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Structural Relationship of Factors Affecting SNS Addiction in Pre-Service Teachers

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Abstract

This study explores ways to alleviate pre-service teachers' SNS addiction and encourage positive change. Moreover, covert narcissism and insecure adult attachment are factors affecting that predict SNS addiction. Accordingly, the relationship between covert narcissism and SNS addiction in pre-service teachers and the meditating effect of insecure adult attachment were examined. For this study, responses by 446 pre-service teachers were measured against a battery of scales including the Covert Narcissism Scale, SNS Addiction Scale, and Insecure Adult Attachment Scale. Results showed that covert narcissism did not affect SNS addiction. Anxiety attachment and avoidant attachment, arising from insecure adult attachment, have a significant influence on SNS addiction. In conclusion, the study identified the mediating effect of insecure adult attachment on the relationship between covert narcissism and SNS addiction. Interventional implications of the current results are discussed

Keywords: Pre-Service Teacher, SNS Addiction, Covert Narcissism, Insecure Adult Attachment, Factors Affecting

1. Introduction

Not only do digital devices become part of people's daily life; they help to form relationships that build individual identity and influence the social environment. In particular, college students, categorized as young adults, need to establish their romantic relationships [1] and they are most likely to use the Social Network Service (SNS) to build cyber communities and relationships.

College students, studying to become teachers, have only lately experienced social media, and it helps them to understand youths' social media activity and represent their characteristics. In school, teachers not only convey information but guide teenage students to establish their values and perspectives. Pre-service teachers, by successfully understanding personality and mental health issues, can become good role models for their students. Thus, it is important for pre-service teachers to motivate themselves to develop as mature careerists, to be conscious of the SNS addiction problem for their mental health and improve their personal qualities by constant self-monitoring.

Symptoms of SNS addiction are myalgia resulting from excessive use of devices, information overload and obsessive use of SNS. These symptoms indicate psychological dependence on digital devices and groups of people who may choose to continue their academic, professional and social interaction online [2,3,4]. SNS addiction is a worldwide phenomenon, and in Korea, 83% of people in their twenties use SNS, and it is reported that about 8.4% are addicted to SNS [5].

The overuse of SNS increases academic, emotional, and social problems. The overview of the preceding research related to social problem shows that people addicted to SNS experience less social support through relationships with other people. Also, it causes various problems in relationships [6,7].In terms of emotional development, psychological problems such as loneliness, depression, and anxiety are heavily related to SNS addiction [8,9,10].

SNS addiction occurs due to the interaction between genetic and environmental factors. Studies are being developed to explain genetic traits. If the tendency towards narcissism is high, there is a greater vulnerability to SNS addiction [11,12,13]. There are two types of narcissism: overt narcissism, where people display arrogance or haughtiness in their human relationships due to grandiose self-perception and consciousness of privilege, and covert narcissism, where they have similar grandiose ideas but hide this lust for dominance, have exploitative tendencies, need to be approved by others and become the center of the world. People with covert narcissism want to show their grandiose perception of themselves in SNS space and satisfy their desire for perfectionist self-display [12].

Forming human relationships, keeping them, and intimacy, are related to the attachment as an attribute of an individual. Also, it becomes the base for an individual to understand their environment, detect of safety and danger, and forming related attitudes and beliefs. This study targets pre-service teachers, categorized as the beginning of adulthood and measures their insecure adult attachment. Adult attachment styles are composed of anxiety attachment orthogonally related to avoidance attachment.

These attachments not only predict the stability of human relationships but are also related to the tendency towards SNS addiction [13,14]. Recently, active attempts are in progress to find the relationship between SNS addiction tendency and attachment. Studies that targeted college students showed that when insecure attachment increases, interpersonal problems intermediate, therefore, affecting SNS addiction [13]. Despite the fact, there is a lack of studies focusing on the tendency towards SNS addiction targeting pre-service teachers. This study is looking to find a way for the pre-service teacher to alleviate SNS addiction and to positively change their covert narcissism and insecure adult attachment as factors affecting to predict SNS addiction.

Accordingly, this study examines pre-service teachers' covert narcissism, the relationship between insecure adult attachment and SNS addiction, and the mediating effect of insecure adultattachment in this relationship. To this end, the structural equation model in this study was employed for those receiving pre-service teacher education at the university.

2. BACKGROUND THEORY

Narcissism is characterized by an exaggerated perception of self, difficulty in adapting to reality, unrealistic relationships, feelings of self-importance, demands of excessive praise from others, and exploitative interpersonal relationships. This pathological narcissism is distinguished from overt narcissism and covert narcissism. Overt narcissists have a grandiose self-perception and a privileged consciousness, showing arrogant attitudes in interpersonal relationships. By contrast, the covert narcissist is timid, lacks self-confidence, and is sensitive to criticism from others. People with strong covert narcissism are not likely to express their underlying narcissistic tendencies and are more likely to be addicted to specific behavioral disorders, such as drug use, gambling, and games. They are immersed in SNS because they feel anxiety concerning reality through social media activities and social support in virtual space. In the study of Lim [15], it was also found that Covert narcissistic personality traits appeared more in cyber-dependent groups. In the study of college students, the group with a high tendency towards covert narcissism was more prone to SNS addiction. Such narcissism develops through relationships with parents in childhood, and pathological narcissism develops due to the frustration of inadequate empathy in those days. Adult attachment, which becomes more solid in adulthood, plays an important role in maintaining interpersonal relationships with an individual. According to Smolewska & Dion [16], people with a high level of covert narcissism had a high level of insecure adult attachment, and the Covert Narcissism Scale played a

prophetic role in determining insecure adult attachment. Otway & Vignoles [17] contend that covert narcissism directly predicts insecure adult attachment. It can be seen that covert narcissism is related to further triggering psychological maladjustment. In this study, we intend to find out the relationship between covert narcissism and SNS.

Social Networking Service (SNS) is a service focused on the formation of online social relations for the community of people who want to share their tastes and activities or to observe the tastes and activities of others. SNS is a new means of communication that builds relationships with social networks, unique information, and strengthens relationships. Hofmann [18] reported that the desire to communicate on SNS was stronger than substance toxicity. It is also more likely that you will be immersed in SNS than in other addictive behaviors. From the psychosocial point of view of Erikson [19], college students are likely to use it as a means to secure, maintain, or expand intimate relationships through social media. College students with insecure attachments usually have psychological distress which has a positive effect on relationship addiction. The results of this study explain the connection between attachment and addiction. This study aims to investigate the effect of insecure adult attachment on SNS addiction in prospective college students.

Attachment is a strong and lasting emotional relationship that a person has with people close to them. Bowbly & Bretherton [20] argued that early caregivers form people's expectations and experiences of others' reactions and are important factors in identifying and maintaining their lifelong values. As this attachment persists throughout life, it becomes hidden in the psychological discomfort of adults. Brennan, Clark & Shaver [21] described insecure adult attachments as anxiety attachments and avoidance attachments, like the attachment patterns formed early in life. Anxiety attachment indicates the degree of anxiety related to rejection or separation in a relationship, and avoidance attachment fears the desire to become intimate with others, creating psychological distance. Therefore, this study attempts to predict the relationship between insecure attachment and covert narcissism, based on previous studies that an individual's initial attachment can continue to grow and to appear in adulthood.

3. METHOD

3.1 Participants

This study was conducted with pre-service teachers taking pre-service education courses for four years at universities. These participants were surveyed for 2 weeks. In the 500 copies of surveys collected, 446 pre-service teachers' (89.2%) research data was used in the analysis after excluding 54 who did not participate adequately.

The ratio of male and female pre-service teachers was similar: 48.4% male and 51.6% female. Regarding grade level, sophomore (37.9%) and junior (32.5%) participants were relatively high, while freshman (17.3%) and senior (12.3%) were relatively low. Additionally, 44.8% of them majored in education and 55.2% did not major in education.

3.2 Measures

To measure covert narcissism, Akhtar &Thomson [22] invented a new tool, which was adapted by Gang & Chung [23], called the Covert Narcissism Scale (CNS). This scale has a total of 27 questions with 3 major groups of factors which are: the desire for recognition‑grandiose sense of self-importance (9 questions), exploitation‑egocentrism (9 questions), and timidity-lack of self-confidence (8 questions). In this study, 7 questions are excluded through factor analysis, and the 3 major groups of factors are reasonably sorted

(factor results .503~.773). Internal consistency (Cronbach᾽s α) is shown through apreferencefor recognition‑grandiose sense of self-importance (.830), exploitation‑egocentrism (.859), and timidity‑lack of self-confidence (.782).

A revised version of the Fraley, Waller,& Brennan [24] scale was used to measure the degree of college students' insecure adult attachment. The scale is composed of two independent subclass classification factors of insecure adult attachment, "anxiety attachment" and "avoidance attachment," which comprised 18 questions each. Through factor analysis, it is reasonable to classify those to factors, and5 questions were not matched with any factor (factor results .505~.777) Cronbach᾽s α for anxiety attachment was .920 and that for avoidance attachment was .875.

The SNS Addiction Scale invented by Andreassen, et al [25] and adapted and validated by Jo, Kim, & Song [26], is used to measure the tendency towards SNS addiction. This scale is classified into 3 main factors: failure in the regulating-difficulty of daily life, flow-tolerance, and preference for the virtual world‑withdrawal; it comprises a total of 24 questions, except for 1 question (factor results .562~.791). Internal consistency for failure in regulating-difficulty of daily life was .955, flow-tolerance was .889, and preference for the virtual world-withdrawal was .801.

3.3 Analysis

Statistical analysis of data collected for this study was processed using the SPSS and AMOS 24.0 programs. First, the factor analysis of the 3 measuring tools and internal consistency was calculated to identify the reliability and validity of the questions. Second, the frequency and percentages were calculated to identify the distribution of the pre-service teachers taking part in the survey. Third, the statistics described by the surveyed pre-service teachers were calculated to determine the level of covert narcissism, the level of insecure adult attachment, and the level of SNS addiction. Fourthly, a structural equation analysis was performed to verify the research theories established to examine the causal relationship between endogenous covert narcissism, insecure adult attachment, and SNS addiction, and the mediating effects of insecure adult attachment were verified through bootstrapping. The significance level and hypothesis verification of the above statistical analysis was carried out in α=.05.

4. RESULTS

4.1 Descriptive Statistics of Research Variables

In this study, covert narcissism variables in pre-service teachers were included as independent variables, and the SNS addiction variables were included as dependent variables. We wanted to examine the effects of insecure adult attachment mediation in the relationship between these variables. Descriptive statistics such as minimum and maximum values, mean and standard deviation, and skewness and kurtosis, which were measured on a five-point recertification scale, are shown in [Table 1].

Table 1. Descriptive Statistics of Research Variables (n=446)

Category		Min	Max	Mean	S.D.	Skewness	Kurtosis
covert narcissism	exploitative–egocentrism	1.00	3.89	2.40	.64	.05	-.55
	oversensitiveness–weakness	1.00	5.00	2.78	.68	-.07	-.31
	timidity–lack of self-confidence	1.25	5.00	2.97	.62	-.09	-.03
insecure adult attachment	anxiety attachment	1.00	4.76	2.61	.61	-.03	-.21
	avoidance attachment	1.00	4.78	2.72	.51	.01	.89
SNS addiction	failure in regulating–difficulty of daily life	1.00	4.00	2.07	.82	-.86	.44
	Flow–tolerance	1.00	4.33	2.24	.85	-.91	.20
	preference for the virtual world–withdrawal	1.00	4.67	2.54	.98	-.96	-.12

All variables in this study attracted negative scores, while their average value scored less than 3. Timidity‑lack of self-confidence scored the highest, with 2.97, indicating that it is the most vulnerable sentiment. And the average value of over- sensitiveness–weakness (2.78), avoidant attachment (2.72), and anxiety attachment (2.61) was higher than the mean.

On the other hand, the average score for SNS addiction was low. Failure in regulating-difficulty of daily life scored 2.07, lower than the average value, as well as flow–tolerance, which was 2.24. This shows that failure in regulating-difficulty of daily life is the most stable variable.

Next, the skewness and kurtosis are intended. Skewness and kurtosis are measured against normal distribution, and a normal distribution is assumed if their value is less than or equal to 3. An analysis of the troughs and peaks of the measurement variables showed that the absolute value of the troughs and the peaks were below 1, indicating that there was no problem in the assumption of normal distribution.

4.2 Verification of Research Model

Structural equation analysis was performed to validate a study model designed to examine the causal relationship among covert narcissism, adult attachment, and SNS addiction in pre-service teachers, as shown in [Table 2]. Fidelity of the structural model is statistically significant at .000, the TLI value of the fidelity scale was .925, and the value of the CFI was .951; these values were within an acceptable range and adequate for this study model.

First, the verification results of the research model predicted that pre-service teachers' covert narcissism will have a positive effect on their SNS addiction, but the results of this study showed that covert narcissism did not significantly affect SNS addiction (B=-1.365, C.R.=-1.355, p=.175). It also confirmed the mediating effect of insecure adult attachment in the relationship between covert narcissism and SNS addiction. The insecure adult attachment was found to have a significant effect on SNS addiction in the form of complete mediation. Higher covert narcissism leads to the higher insecure adult attachment (B=1.424, C.R.=12.245, *p*=.000), which consequently leads to higher SNS addiction (B=1.728, C.R.=2.484, *p*=.013). This result shows the strong influence of insecure adult attachment as a factor in SNS addiction.

Table 2. Verification Result of Research Model

Route			Unstandardized Coefficients(b)	Standard Error(S.E.)	Standardized Coefficients(β)	C.R.	p
covert narcissism	→	insecure adult attachment	1.424	.116	.998	12.245	.000
insecure adult attachment	→	SNS addiction	1.728	.696	1.266	2.484	.013
covert narcissism	→	SNS addiction	-1.365	1.007	-.700	-1.355	.175
covert narcissism	→	exploitative–ego centrism	1.000	-	.594	-	-
covert narcissism	→	Oversensitiveness-weakness	1.667	.155	.883	10.754	.000
covert narcissism	→	timidity–lack of self-confidence	1.184	.130	.712	9.124	.000
insecure adult attachment	→	anxiety attachment	1.000	-	.849	-	-
insecure adult attachment	→	avoidance attachment	.509	.067	.520	7.570	.000
SNS addiction	→	failure in regulating-difficulty	1.000	-	.955	-	-
SNS addiction	→	flow-tolerance	.912	.065	.807	13.952	.000
SNS addiction	→	preference to virtual world-withdrawal	1.031	.086	.722	11.956	.000

Next, we compared pre-service teachers majoring in education and those not majoring in education, shown in [Table 3]. In the group majoring in education, higher covert narcissism rises leads to higher insecure adult attachment (B=1.730, C.R.=7.909, *p*=.000) and higher SNS addiction (B=1.572, C.R.=2.176, *p*=.030). However, insecure adult attachment did not significantly affect SNS addiction (B=-.293, C.R.=-.690, *p*=.493).

For the group majoring in non-education subjects, the insecure adult attachment was found to have a significant effect on SNS addiction in the form of complete mediation. Higher covert narcissism rises leads to the higher insecure adult attachment (B=1.215, C.R.=9.517, *p*=.000), which consequently leads to higher SNS addiction (B=1.656, C.R.=2.552, *p*=.011).

Table 3. Verification Result of Pairwise Research Model

Category	Route			Unstandardized Coefficients(b)	Standard Error(S.E.)	C.R.	p
major in education	covert narcissism	→	insecure adult attachment	1.730	.219	7.909	.000
	insecure adult attachment	→	SNS addiction	-.293	.427	-.690	.493
	covert narcissism	→	SNS addiction	1.572	.722	2.176	.030
major in non-education	covert narcissism	→	insecure adult attachment	1.215	.128	9.517	.000
	insecure adult attachment	→	SNS addiction	1.656	.649	2.552	.011
	covert narcissism	→	SNS addiction	-.915	.811	-1.129	.259

These results found that the mediating effect of insecure adult attachment varied depending on whether the group majored in education. The relationship between covert narcissism and SNS addiction also differed depending on pairwise comparisons.

5. CONCLUSIONS

This study proves covert narcissism and insecure adult attachment are factors to predict SNS addiction, and how insecure adult attachment affects it as a mediating factor. Through this study, a way to overcome or positively change SNS addiction of pre-service teachers could be suggested.

First of all, covert narcissism did not affect SNS addiction. This does not match with Kuss and Griffiths' study [2] where an increase in covert narcissism resulted in an increase in SNS addiction. It did not match the study result, where the desire for recognition and over-evaluation led to respondents immersing themselves more in SNS. This means that covert narcissism does not develop in a short period, and the argument of an increase in addiction to SNS leading to narcissism is not logically valid. Kim & Kim's study [27] shows that pre-service teachers scored higher in resilience under categories being a self-control, relationships with others, and affirmation, than other college students. This study suggests that pre-service teachers are relieving stress and anxiety [28] due to self-efficacy, are active and dynamic in their work, and living an energetic life.

Secondly, anxiety attachment and avoidant attachment, from insecure adult attachment, havea significant influence on SNS addiction. This is the same result as previous studies, where the adult attachment of college students mediates human relationships and causes SNS addiction [13,14]. An individual who did not have a stable attachment to their major caregiver reacts sensitively to denial or separation, does not express difficult emotions that they cannot understand, but expresses these through impulsive action. Therefore, the difficulties of negative emotion control cause them to immerse themselves in SNS. Pre-service teachers with anxiety attachment can become obsessed with SNS and have a higher chance of developing SNS addiction because of negative self-implication.

Lastly, the study found insecure adult attachment has a mediating effect on the connection between covert narcissism and social media addiction. Overall, the effects caused by this support the 'Attachment Theory'

[22, 29, 30]. The following investigation suggested that insecure adult attachment is strongly correlated with an individual's addiction to social media, and also suggested that further investigation into the individual's rejection sensitivity and personal attachment relationships, assuming that psychological counseling has taken place, is needed. Since professional educators teach diverse young individuals, and not only those who are seeking to become a professional teacher should be skilled, but also be psychologically strong and stable in order to provide meaningful education. Considering this, preventing pre-service teachers from addiction to social media can help to maintain positivity in their interpersonal relationships and mental health.

The results of this study suggest that it is important to examine the level of covert narcissism and insecure adult attachment before full-scale intervention into SNS addiction in college students. When a counselor consults with an SNS addicted college student, insecure adult attachment, as a 'target' function, will have to be investigated should they have covert narcissism. This suggests that more interpersonal techniques should be used by councilors to explore insecure adult attachment. The individual demonstrates a fear of an intimate relationship or anxiety about the continuation of the relationship, hidden behind the various conflicts that arise in interpersonal relationships. Also, the conclusion is drawn that universities and educational facilities, which are currently training teachers, should come up with solutions that could make a significant change in their addiction to social media.

This study has the following limitations. In the process of subject selection, instead of sampling the entire nation, the study limits its sample size to a portion of the region. As the subject of the study could affect the result, the study needs to select pre-service teachers from all over the country. Also, due to the limitation of the self-report type questionnaire method, it is difficult to measure a individual's characteristics and differences in the tendency towards SNS addiction or insecure attachment. However, understanding the relationship between SNS addiction and covert narcissism, using various methods such as a qualitative study, in future research, will allow in-depth understanding of the topic.

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