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### **PASSIVE SOCIAL NETWORK USAGE AND HEDONIC WELL-BEING AMONG VIETNAMESE UNIVERSITY STUDENTS: A MODERATED MEDIATION MODEL INVOLVING SELF-ESTEEM AND SENSE OF SELF**

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#### **ABSTRACT**

*The increasing role played by social networks in the lives of young people has been accompanied by negative and positive effects on mental health over the last two decades. While active use of these sites has been linked to positive outcomes, passive social network usage (PSNU) has conversely been linked to negative outcomes. The current study investigated the mediating role of self-esteem and the moderating role of sense of self (SOS) in the indirect and direct relationships between PSNU and hedonic well-being. Respondents (499 Vietnamese university students) completed surveys on PSNU, self-esteem, SOS, life satisfaction, and positive emotions. PSNU was found to negatively impact hedonic well-being, with self-esteem acting as a partial mediator between these variables. The findings also indicated that PSNU is associated with reduced self-esteem; according to social comparison theory, this reduction is also linked to diminished hedonic well-being. Additionally, SOS was found to moderate the direct relationship between PSNU and hedonic well-being, but not the indirect components of this relationship (i.e., the link between PSNU and self-esteem or between self-esteem and hedonic well-being). Grounding our interpretation in Schachter and Singer's two-factor theory, we propose that PSNU (considered as an environmental stimulus) may interact with SOS (considered as a cognitive factor) in terms of the impact of these variables on hedonic well-being. The limitations and implications of the current study are also discussed.*

*Keywords: passive social network usage, hedonic well-being, sense of self, self-esteem*

#### **Introduction**

Social networking sites (SNSs) have become essential among teenagers and young adults as a way to maintain social connections. Their use has a positive impact in certain domains: social media consumption is positively correlated with well-being (Nabi et al., 2013), life satisfaction, and subjective happiness (Brailovskaia & Margraf, 2016). Conversely, many studies have also observed a negative relationship between SNS use and self-esteem (Chen et al., 2016) and a

positive relationship between SNS use and loneliness (Lou et al., 2012). These conflicting results require clarification through an examination of SNS users' specific patterns of usage. In particular, social media consumption may be divided into passive and active usage (Verduyn et al., 2015). For example, posting updates and interacting with others are examples of active SNS usage (Chen et al., 2016); these activities have a positive effect on users' life satisfaction, subjective happiness, and social support (Brailovskaia & Margraf, 2016). On the other hand, users who engage in passive social network usage (PSNU) ingest information without attempting to engage with others. Burke et al. (2010) report that passive use of Facebook is linked to unsatisfactory relationships with Facebook friends, symptoms relating to loneliness or social anxiety (Shaw et al., 2015), and decreased emotional well-being (Verduyn et al., 2015).

Prior research has focused on the direct relationship between PSNU and well-being; variables that may potentially mediate and moderate this relationship have so far attracted little attention. The current study fills this void by investigating mediating and moderating effects in the relationship between PSNU and hedonic well-being. Specifically, we investigated the potential role of self-esteem (a psychological variable relating to an individual's general evaluation of their own worthiness; Kong et al., 2015) as a mediator. Additionally, we investigated the potential role of sense of self (SOS), a personality trait relating to an individual's ability to understand themselves (Flury & Ickes, 2007), as a moderator in the direct and indirect relationships between PSNU and hedonic well-being. Thus, the aim of our study was to establish a better understanding of how PSNU affects hedonic well-being via self-esteem and also to examine the role of a third variable, namely SOS. We investigated the involvement of SOS both in the direct link between PSNU and hedonic well-being and in the mediation of this association by self-esteem (i.e., the role of SOS in the link between PSNU and self-esteem and in the link between self-esteem and hedonic well-being). The objective of this analysis was to clarify under what circumstances PSNU is linked to a reduction in self-esteem and hedonic well-being, and under what circumstances self-esteem is linked to an increase in hedonic well-being.

### **The Link Between PSNU and Hedonic Well-Being**

According to previous studies, hedonic well-being consists of life satisfaction (Diener et al., 1985) and positive emotions (Diener et al., 2010). Thus, in the current study, hedonic well-being was construed as a combination of individuals' general subjective assessment of their life satisfaction and their experience of positive emotions.

Ding et al. (2017) observe that PSNU causes students' mental health to deteriorate significantly. Several other studies have demonstrated that engaging in subjective comparisons with others' levels of success may decrease individuals' life satisfaction (Krasnova et al., 2013) and positive emotions (Burke & Kraut, 2016). Moreover, a one-week experiment with 1,095 participants has demonstrated that social network usage negatively affects well-being. Comparison of a treatment group (who took a break from social media) to a control group (who kept using social media) indicated that participants' life satisfaction increased when they stopped using social media; this result demonstrates that SNS exerts negative influence on users' hedonic well-being (Tromholt, 2016). Prior studies have also illustrated that PSNU might weaken well-being (i.e., positive emotions and life satisfaction). On the basis of these prior findings, we propose the following hypothesis:

*Hypothesis 1:* PSNU is negatively associated with hedonic well-being.

## **Social Comparison Theory and Two-Factor Theory as the Primary Theoretical Framework**

### ***The Mediating Role of Self-Esteem***

Self-esteem indexes an individual's subjective judgment of their own self-worth (Rosenberg, 1965). Individuals with higher self-esteem have a more positive view of themselves and feel that others will appreciate them, whereas those with lower self-esteem express doubt about their own value and consider themselves worthless failures (Cameron & Stinson, 2017).

According to social comparison theory (Festinger, 1954), people compare themselves with others as a result of an innate motivation to reflect on themselves. There are two types of tendency to social comparison: *upward social comparison* may be negatively linked to psychological well-being, because it involves a tendency for individuals to compare themselves to others they believe to be superior (Wheeler, 1966), whereas *downward social comparison* may be positively linked to psychological well-being, because it involves comparison with those perceived to be inferior (Wills, 1981).

In the context of SNS use, many studies have also demonstrated that upward social comparison occurring via SNSs may be linked to decreased self-esteem (Chen et al., 2016; Cingel et al., 2022; Krause et al., 2019). Some psychologists have found evidence of a strong link between passive use of SNSs and a tendency to engage in social comparison, i.e., the tendency of an individual to compare themselves to others in order to determine their own value (Chen et al., 2016). Therefore, the greater the extent to which people passively use SNSs, the greater their reported feelings of envy (Krasnova et al., 2013). Regarding the well-known comparison domain phenomenon, Krause et al. (2019) have concluded that upward social comparison resulting from a lack of active interaction with others might be detrimental to the self-esteem of those SNS users who tend to "lurk." Furthermore, self-esteem is positively linked to individuals' life satisfaction (Liang et al., 2020) and positive emotions (Schimmack & Diener, 2003). In other words, self-esteem affects two components of hedonic well-being: life satisfaction and positive emotions (Pandey et al., 2021). Therefore, given this grounding in the relevant theoretical models and previously-established empirical evidence, we hypothesize:

*Hypothesis 2:* Self-esteem mediates the relationship between PSNU and hedonic well-being.

### ***The Moderating Role of Sense of Self***

Although PSNU may have a negative association with individuals' hedonic well-being via the mediating effect of self-esteem, these relationships may not be equal for all individuals. In particular, the strength of the *direct effect* (the effect of PSNU on hedonic well-being itself) and *indirect effects* (the effect of PSNU on self-esteem, and the effect of self-esteem on hedonic well-being in turn) may vary according to an individual's sense of self (SOS).

SOS can be understood as a characterization of how an individual understands and identifies their own characteristics and values (Flury & Ickes, 2007). Individuals with weak SOS have a high probability of having difficulty identifying who they are and often feel uncertain about their decisions and thoughts. In contrast, individuals with strong SOS can identify their core values,

opinions, and beliefs, which enables them to make decisions effectively (Cheng & Nguyen, 2021). However, if such an individual chooses to engage in PSNU, the effects of this activity on their hedonic well-being and self-esteem and the impact of their self-esteem on their hedonic well-being may be stronger than it is among those with weaker SOS, because the former group may tend to compare their lives with those of others based on their stronger understanding of themselves.

According to Schachter and Singer's (1962) two-factor theory, emotional experiences are triggered when an individual is exposed to stimuli from the external environment. Emotional experiences in specific situations are additionally dependent on cognitive functions and individuals' thoughts and judgments. Thus, we drew on Schachter and Singer's two-factor theory as a basis for the entire proposed model. In this model, self-esteem and SOS can be considered to be self-related factors, PSNU plays a role as an external stimulus, and hedonic well-being is treated as a variable relating to internal feelings (see Figure 1). In this way, we propose that the impact of PSNU on hedonic well-being should be examined in relation to self-esteem and SOS. Indeed, prior research has indicated that there is a statistically significant link between SOS and self-esteem (Flury & Ickes, 2007). In the context of SNS use, other studies have also revealed that how individuals use SNSs may shape their perceptions of themselves and others (Blanchard, 2020; Cingel et al., 2022).

In sum, the aim of the present study was to investigate whether or not SOS plays a role as a moderating effect in the indirect and direct relationships between PSNU and hedonic well-being. An individual's level of SOS (i.e., whether it is strong or weak) may affect the extent to which they undergo changes in self-esteem and/or hedonic well-being after engaging in passive use of SNSs, and also the extent to which weakened self-esteem is associated with changes in hedonic well-being. Under this approach, we constructed a theoretical model (see Figure 1) and formulated a third hypothesis:

*Hypothesis 3:* SOS plays a moderating role in the indirect and direct relationships between PSNU and hedonic well-being.

## **Methods**

### ***Participants***

The study was conducted in accordance with the ethical guidelines of the American Psychological Association. Potential participants on campus were encouraged to participate in the study by filling out an anonymous questionnaire; a total of 499 students participated, of whom 153 were male (30.66%) and 346 were female (69.34%).

### ***Measures***

#### ***Passive Social Network Usage***

PSNU was assessed via responses to five statements, for example: "I often comment on friends' posts or statuses" (Chen et al., 2016). Participants rated how true each statement was for them,

on a 5-point scale from 1 = *totally disagree* to 5 = *totally agree*. The Cronbach's  $\alpha$  coefficient was .75.

### ***Self-Esteem***

Self-esteem was assessed using the Rosenberg Self-Esteem Scale (Rosenberg, 1965). This scale consists of ten items (e.g., "I am able to do things as well as most people"). Participants were asked to rate their agreement with each item on a 4-point scale ranging from 1 = *strongly disagree* to 4 = *strongly agree*. The Cronbach's  $\alpha$  coefficient was .71.

### ***Sense of Self***

The Sense of Self Scale (Flury & Ickes, 2007) was used to measure SOS. Participants rated their agreement with each of 12 items on a 5-point Likert scale ranging from 1 = *extremely uncharacteristic of me* to 5 = *extremely characteristic of me*. The greater the mean score on this scale, the weaker the respondent's SOS. The Cronbach's coefficient was .75.

### ***Hedonic Well-Being***

Hedonic well-being was treated as consisting of life satisfaction and experience of positive emotions; these variables were measured using the Satisfaction with Life Scale and the Scale of Flourishing and Negative Experience, respectively.

The Satisfaction with Life Scale consists of five items, for example: "I would change almost nothing" (Diener et al., 1985). Participants responded to each statement using a 7-point Likert scale, with response options ranging from 1 = *strongly disagree* to 7 = *strongly agree*. The Cronbach's  $\alpha$  coefficient was .74.

The Scale of Flourishing and Negative Experience measures positive emotions: for example, to what extent the respondent feels "happy" or "good" (Diener et al., 2010). Participants rated their evaluations of ten statements in terms of how often they had applied to them over the course of the past two weeks, using a 5-point Likert scale ranging from 1 = *very rarely or never* to 5 = *very often or always*. The Cronbach's coefficient was .83. We computed an overall hedonic well-being measure by summing the standardized life satisfaction and positive emotions scores to produce a total score.

### ***Data Analysis***

Descriptive statistics (e.g., means, standard deviations, and correlations) for each of the continuous variables measured in the study were computed using SPSS version 20.0. Additionally, to examine the mediating role of self-esteem and the moderating role of SOS in the relationship between PSNU and hedonic well-being, the PROCESS macro version 3.4 for SPSS 20 was utilized (Hayes, 2013).

### **Results**

As indicated in Table 1, PSNU was negatively correlated with both self-esteem ( $r = -.11, p = .015$ ) and hedonic well-being ( $r = -.15, p = .015$ ), but was not correlated with SOS ( $r = -.04, p = .369$ ). Self-esteem was positively correlated with hedonic well-being ( $r = .45, p < .001$ ) and negatively correlated with SOS ( $r = -.46, p < .001$ ). Finally, hedonic well-being was negatively correlated with SOS ( $r = -.30, p < .001$ ).

### ***Testing the Mediating Effect of Self-Esteem***

As illustrated in Figure 2, a significant negative impact of PSNU on self-esteem was observed ( $\beta = -0.11, p = .015$ ). Additionally, there was a significant positive impact of self-esteem on hedonic well-being ( $\beta = 0.46, p < .001$ ). There was a significant negative overall effect of PSNU on hedonic well-being ( $\beta = -0.15, p < .001$ ). However, the strength of this effect was reduced (although it remained significant,  $\beta = -0.10, p = .001$ ) when the effect of self-esteem was controlled for. Thus, self-esteem may serve as a partial mediator in the relationship between PSNU and hedonic well-being. The Sobel test was used to test for the presence of a significant indirect effect in the relationship between PSNU and hedonic well-being; the results indicated the existence of a significant indirect effect of self-esteem ( $z = -2.47, SE = 0.04, p = .014$ ).

### ***Testing the Moderating Effect of Sense of Self***

#### ***The Path From Passive Social Network Usage to Self-Esteem***

A regression model was constructed with terms representing the effects of PSNU, SOS, and the interaction between PSNU and SOS on self-esteem. This analysis indicated that there was no significant interaction between PSNU and SOS ( $\beta = -0.00, p = .997$ ). Therefore, no moderating effect of SOS was observed in the relationship between PSNU and self-esteem (see Table 2).

#### ***The Path From Passive Social Network Usage and Self-Esteem to Hedonic Well-Being***

A regression model was constructed with terms representing the effects of PSNU, SOS, self-esteem, the interaction between SOS and PSNU, and the interaction between SOS and self-esteem on the outcome variable of hedonic well-being. There was a significant interaction between SOS and PSNU, but no such interaction between SOS and self-esteem (see Table 3). Thus, the findings indicated that SOS moderated the association between PSNU and hedonic well-being. Specifically, a combination of PSNU and SOS may be predictive of changes in hedonic well-being. The effect of PSNU on hedonic well-being was stronger among individuals with strong SOS, while such an effect was absent among those with weak SOS (see Figure 3).

## **Discussion**

The current study investigated the impact of PSNU on hedonic well-being among Vietnamese university students and examined the mediating effect of self-esteem in this relationship. Moreover, the proposed model included SOS as a moderating variable that might further account for the nature of the indirect and direct associations between PSNU and hedonic well-being.

In line with our Hypothesis 1, the results suggested that PSNU was associated with lower levels of hedonic well-being (i.e., life satisfaction and positive emotions). Additionally, we expected

that self-esteem would be found to mediate the association between PSNU and hedonic well-being (Hypothesis 2), and our findings supported this hypothesis. Self-esteem as measured in this study is considered to be a psychological state, or a flexible variable which can change over time through personal and social interactions, and not a personality trait (Chen et al., 2016). According to social comparison theory (Festinger, 1954), PSNU might lead users to experience unwanted feelings of envy in cases in which it triggers many instances of upward social comparison (Wenninger et al., 2019), and this process might harm users' self-esteem. Moreover, this decline in self-esteem significantly impacts two components of hedonic well-being. However, our study found that self-esteem is only a partial mediator in the relationship between PSNU and hedonic well-being, rather than a full mediator entirely governing this relationship. Although we did not assess the specific role of upward social comparison in the proposed model, it seems clear that the nature of users' behavior in relation to SNSs, especially PSNU, may affect their self-esteem. For instance, Cingel et al. (2022) and Krause et al. (2019) explain how and why SNS use may be linked to self-esteem by examining the roles of three associated factors: social comparison, social feedback, and self-reflection. Among these three factors, a tendency to engage in social comparison (e.g., upward social comparison) has been found to contribute to a decline in self-esteem among users; in contrast, social feedback and self-reflection have been found to be positively associated with self-esteem. This model can account for the pattern observed in the current study: when individuals who engage in PSNU (i.e., those who engage in less interaction and receive less positive feedback from other users; Krause et al., 2019) are exposed to positive information on SNSs (such as information about other people's successes), there is a high probability that this will elicit social comparison, stimulating negative self-judgments, and that these individuals may feel that other people's lives are better than their own (Chou & Edge, 2012). Thus, their self-esteem may be damaged by PSNU. In turn, reduced self-esteem may be associated with diminished hedonic well-being.

In term of the moderating effect of SOS, the results indicated the presence of such a moderating effect on the direct relationship between PSNU and hedonic well-being, consistent with our Hypothesis 3. Due to the partial mediating effect of self-esteem, it is possible that SOS may be best interpreted as additional variable moderating and thereby explaining the direct pathway between PSNU and hedonic well-being. However, SOS was not found to moderate the corresponding indirect relationships (between PSNU and self-esteem, or between self-esteem and hedonic well-being).

Based on Schachter and Singer's (1962) two-factor theory, in order to explain the moderating effect of SOS in the link between PSNU and hedonic well-being, we propose that there may be an interaction between PSNU (treated as an external stimulus) and SOS (treated as a cognitive dimension) in their impact on hedonic well-being. Specifically, an individual who has strong SOS may have a clear perception of their own strengths and weaknesses; if they are also prone to engage in passive use of SNSs, this strong SOS may mean that they tend to use the information that they obtain in doing so to engage in frequent comparisons of themselves with others, and may reach the conclusion that their life is worse than others'. Thus, their hedonic well-being may be affected more strongly by this PSNU in comparison to the corresponding effect among otherwise similar individuals with weak SOS.

Conversely, SOS was not found to moderate the indirect paths in this model (i.e., the link between PSNU and self-esteem, or between self-esteem and hedonic well-being), in contravention of Hypothesis 3. In the present study, the measure of self-esteem employed may have been easily affected by environmental stimuli such as PSNU. Once self-esteem has undergone a decrease caused by PSNU, this may in turn produce a direct decline in hedonic well-being without further influence from the cognitive function of SOS. Therefore, it is possible that self-esteem as measured in the present study is more likely to be affected by PSNU itself than by the interaction between PSNU and SOS. That is, once self-esteem has undergone a decrease, this variable may directly be linked to hedonic well-being without the involvement of SOS. Indeed, prior studies have indicated that self-esteem can be considered to be a psychological state that can be changed through social interaction occurring via both face-to-face communication and computer-mediated communication (Cingel et al., 2022; Valkenburg et al., 2021). Thus, PSNU considered as a situational stimulus may directly affect self-esteem. As a result, when self-esteem is damaged by PSNU, this may exert a direct effect on hedonic well-being. This result also provides support for previous findings that, in the context of SNS use, reduced self-esteem following PSNU may impact users' well-being directly, without any moderating effect of variables related to the self (Chen et al., 2016).

### **Limitations and Implications**

First, the participants in this study were not representative of the overall population of university students in Vietnam. Due to a lack of resources, we were unable to recruit a diverse participant sample or widen the geographical scope of the study. Second, the current study employed self-report scales to measure several variables, which may limit the study's reliability as a result of noise introduced by this type of instrument. Hence, future research should employ alternative methods to confirm the validity of the mechanisms underlying the relationship between PSNU and hedonic well-being. Moreover, additional variables that might play a role as mediators in the association between PSNU and hedonic well-being, such as envy (Ding et al., 2017), should be investigated in the future to provide a better understanding of the complex mechanisms underlying the association between these variables. Finally, the current study employed a cross-sectional design. Future studies should test our proposed theoretical model through the use of a longitudinal design, which will provide clarification of the possible causal relationship between PSNU and hedonic well-being.

The results obtained in the current study may have several theoretical and practical implications. In terms of theoretical contributions, not only has the present study explored the association between PSNU and hedonic well-being, but it also provides insight into the complex relationship between these variables: specifically, into the role of self-esteem as a mediator and SOS as a moderator in this relationship. Additionally, our study has contributed to the development of further research by providing a preliminary explanation for the role of SOS as a personality trait in the direct link between PSNU and hedonic well-being. In particular, having identified the role of the psychological state of self-esteem in partially mediating this direct link, we have simultaneously examined the mediating effect of self-esteem and the moderating effect of SOS in this link, grounding the proposed roles of these variables in social comparison theory (Festinger, 1954) and two-factor theory (Schachter & Singer, 1962). Thus, the current study provides evidence for the relevance of these two theories in the context of SNS use.



In terms of practical implications, our research provides a basis for the proposal of interventions to limit the negative impact on students' hedonic well-being when they engage in the use of SNSs. Specifically, the results suggest that students should reduce their levels of PSNU in order to avoid a decline in their hedonic well-being. Additionally, educational institutions, educators, and students themselves need to be aware of and boost students' self-esteem, and encourage them to self-educate by appreciating their own value in order to minimize the negative impact of PSNU on their hedonic well-being.

## REFERENCES

- Blanchar, J. C. (2020). Social Media Responses To Self-Concept Threats. *The Undergraduate Journal Of Psychology At Berkeley*, 13, 44.
- Brailovskaia, J., & Margraf, J. (2016). Comparing Facebook users and Facebook non-users: Relationship between personality traits and mental health variables—An exploratory study. *PLoS ONE*, 11(12), Article e0166999.
- Burke, M., & Kraut, R. E. (2016). The relationship between Facebook use and well-being depends on communication type and tie strength. *Journal of Computer-Mediated Communication*, 21(4), 265-281.
- Burke, M., Marlow, C., & Lento, T. (2010). Social network activity and social well-being. Proceedings of the SIGCHI conference on human factors in computing systems, CHI 2010, Atlanta, Georgia, USA,
- Cameron, J. J., & Stinson, D. A. (2017). Sociometer Theory. In V. Zeigler-Hill & T. K. Shackelford (Eds.), *Encyclopedia of Personality and Individual Differences*. [https://doi.org/10.1007/978-3-319-28099-8\\_1187-1](https://doi.org/10.1007/978-3-319-28099-8_1187-1)
- Chen, W., Fan, C.-Y., Liu, Q.-X., Zhou, Z.-K., & Xie, X.-C. (2016). Passive social network site use and subjective well-being: A moderated mediation model. *Computers in Human Behavior*, 64, 507-514.
- Cheng, W., & Nguyen, D. N. (2021). How selves play on passive social network usage and positive emotions. *Personality and Individual Differences*, 110501.
- Chou, H.-T. G., & Edge, N. (2012). “They are happier and having better lives than I am”: the impact of using Facebook on perceptions of others' lives. *Cyberpsychology, Behavior, and Social Networking*, 15(2), 117-121.
- Cingel, D. P., Carter, M. C., & Krause, H.-V. (2022, 2022/06/01/). Social media and self-esteem. *Current opinion in psychology*, 45, 101304. <https://doi.org/https://doi.org/10.1016/j.copsyc.2022.101304>
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of personality assessment*, 49(1), 71-75.
- Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D.-w., Oishi, S., & Biswas-Diener, R. (2010). New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social Indicators Research*, 97, 143-156.
- Ding, Q., Zhang, Y.-X., Wei, H., Huang, F., & Zhou, Z.-K. (2017). Passive social network site use and subjective well-being among Chinese university students: A moderated mediation model of envy and gender. *Personality and Individual Differences*, 113, 142-146.
- Festinger, L. (1954). A theory of social comparison processes. *Human relations*, 7(2), 117-140.

- Flury, J. M., & Ickes, W. (2007). Having a weak versus strong sense of self: The Sense of Self Scale (SOSS). *Self and Identity*, 6(4), 281-303.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: The Guilford Press.
- Kong, F., Ding, K., & Zhao, J. (2015). The relationships among gratitude, self-esteem, social support and life satisfaction among undergraduate students. *Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being*, 16(2), 477-489.
- Krasnova, H., Wenninger, H., Widjaja, T., & Buxmann, P. (2013). Envy on Facebook: a hidden threat to users' life satisfaction? *Paper presented at the 11th International Conference on Wirtschaftsinformatik (WI)*, Leipzig, German.
- Krause, H.-V., Baum, K., Baumann, A., & Krasnova, H. (2019). Unifying the detrimental and beneficial effects of social network site use on self-esteem: a systematic literature review. *Media Psychology*. <https://doi.org/10.1080/15213269.2019.1656646>
- Liang, D., Xu, D., Xia, L., & Ma, X. (2020). Life satisfaction in Chinese rural-to-urban migrants: Investigating the roles of self-esteem and affect balance. *Journal of community psychology*, 48(5), 1651-1659.
- Lou, L. L., Yan, Z., Nickerson, A., & McMorris, R. (2012). An Examination of the Reciprocal Relationship of Loneliness and Facebook Use among First-Year College Students. *Journal of Educational Computing Research*, 46(1), 105-117. <https://doi.org/10.2190/EC.46.1.e>
- Nabi, R. L., Prestin, A., & So, J. (2013). Facebook friends with (health) benefits? Exploring social network site use and perceptions of social support, stress, and well-being. *Cyberpsychology, Behavior, and Social Networking*, 16(10), 721-727.
- Pandey, R., Tiwari, G. K., Parihar, P., & Rai, P. K. (2021). Positive, not negative, self-compassion mediates the relationship between self-esteem and well-being. *Psychology and Psychotherapy: Theory, Research and Practice*, 94(1), 1-15.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton: Princeton University Press.
- Schachter, S., & Singer, J. (1962). Cognitive, social, and physiological determinants of emotional state. *Psychological Review*, 69(5), 379-399. <https://doi.org/10.1037/h0046234>
- Schimmack, U., & Diener, E. (2003). Predictive validity of explicit and implicit self-esteem for subjective well-being. *Journal of Research in Personality*, 37(2), 100-106.
- Shaw, A. M., Timpano, K. R., Tran, T. B., & Joormann, J. (2015). Correlates of Facebook usage patterns: The relationship between passive Facebook use, social anxiety symptoms, and brooding. *Computers in Human Behavior*, 48, 575-580.
- Tromholt, M. (2016). The Facebook experiment: Quitting Facebook leads to higher levels of well-being. *Cyberpsychology, Behavior, and Social Networking*, 19(11), 661-666.
- Valkenburg, P., Beyens, I., Pouwels, J. L., van Driel, I. I., & Keijsers, L. (2021). Social media use and adolescents' self-esteem: Heading for a person-specific media effects paradigm. *Journal of Communication*, 71(1), 56-78.
- Verduyn, P., Lee, D. S., Park, J., Shablack, H., Orvell, A., Bayer, J., Ybarra, O., Jonides, J., & Kross, E. (2015). Passive Facebook usage undermines affective well-being: Experimental and longitudinal evidence. *Journal of Experimental Psychology: General*, 144(2), 480-488.

- Wenninger, H., Cheung, C. M., & Krasnova, H. (2019). College-aged users behavioral strategies to reduce envy on social networking sites: A cross-cultural investigation. *Computers in Human Behavior, 97*, 10-23.
- Wheeler, L. (1966, 1966/09/01/). Motivation as a determinant of upward comparison. *Journal of Experimental Social Psychology, 1*, 27-31. [https://doi.org/https://doi.org/10.1016/0022-1031\(66\)90062-X](https://doi.org/https://doi.org/10.1016/0022-1031(66)90062-X)
- Wills, T. A. (1981). *Downward comparison principles in social psychology* [doi:10.1037/0033-2909.90.2.245]. American Psychological Association.

## APPENDIX A

**Table 1**

*Descriptive Statistics and Person's Bivariate Correlations between Continuous Variables*

	N	M (SD)	1	2	3
1. PSNU	499	2.70 (0.82)	—		
2. Self-esteem	499	2.80 (0.36)	-.11*	—	
3. Hedonic well-being	499	7.74 (1.43)	-.15**	.45***	—
4. Sense of self	499	3.01 (0.53)	-.04	-.46***	-.30***

Note. PSNU = passive social networking usage.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

**Table 2**

*The Moderating Function of Sense of Self in the Link between PSNU and Self-Esteem*

	<i>b</i>	<i>se<sub>b</sub></i>	$\beta$	<i>t</i>	<i>p</i>	<i>Sr<sup>2</sup></i>	
PSNU	-0.056	0.017	-0.128	-3.228	.001	.016	$R^2 = .229^{***}$
SOS	-0.316	0.027	-0.466	-11.797	<.001	.217	<i>Adj. R<sup>2</sup> = .224</i>
PSNUxSOS	-0.000	0.032	-0.000	-0.004	.997	<.001	

Note. PSNU = passive social networking usage. SOS = sense of self.

Dependent variable: self-esteem.

\*\*\* $p < .001$ .

**Table 3**

*The Moderating Function of Sense of Self in the Link between PSNU/Self-Esteem and Hedonic Well-Being*

	<i>b</i>	<i>se<sub>b</sub></i>	$\beta$	<i>t</i>	<i>p</i>	<i>Sr<sup>2</sup></i>	
PSNU	-0.222	0.081	-0.109	-2.758	.006	.012	
Self-esteem	1.858	0.207	0.399	8.963	<.001	.123	$R^2 = .247^{***}$
SOS	-0.376	0.140	-0.119	-2.685	.008	.011	<i>Adj. R<sup>2</sup> = .239</i>
PSNUxSOS	0.352	0.149	0.094	2.370	.018	.009	

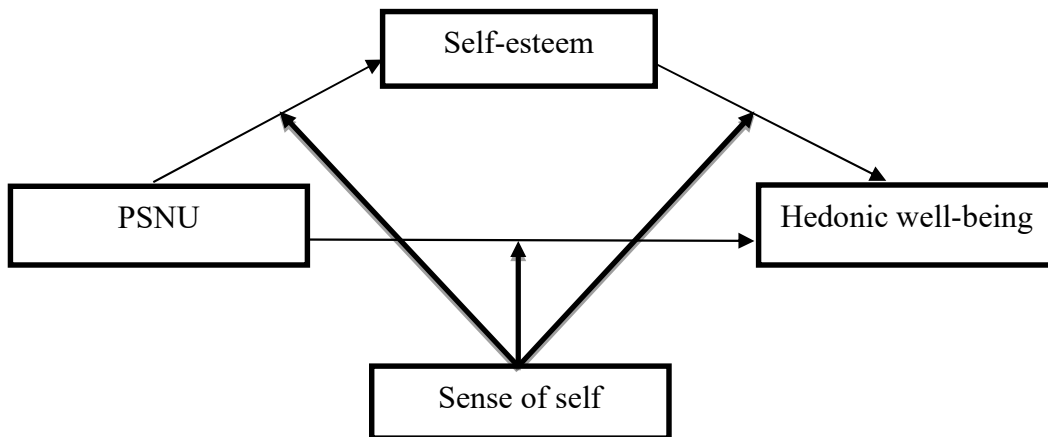
Self-esteemxSOS	0.033	0.294	0.004	0.113	.910	< .001
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Note. SOS = sense of self. PSNU = passive social networking usage.

Dependent variable: hedonic well-being.

\*\*\*  $p < .001$ .

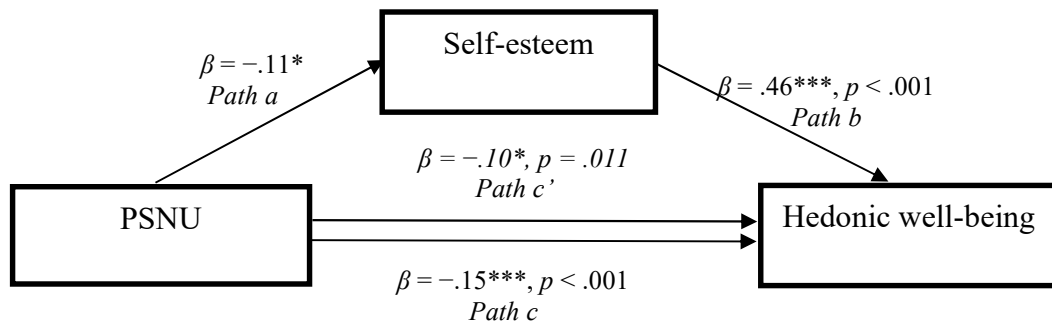
**Figure 1**



*Theoretical Model*

Note. PSNU = passive social networking usage.

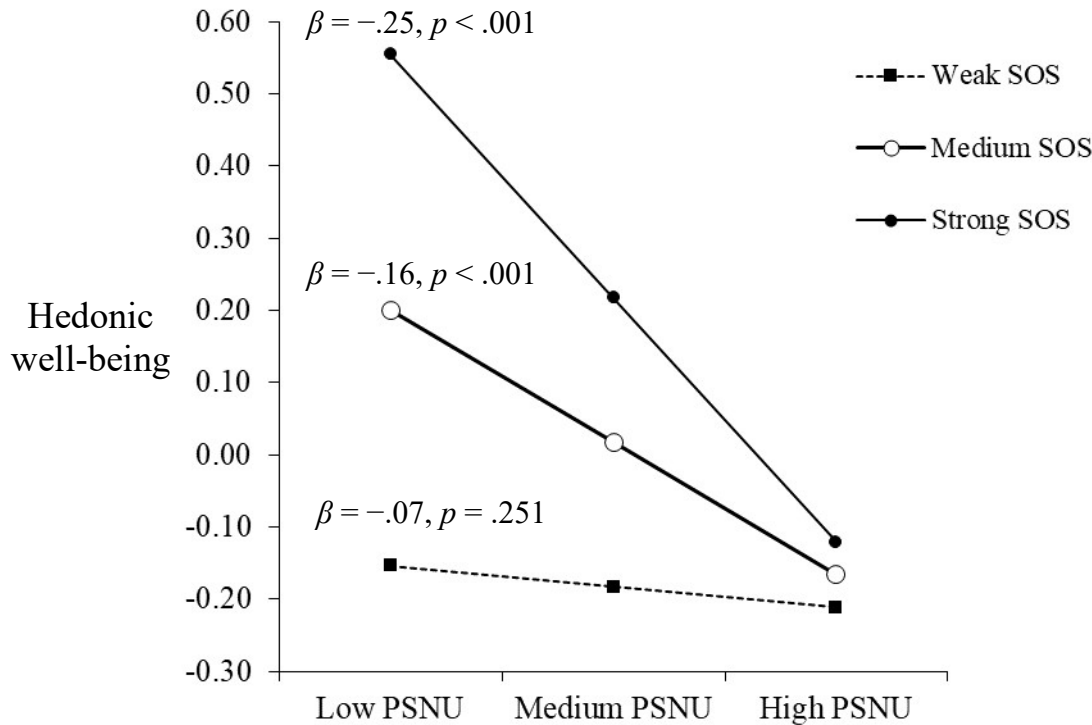
**Figure 2**



*The Mediating Role of Self-Esteem in the Link between PSNU and Hedonic Well-Being*

Note. PSNU = passive social networking usage. From PSNU to hedonic well-being, the upper arrow illustrated the direct effect. In contrast, the lower arrow demonstrated the total effect.

\*  $p < .050$ . \*\*  $p < .010$ . \*\*\*  $p < .001$ .



**Figure 3**

*The Moderating Role of SOS in the Relationship between PSNU and Hedonic Well-Being*

*Note.* PSNU = passive social networking usage.

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