antecedents such as the need for escapism, social interaction, and self-image in association with SNSs (Kim et al., 2020; Miranda et al., 2023); however, the need for SLF-EXP and SA, addressed by the current study, improves the understanding of SNS addiction. Furthermore, in another study conducted by Mari et al. (2023), the needs for escapism and social interaction were examined in relation to SNS addiction, whereas the need for SLF-EXP was identified as a direction for future research. The present study addresses this gap, thereby contributing to the existing body of literature.

5-2. Practical Implications

The findings of the study contribute to elevating user awareness regarding the emerging psychological, physical, and social setbacks pertaining to addictive SNS engagements. The findings further offer guidelines to refine individuals' practices to use SNSs and minimize adverse effects. On this matter, Cognitive Behavioral Therapy has been recommended to mitigate social media addiction and to improve psychological health (Hou et al., 2019). Additionally, the findings can refine the insights of SNS administrators in designing SNS interfaces, keeping in mind users' psychological well-being. These suggestions are also embedded in a study which posits that human-centered design and emotion-aware features in SNS sites may help reduce dependence and elevate psychological well-being (Al-Mansoori et al., 2023). The findings can further inform the development of targeted psychosocial interventions designed to cultivate digital competence and promote positive online behaviors. Moreover, policymakers might incorporate these understandings into existing structures to more robustly secure at-risk populations, particularly women, by advocating for user-centered online policies and psychological well-being safeguards. Additionally, findings may promote awareness for users and public health officials about the antecedents and reasons of excessive SNS use. In this regard, digital literacy programs can be brought in to support meaningful SNS engagement, as emphasized by Livingstone and Helsper (2007). The findings may also provide insights for policymakers and government officials to address the widespread negative impacts of SNS addiction while preserving users' rights, defining a growing area of law that calls for nuanced and adaptable legal responses. Regulatory frameworks should emphasize the responsible provision of online content and clear guidelines for SNS use to mitigate excessive social media use driven by SLF-EXP and the pursuit of social approval. Here, it is recommended that embedding educational content and encouraging constructive use of SNSs can build a more conversant and balanced society, especially among women. Due to their role as primary caregivers and moral guides, women hold a significant position in society. They influence future generations, nurture values, and exhibit a sense of civic responsibility, contributing to social development. Furthermore, the findings of the study suggest that mental health professionals advocate for mental health legislation and clinical insights into the psychological effects of SNSs. Their knowledge can guide policymakers in fostering the implementation of health-based policy frameworks that align with ethical health regulations. Moreover, the findings may highlight the roles that gender, age, socioeconomic status, and personality

play in contributing to social media addiction in women. Addressing these factors may aid counselors in designing culturally and psychologically responsive intervention programs. Developing evidence-based, gender-sensitive treatment strategies may improve support systems for women dealing with SNS addiction by addressing the core reasons behind their engagement. Alongside technological solutions and mental health interventions, the outcomes of this research can be enhanced through non-digital, nature-centered strategies. Recent contributions by Vuong and Nguyen (2025) introduce the idea of the Nature Quotient, highlighting the emotional and social advantages of spending time in natural settings. Green and blue environments—such as gardens, woodlands, lakes, and coastal zones—may act as beneficial substitutes for the overuse of social networking platforms by satisfying comparable psychological desires, including the need for escapism, amusement, and social connection. Incorporating access to these natural areas into urban development and public wellness policies can serve as an effective, culturally flexible supplement to current digital wellness efforts, especially for women affected by psychological strain linked to social media. Promoting regular engagement with nature can therefore function as a protective measure, helping to prevent compulsive social media behavior and its related mental health consequences.

6. Conclusion

This study aimed to investigate the relationships of SLF-EXP and SA with SNS addiction. It was found that SLF-EXP is positively and significantly associated with SNS addiction, while SA is negatively associated with SNS addiction. Additionally, the study examines the association between SNS addiction and PSY-DS and identified a significant positive relationship between them. SE is hypothesized to moderate the relationship between SNS use and PSY-DS, with lower SE potentially amplifying the impact of SNS addiction on PSY-DS. However, the results indicate that SE does not moderate this relationship. This lack of moderation may be attributed to contextual factors and characteristics of the sample population, such as their educational background and the level of social support they receive from family and friends. This study investigated the associations of SLF-EXP and SA with SNS addiction. The findings indicate that SLF-EXP is positively and significantly associated with SNS addiction, whereas SA shows a significant negative association. Furthermore, the study explored the relationship between SNS addiction and PSY-DS, revealing a significant positive association between the two variables. While it was hypothesized that SE would moderate the association between SNS addiction and PSY-DS—such that lower SE would strengthen this association—the results did not support this moderating effect. This lack of moderation may be influenced by contextual factors, including the educational background of the participants and the level of social support from family and friends.

6-1. Limitations and Future Implications

The study has several limitations and suggests directions for future research. The current study's sample consists solely of women, as women tend to use Facebook more frequently than men (Cheng et al., 2021); thus, there is a need to conduct more gender-based studies to mitigate this possible bias in future research on social media addiction. Furthermore, while this study focused only on Facebook users, future investigations could explore users of other social media platforms, such as Instagram, YouTube, and TikTok. Since the current study is limited to educated women, future research might also involve qualitative interviews with uneducated women to determine whether SE influences PSY-DS more significantly within this different demographic. The current study employed quantitative methods for data collection and analysis, utilizing a cross-sectional time horizon. Future research could benefit from incorporating qualitative methodologies—such as interviews, focus groups, or digital ethnography—to gain deeper insights into the emotional and psychological dimensions of SNS usage. Due to the cross-sectional design of the study, the results show correlation without causal inference, requiring future longitudinal investigations to identify temporal relationships. A longitudinal approach may be valuable for examining the directionality and potential causal pathways among these variables. Additionally, a longitudinal study may also examine behavioral patterns over time, particularly to assess whether increased SNS use and deepening addiction contribute to escalating PSY-DS.

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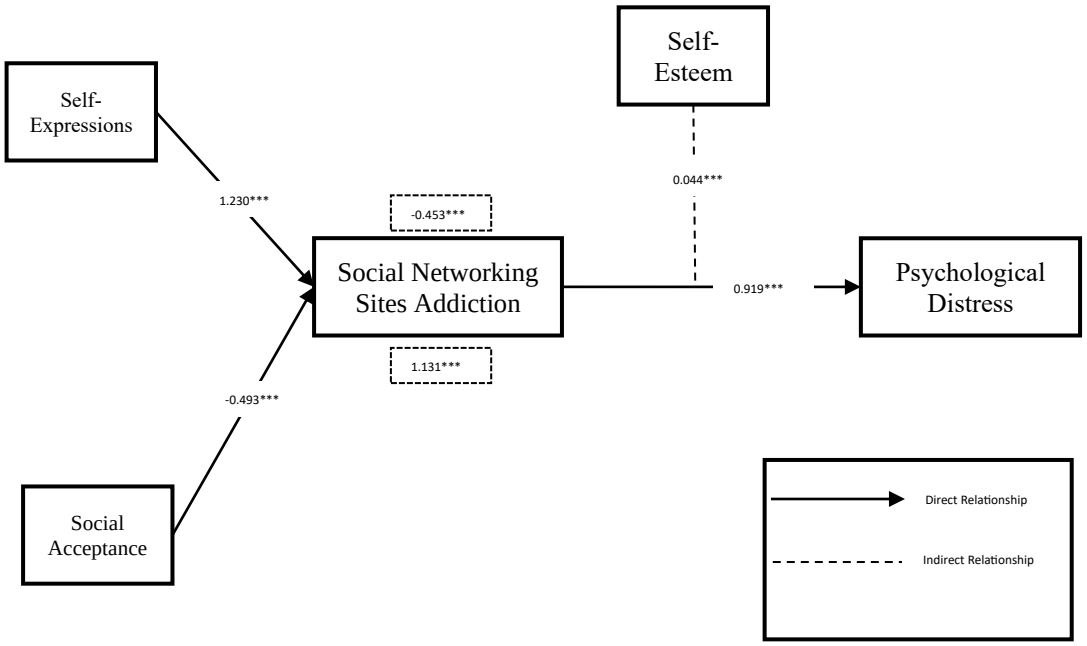
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Appendix


Self-
Esteem
Self-
Expressions
0.044***
1.230***
-0.453***
Social Networking
Sites Addiction
0.919***
Psychological
Distress
1.131***
-0.493***
Social
Acceptance
Direct Relationship
Indirect Relationship