Social Media Use Motives as Mediators of the Link Between Covert Narcissism and Problematic Social Media Use

ABSTRACT

Background: The present study was carried out to investigate the mediating effect of the social media use motives between covert narcissism and problematic social media use in the Korean population.

Methods: College students using social networking service (SNS) (n = 603, 43.6% male) filled out self-report questionnaires of covert narcissism, social media use motives, and problematic social media use.

Results: Participants who reported more covert narcissism reported more problematic social media use. In addition, the relations between covert narcissism and problematic social media use was mediated by information, enhancement, coping, and conformity motives.

Conclusion: The findings of this study can help to establish an intervention program suitable for a specific population group and identify high-risk groups for problematic social media use.

Keywords: Covert narcissism, problematic social media use, social media use motives

Introduction

Social media (Facebook, Instagram, YouTube, Twitter, etc.) is a cyberspace where people share common interests, introduce themselves to others, and communicate with their friends.[1] The use of social media has become widespread. Global social media users were 4.62 billion in 2022.[2] Although moderate use of social media may not interfere with functioning, excessive and problematic social media use is associated with negative outcomes. Problematic social media use (PSMU) has been defined as "being overly concerned about social media, to be driven by a strong motivation to log onto or use social media, and to devote so much time and effort to social media that it impairs one's other social activities, studies/job, interpersonal relationships, and/or psychological health and well-being."[3] This above definition generally represents 6 basic dimensions of behavioral addictions, that is, salience, mood modification, tolerance, conflict, withdrawal symptoms, and relapse.[4]

For problematic social media users, social media use becomes the most important activity in their lives (salience). Among those preoccupied with social media use, attempts are made to reduce negative emotions through social media use (mood modification). To maintain the same mood and feeling as in the initial phases of usage, problematic social media users must spend increased amounts of time and energy on social media (tolerance). As social media use is discontinued, problematic social media users will experience negative psychological or physiological symptoms (withdrawal), often leading them to start problematic behavior (relapse). Negative consequences arise from the problematic behavior, leading to a subjective loss of control over social media use and impairment in social, interpersonal, and occupational functioning (conflict).

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Previous reports have suggested that PSMU may cause negative consequences among college students. According to prior research, PSMU is associated with low academic functioning and self-esteem in college students,[5,6] and PSMU was linked to relationship dissatisfaction in undergraduate students.[7] In addition, PSMU was associated with decreased subjective happiness and vitality in college students.[8]

One of the important predictors of PSMU in college students is narcissism. Narcissism was described as having 2 faces—the overt and the covert.[9] These 2 types of narcissism share the key features of narcissism, which consist of a sense of entitlement, beliefs of personal superiority, and a need for admiration. While individuals with overt narcissism tended to be bold, extroverted, and attention seeking, individuals with covert narcissism have insecurity, shyness, anxiety, low social efficacy, and high sensitivity to negative social evaluations. Overt narcissism has been reported to perform a key role in the onset and course of PSMU.[10,11,12] Although consistent results were reported regarding the positive and significant association between overt narcissism and PSMU, the association between covert narcissism and PSMU has been less investigated. Also, little is known about the mediators of the associations between covert narcissism and PSMU. This study evaluated how use motives mediated the relations of covert narcissism and PSMU with a sample of Korean university students.

Previous studies have suggested that use motives can be an important factor in explaining PSMU.[13] Social media use motives are reasons for social media use based on past social media use experiences. Social media use motives are pathways that are ultimately passed when various situational, environmental, and intrapersonal factors influence social media use. The initial research about use motives provided a 2-factor[14] and a 3-factor model,[15] but it soon resulted in a 4-factor model[16] that consisted of enhancement motives (to boost positive affect), coping motives (to avoid and/or reduce negative affect), social motives (to affiliate with others), and conformity motives (to avoid social alienation). These 4 use motives can be described by 2 dimensions. One dimension is the valence of reward (positive or negative) and the other dimension is the source of reward (internal or external). Crossing these 2 dimensions yields 4 use motives. Recent studies[17,18] have indicated that 2 additional use motives may be related to PSMU: pastime and information motives. Information motives are to obtain information and intellectual resources using social media. Pastime motives are to reduce boredom using social media. Based on a literature review and survey, the Social Network Site Use Motives Scale (SUMS) was developed[17,18] to assess 6 factors of social media use motives: information, social, enhancement, conformity, coping, and pastime motives. The 6 use motives showed correlation coefficients ranging from 0.25 to 0.57 with PSMU, suggesting that all the 6 use motives can function as proximal determinants of PSMU.[18]

MAIN POINTS

- *Covert narcissism predicts problematic social media use.*
- *Coping, social, conformity, enhancement, and information motives predict problematic social media use.*
- *Coping, conformity, enhancement, and information motives act as mediators in the relationship between covert narcissism and problematic social media use.*

Given that covert narcissism has been closely related to a lack of adaptive emotion regulation strategy[19] and negative emotions,[20] covert narcissism is likely to be related to coping motives. People with covert narcissism do not have effective strategies to control their negative emotions, so they will use social media to cope with their negative emotions. In addition, according to previous studies that covert narcissism avoids real human relationships and prefers online human relationships,[21] it is highly likely that covert narcissism is related to conformity motives. Individuals with covert narcissism have difficulty participating in offline relationships due to social avoidance and fear of negative evaluation. Therefore, they are more likely to use social media to compensate for their lack of social relationship. The purpose of this study is to examine the motivational pathways in which covert narcissism affects PSMU, as previous studies have not looked at how covert narcissism affects PSMU. It was hypothesized that after controlling for age and gender, covert narcissism has indirect effects on PSMU through the unique effects of conformity (H1) and coping motives (H2) (Figure 1).

Material and Methods

Participants

A total of 603 college students at a Korean university participated in this study. The research data were extracted from 2 research projects aimed at identifying the relationship between narcissism and PSMU.[22,23] Those who did not use social media did not participate in the study. All participants signed informed consent prior to enrollment, the author complied with the American Psychological Association ethical standards in the treatment of human subjects, and this study was conducted under the approval of Daegu University Institutional Review Board (IRB: Approval No. 1040621-20 2303-HR-E001).

Measures

The Hypersensitive Narcissism Scale: Covert narcissism was measured by the Hypersensitive Narcissism Scale (HSNS).[24] The inventory consists of 10 items that are rated on a 5-point Likert-type scale, ranging from 1 (very uncharacteristic or untrue, strongly disagree) to 5 (very characteristic or true, strongly agree). The Cronbach's alpha of the HSNS was 0.70 in the previous study.[25]
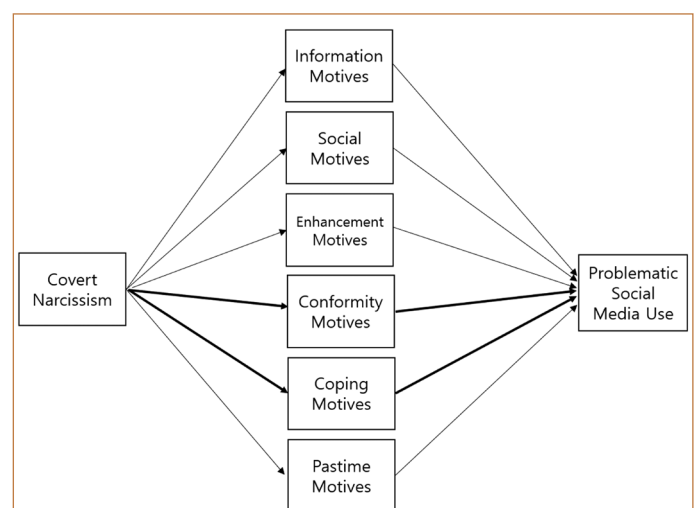

Figure 1. Proposed study model. The significant indirect paths are bolded.

The Social Network Site Use Motives Scale: The Social Network Site Use Motives Scale (SUMS) is a 30-item scale that measures 6 social media use motives (information, social, enhancement, conformity, coping, and pastime motives).[17,18] Respondents indicate in a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The Cronbach's alpha ranged from 0.87 to 0.93 for all 6 factors in the previous study.[18]

The Social Network Site Addiction Proneness Scale: The Social Network Site Addiction Proneness Scale (SAPS) is a 24-item scale that measures PSMU.[26] The inventory consists of 24 items that are rated on a 5-point Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The Cronbach's alpha of the SAPS was 0.92 in the development study.[26]

Procedure

After the researcher obtained the participants' signature on the written informed consent form, the participants responded to the HSNS, SUMS, and SAPS as a group in the classroom. Each questionnaire package contained 3 questionnaires presented in the above-listed order. It took participants about 20 minutes to respond to the set of questionnaires. Personal identifiable information was not collected.

Data Analyses

Data analysis was carried out via Statistical Package for the Social Sciences, version 27.0 (IBM SPSS Corp.; Armonk, NY, USA), software. Descriptive statistical analysis was used to characterize the sample and evaluate demographic information. The normality of the data was examined using 1-sample Kolmogorov–Smirnov test, which showed that the variables had a normal distribution ($P > .05$). Because the data were normally distributed, means and SDs were provided, and parametric analyses were used. Categorical variables are given as numbers (percentages). Pearson's correlation coefficients were calculated to determine the correlation between social media use motives, covert narcissism, and PSMU. The PROCESS macro model 4 was employed to evaluate the mediating effect between variables.[27] The bootstrap method calculates the 95% confidence intervals using 5,000 bootstrap samples. An indirect effect is considered significant when zero is not included in the 95% confidence interval. All variables were standardized when mediating effects were analyzed using the PROCESS macro. The effect size for indirect effects was evaluated according to the criteria proposed by Preacher and Kelley.[28] McDonald's omega was calculated to assess the internal consistency. The statistical significance level was accepted as $\alpha = 0.05$.

Results

A total of 603 college students participated in this study. Of these participants, 340 (56.4%) were females and 263 (43.6%) were males. The average age of participants was 21.13 (SD = 1.954) years, and the age range was 18 to 29 years.

Descriptive Analysis

Table 1 shows the Pearson's correlation coefficients between variables and means and SDs of the variables. Covert narcissism was positively and significantly associated with 5 of the 6 social media use motives ($r = 0.122$-0.224) and with PSMU ($r = 0.196$, $P < .001$). Also, PSMU was significantly and positively correlated with all the social media use motives ($r = 0.398$-0.744).

Parallel Multiple Mediation Analysis

The parallel multiple mediation analysis is based on several assumptions that should be met. Assumptions of homoscedasticity, linearity, and multicollinearity were not violated. There were also no outliers. Age and gender were included in the analysis to avoid confounding factors affecting the relationship between covert narcissism and PSMU. Tables 2, 3, and 4 show the findings of the parallel multiple mediation analysis of the relation between covert narcissism, social media use motives, and PSMU.

The direct effects of covert narcissism on information ($\beta = 0.204$, $SE = 0.040$, $t = 5.158$, $P < .001$), enhancement ($\beta = 0.102$, $SE = 0.040$, $t = 2.546$, $P = .011$), conformity ($\beta = 0.225$, $SE = 0.040$, $t = 5.634$, $P < .001$), coping ($\beta = 0.213$, $SE = 0.040$, $t = 5.347$, $P < .001$), and pastime motives ($\beta = 0.164$, $SE = 0.040$, $t = 4.139$, $P < .001$) were statistically significant (Table 2).

As noted in Table 2, when the direct effects of mediators on PSMU were examined, the effects of information ($\beta = -0.078$, $SE = 0.032$, t

Table 1. Means, SDs, Range, McDonald's Omega, and Pearson's correlations

	1	2	3	4	5	6	7	8
1. Covert narcissism	-			-				
2. Information motives	0.221 (<.001)	-			-			
3. Social motives	0.075 (.065)	0.484 (<.001)	-			-		
4. Enhancement motives	0.122 (.003)	0.567 (<.001)	0.538 (<.001)	-			-	
5. Conformity motives	0.217 (<.001)	0.365 (<.001)	0.678 (<.001)	0.336 (<.001)	-			
6. Coping motives	0.224 (<.001)	0.446 (<.001)	0.572 (<.001)	0.565 (<.001)	0.609 (<.001)	-		
7. Pastime motives	0.184 (<.001)	0.495 (<.001)	0.397 (<.001)	0.702 (<.001)	0.271 (<.001)	0.466 (<.001)	-	
8. PSMU	0.196 (<.001)	0.398 (<.001)	0.578 (<.001)	0.601 (<.001)	0.575 (<.001)	0.744 (<.001)	0.474 (<.001)	-
Mean	28.46	15.15	12.47	16.33	9.33	10.70	17.20	45.67
Mean ± SE	0.215	0.188	0.182	0.165	0.179	0.195	0.198	0.577
SD	5.270	4.624	4.481	4.040	4.388	4.796	4.868	14.160
Range	11-46	5-25	5-25	5-25	5-25	5-25	5-25	24-90
McDonald's omega	0.70	0.88	0.86	0.89	0.93	0.92	0.92	0.95

n = 603.
P-values are indicated in parentheses.
PSMU, problematic social media use.

Table 2. Parallel Multiple Mediation Model Estimation Results

Path	β	SE	t	P	95% Confidence Interval	
					LLCI	ULCI
Covert narcissism → Information motives	0.204	0.040	5.158	<.001	0.126	0.281
Covert narcissism → Social motives	0.072	0.041	1.771	.077	−0.008	0.153
Covert narcissism → Enhancement motives	0.102	0.040	2.546	.011	0.023	0.181
Covert narcissism → Conformity motives	0.225	0.040	5.634	<.001	0.146	0.303
Covert narcissism → Coping motives	0.213	0.040	5.347	<.001	0.135	0.291
Covert narcissism → Pastime motives	0.164	0.040	4.139	<.001	0.086	0.242
Covert narcissism → PSMU	0.031	0.027	1.174	.241	−0.021	0.083
Information motives → PSMU	−0.078	0.032	−2.401	.017	−0.141	−0.014
Social motives → PSMU	0.092	0.039	2.351	.020	0.015	0.168
Enhancement motives → PSMU	0.249	0.041	6.058	<.001	0.168	0.329
Conformity motives → PSMU	0.156	0.038	4.089	<.001	0.081	0.231
Coping motives → PSMU	0.465	0.036	12.751	<.001	0.393	0.537
Pastime motives → PSMU	0.036	0.036	0.992	.322	−0.035	0.106

LLCI, lower limit of confidence interval; PSMU, problematic social media use; ULCI, upper limit of confidence interval.

= −2.401, *P* = .017), social (*β* = 0.092, *SE* = 0.039, *t* = 2.351, *P* = .020), enhancement (*β* = 0.249, *SE* = 0.041, *t* = 6.058, *P* < .001), conformity (*β* = 0.156, *SE* = 0.038, *t* = 4.089, *P* < .001), and coping (*β* = 0.465, *SE* = 0.036, *t* = 12.751, *P* < .001) were statistically significant.

Table 3 shows that the total effect of covert narcissism on PSMU was statistically significant in the parallel multiple mediation analysis (*β* = 0.187, *SE* = 0.040, *t* = 4.677, *P* < .001) and that the direct effect of covert narcissism on PSMU was insignificant in the parallel multiple mediation analysis (*β* = 0.031, *SE* = 0.027, *t* = 1.174, *P* = .241).

Table 4 shows that the total indirect effect of covert narcissism on PSMU via the mediators was statistically significant [point estimate = 0.156, 95% CI (0.089, 0.222)]. The overall indirect effect size was medium to large. For each mediator, the indirect effects via information motives [point estimate = −0.016, 95% CI (−0.032, −0.003)], enhancement motives [point estimate = 0.025, 95% CI (0.003, 0.050)], conformity motives [point estimate = 0.035, 95% CI (0.015, 0.058)], and coping motives [point estimate = 0.099, 95% CI (0.060, 0.140)] were statistically significant (Table 4). Hence, results confirm the hypothesis 1 and 2, as the conformity motives and coping motives mediated the relation between covert narcissism and PSMU.

In this study, 4 out of 6 variables showed mediating effects. Therefore, a follow-up analysis was conducted to examine the mediational effect of meta motives. Six motives were reduced to meta motives using factor analysis. Subsequently, the meta motives were included in the mediation model to examine the mediating effect. The direct effect of covert narcissism on meta motives was significant (*β* = 0.215,

SE = 0.040, *t* = 5.427, *P* < .001). When the direct effect of a mediator on PSMU were examined, the effect of meta motives (*β* = 0.740, *SE* = 0.028, *t* = 26.268, *P* < .001) was statistically significant. However, when the mediator was included in the analysis, the direct effect of covert narcissism on PSMU was no longer significant (*β* = 0.028, *SE* = 0.028, *t* = 1.010, *P* = .313). The indirect effect via meta motives was statistically significant [point estimate = 0.740, 95% CI (0.684, 0.795)].

Discussion

Although previous studies have reported significant correlations between covert narcissism and PSMU, less is reported about the motivational intervening mechanisms via which covert narcissism affects PSMU. As with previous results,[12,29] in the present study, covert narcissism was positively and significantly associated with PSMU. Furthermore, covert narcissism was significantly and positively related to 5 social media use motives. Moreover, all the use motives were positively and significantly associated with PSMU, which is in line with the previous research.[17]

Finally, it was investigated whether coping and conformity motives acted as mediators in the relationship between covert narcissism and PSMU. Findings showed that both coping and conformity motives

Table 3. Total Effect and Direct Effect of Covert Narcissism on PSMU

	Effect	SE	t	P	95% Confidence Interval	
					LLCI	ULCI
Total effect	0.187	0.040	4.677	<.001	0.109	0.266
Direct effect	0.031	0.027	1.174	.241	−0.021	0.083

Effect = measure of the effect size (0.010 = small; 0.090 = medium; 0.250 = large). LLCI, lower limit of confidence interval; PSMU, problematic social media use; ULCI, upper limit of confidence interval.

Table 4. Indirect Effect of Covert Narcissism on PSMU

	Effect	SE	95% Confidence Interval	
			LLCI	ULCI
Total effect	0.156	0.033	0.089	0.222
Information	−0.016	0.007	−0.032	−0.003
Social	0.007	0.006	−0.001	0.020
Enhancement	0.025	0.012	0.003	0.050
Conformity	0.035	0.011	0.015	0.058
Coping	0.099	0.020	0.060	0.140
Pastime	0.006	0.006	−0.005	0.018

Effect = measure of the effect size (0.010 = small; 0.090 = medium; 0.250 = large). LLCI, lower limit of confidence interval; PSMU, problematic social media use; ULCI, upper limit of confidence interval.

functioned as mediators between covert narcissism and PSMU. Also, information and enhancement motives functioned as mediators between covert narcissism and PSMU. The findings supported the idea that covert narcissism could cause PSMU via motivational pathways.

The result that information motives functioned as a mediator between covert narcissism and PSMU was inconsistent with the hypothesis. The indirect effect of information motives was statistically significant but showed a negative value because the regression coefficient between information motives and PSMU was a negative value. However, the correlation coefficient between information motives and PSMU was positive. Thus, a suppressor effect occurred in the regression model.

Another unexpected result was that the indirect effect of enhancement motives was statistically significant. This result appears to be related to basic psychological need frustration. A previous study reported that basic psychological need frustration is the cause of covert narcissism[30] and basic psychological need frustration could lead to enhancement motives.[31] Therefore, it can be inferred that individuals with covert narcissism use social media to overcome basic psychological need frustration, and as a result, the indirect effect of enhancement motives was statistically significant.

The indirect effect size of covert narcissism on PSMU through coping motives was medium to large and that of covert narcissism on PSMU through conformity motives was small to medium. Also, the indirect effect size of covert narcissism on PSMU through information motives was small to medium and that of covert narcissism on PSMU through enhancement motives was small to medium. In other words, although all 4 use motives function as mediators between covert narcissism and PSMU, their effect sizes were different for each use motives.

Consistent with hypothesis, coping motives were found to act as a mediator in the relationship between covert narcissism and PSMU. This finding may suggest that college students with covert narcissism are prone to experience more frequent or intense negative emotions, or to have more difficulty in controlling negative emotions.[19,20] Also, conformity motives were found to serve as a mediator between covert narcissism and PSMU. This finding may suggest that social interaction in social media may be essential for college students with covert narcissism in that they prefer online social interaction because they are more anxious in an interpersonal situation.[29]

The results of the study supported for covert narcissism and PSMU. When the indirect effect of covert narcissism on PSMU was present, the direct effect was found to be insignificant. In other words, the direct effect of covert narcissism to PSMU will be significant only if the mediators are absent. The findings suggest that use motives account for most of the association between covert narcissism and PSMU. Also, this indicates that use motives function as proximal factors to PSMU for individuals with covert narcissism.[17]

In this study, the correlation between covert narcissism and PSMU was 0.197, which was slightly lower than those of previous studies.[11,32] There are 2 main reasons for these findings. First, it is because of the difference between the PSMU scale used in this study and used in previous studies. According to previous studies, the correlation

between covert narcissism and PSMU depends on the scale used to measure PSMU. Second, the correlation between covert narcissism and PSMU depends on the type of social media used. The difference in the type of social media used by the participants in this study and in previous studies might determine the difference in the correlation between covert narcissism and PSMU.

This study attempted to provide a better understanding of the association between covert narcissism and PSMU by combining literature on covert narcissism and motivation theory of PSMU. Because narcissism has been manifested at the trait level, state level, and within-situation level,[24] it would provide prolific findings in future research to investigate the effects of the full range of narcissistic features on PSMU as mediated by social media use motives.

The results have important implications for prevention of PSMU. Problematic social media use prevention programs for college students with covert narcissism might be particularly useful in reducing the possibility of PSMU development if they were aiming for use motives. College students can recognize their social media use motives and find an alternative to their social media use motives, and through this, the level of PSMU proneness can be lowered. For example, for individuals with covert narcissism and coping motives, finding alternatives to reduce negative emotions can be beneficial. Interventions to find ways of initiating and maintaining social interaction with their friends might be suitable for college students with covert narcissism and conformity motives.

The present study has several limitations. First, in this study, the variables were measured at the same time, so the relationship between the variables cannot be confirmed as causal. Therefore, it is necessary to verify the causal relationship through longitudinal studies. Second, because only self-report questionnaires were used in this study, it is difficult to rule out the possibility that the relationship between variables is overestimated by instrumental similarity. Therefore, in follow-up studies, there is a need to replicate the results of this study using tools with different modalities. Third, because the data for this study were obtained from a relatively small area, care must be taken when applying these findings to other populations. Fourth, in this study, the type of social media was not identified. According to previous studies, the type of social media affects intensity of use, the time spent on the platform, and use motives.[33] Because the results of this study may vary depending on the type of SNS, it is necessary to collect information on the type of social media in subsequent studies. Fifth, in this study, 6 social media use motives were used to predict PSMU. However, the variance explained by these 6 social media use motives was relatively small. This shows that the scale for social media use motives used in this study needs to be modified or extended. Finally, McDonald's omega of the HSNS was relatively low in the study. Low level of internal consistency may influence the outcomes. Thus, future studies will need to replicate the results of this study using other measures of covert narcissism.

Although this study highlights a need to investigate how covert narcissism affects PSMU, a further study with a longitudinal design, a variety of measurement tools, a larger and more diverse sample, and information on the type of social media is necessary to determine a more precise picture of the relationship between covert narcissism and PSMU. Irrespective of the limitations of this study, individuals

with probable PSMU can be selected for prevention programs with the help of the study results.

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