

Structural Equation Modeling for Attachment Avoidance of Adult to Sex Addiction; Mediating Effect of Positive Self-compassion

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Abstract

The purpose of the study aimed to examine the structural equation modeling of attachment avoidance of adult through self-compassion to sex addiction. A total of 1340 Korean men and women in the 20s and 40s participated in this study. In order to measure, ECR-R, K-SCS, and SAC scales were used. For the data analysis, the model parameters were estimated by Maximum Likelihood Method and M-Plus 6.12 was used for the analysis. For the evaluation of the model, we used the verification, CFI, TLI, RMSEA, SRMR (Standardized Root Mean Square Residual) and Bootstrapping to verify the mediating effect. The fit of the modified model was found to be better than the study model ($\chi^2=824.785$ ($df=93$, $p<.001$), $RMSEA=.077$, $CFI=.949$, $TLI=.934$, and $SRMR=.056$). The final model was selected and path analysis was conducted. Positive self-compassion showed significant negative impact on sex addiction ($\beta=-.082$, $t=-2.511$, $p<.05$). Attachment avoidance was positively related to the path of sex addiction via positive self-compassion ($\beta=.032$ $p<.05$).

Keywords: Attachment avoidance of adult, Sex addiction, Positive self-compassion, Structural equation modeling

1. Introduction

The self-compassion is conceptualized by Neff.[1] Self-compassion is the self-acceptance in a healthy form. This variable is important because the compassionate attitude could provide an emotional well-being for life, helping to see clearly without fear of self-blame. Also, it is a powerful force for the individual's growth and change. In the relationship between self-compassion and sex addiction, self-compassion could not only lead to a satisfying and mutually recognizable romantic relationship but also improve sex life and help develop a healthier and more practical way of relating to sex. Above all, whatever the formal form is, it supports the sex life of people.[2] In the study of self-compassion and Internet addiction, the positive factors of self-compassion (self-kindness, universal humanity, mindfulness) had an indirect effect on the decrease of addiction.[3] Moreover, sexual addicts tend to dissolve their psychological anxiety and emotional distress through sexual behavior, thus exhibiting a cyclical pattern of immersion, ritualization, compulsive behavior, and despair.[4] Among them, immersion induces

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maladaptive self-focus, which may lead to failure of emotional regulation strategy and deviation of daily life.[5] It has been attempting to find various variables that affect self-compassion, among which there are the previous studies that try to find the relationship between attachment and self-compassion.[6][7] In particular, after adulthood, self-compassion could be re-formed through attachment to others. Additionally, a person who grew up in a coherent parenting environment could develop the ability to make a relationship with a benevolent attitude. The results of the study of Neff & Mcgehee[8] suggest that the attachment tendency contributes to the self-worth of self-compassion and to the development of connectivity with others. It is highly correlated to the relationship between attachment avoidance and self-compassion. However, most of the existing studies have limited the precise classification of individual types because they did not distinguish the type of attachment. To improve the limitations, follow-up research began to distinguish attachment according to dimensions and as a result, it was possible to improve the understanding of adult attachment.[1] In addition, studies on sexual addiction in Korea are mostly confined to adolescents, there are very few studies on adults.[1][2] In this way, It is necessary to present a new paradigm for proper sex culture and to maintain the healthy sex life. As mentioned above, there are few studies on the mediating effects of attachment anxiety and avoidance to self-compassion mediated sex addiction by dividing the adult attachment into two dimensions. Therefore, the purpose of this study is to investigate the influence of each variable and systematically verify it through structural equation modeling. Thus, attachment anxiety and avoidance show different pathways leading to sex addiction depending on the positive and negative factors of self-compassion. It could be an opportunity to provide basic data on sex addiction research of all ages, not some age groups.

2. Methods

2.1. Subjects

In this study, 1340 adults in their 20s and 40s participated. Table 1 shows the mean age and standard deviation for each age group and sex. Table 1

Table 1 The demographic characteristics of the subjects

Group of age	Gender	N	Ages	
			M	SD
20s	Male	101	25.70	2.536
	Female	213	25.74	2.673
	Total	314	25.73	2.626
30s	Male	253	34.23	2.661
	Female	577	34.32	2.638
	Total	830	34.29	2.644
40s	Male	102	42.47	2.468
	Female	94	42.59	2.580
	Total	196	42.53	2.516
Total		1340	33.49	5.775

* M: Mean, SD: Standard deviation

2.2. Measure

In the Experiences in Close Relationship Scale-Revised (ECR-R) scale, the total of Cronbach's α was found to be .867, the sub-factors of Cronbach's α showed the attachment anxiety was .887 and the attachment avoidance was .822. The Korean version of the Self-Compassion Scale (K-SCS) was divided into positive and negative factors. The total of Cronbach's α of K-SCS was .839. Cronbach's α of a positive factor of the self-compassion was .879. For sub-factors, self-kindness was .745, universal humanity was .712, and mindfulness was .779. The total Cronbach's α of negativity factor of self-compassion was .882. Also, in sub-factors, self-judgment was .730, isolation was .734 and excess identification was .702. The online version of the Sex-Addiction Scale (SAS) was a measure of online addiction and the overall reliability (Cronbach's α) was .972. In terms of sub-factors, sexual imagination and imitation impulse were .901, daily life disorder was .956, resistance was .935, and increased the deviant sexual behavior was .932.

2.3 Data analysis

The structural equation model was used to test the mediating effect of self - compassion in the relationship between adult attachment and sexual addiction. The model parameters were estimated by Maximum Likelihood Method and M-Plus 6.12 was used for the analysis. For the model evaluation, CFI (Comparative Fit Index), TLI (Tucker-Lewis Index) and RMSEA (Root Mean Square Error of Approximation) SRMR (Standardized Root Mean Square Residual) were used. The fit index showed good fit when CFI and TLI were greater than .90, RMSEA was lower than .10, and SRMR was less than .06.[9] We used a 95% confidence interval based on the empirical distribution estimated by bootstrapping to verify the mediating effect. Bootstrapping interpreted the sample as statistically significant if it did not know the distribution of the population and if the 95% confidence interval did not include zero.[10]

3. Results

3.1 Measurement model

Attachment anxiety and attachment avoidance, which are sub-factors of the attachment scale, theoretically consist of a single dimension. It was divided into three items using the factorial algorithm among the inherent dispersion and distribution strategies. The measurement model is shown in Figure. 1 and the results of fitness test of the measurement model are shown in Table 2. As a result of the analysis, the fitness index of the study model was good ($\chi^2=898.629$ ($df=94$, $p<.001$), $RMSEA=.080$, $CFI=.944$, $TLI=.928$, and $SRMR=.057$). However, the modified index (M.I) was found to be a covariance between the daily life impairment and deviant sexual behavior among the sub-factors of sex addiction. As a result of searching the items, the similarity of the items was confirmed, and the correlation coefficient of the two variables was found to be .851 ($p<.001$). Therefore, a covariance between the factor of daily life impairment and the factor of the increased deviant sexual behavior was established and a modified model was derived. The fit of the modified model was $\chi^2=824.785$ ($df=93$, $p<.001$), $RMSEA=.077$, $CFI=.949$, $TLI=.934$, and $SRMR=.056$, which showed better fit than the study model. The final model was selected and path analysis was conducted. Table 2

Table 2 The results of the fitness test of the measurement model

	χ^2	RMSEA	CFI	TLI	SRMR
Research model	898.629	.080 CI[.075 .085]	.944	.928	.057
Modified model	824.785	.077 CI[.072 .081]	.949	.934	.056

3.2 Path model

The attachment avoidance had a significant negative impact on positive self-compassion ($\beta = -.389$, $t = -13.675$, $p < .001$), and negative self-compassion ($\beta = -.140$, $t = -5.624$, $p < .001$). Attachment anxiety showed negative effect on negative self-compassion ($\beta = -.672$, $t = -35.505$, $p < .01$), and significant positive effect on sex addiction ($\beta = .254$, $t = 5.813$, $p < .001$). Positive self-compassion had significant negative impact on sex addiction ($\beta = -.082$, $t = -2.511$, $p < .05$). The Bootstrapping was used to verify the mediating effects of self-compassion in the effects of attachment on sexual addiction. The attachment anxiety and attachment avoidance were extracted by 2000 partial repetition of bootstrapping through self-compassion factor. The results of the analysis are shown in Table 4 and it is statistically significant because attachment avoidance of the path to sex addiction via positive self-compassion does not include 0 in .010 ~ .059 in the 95% confidence interval of indirect effect ($\beta = .032$ $p < .05$). Table 3, Table 4

Table 3 The Analysis of path model

path		B	β	S.E.	t	p
Attachment anxiety	→ Positive	.028	.044	.030	1.469	.142
Attachment avoidance	→ self-compassion	-.344	-.389	.028	-13.675***	.000
Attachment anxiety	→ Negative	-.458	-.672	.019	-35.505***	.000
Attachment avoidance	→ self-compassion	-.133	-.140	.025	-5.624***	.000
Attachment anxiety		.195	.254	.044	5.813***	.000
Attachment avoidance	→ Sex addiction	-.028	-.026	.034	-.758	.449
Positive self-compassion		-.100	-.082	.033	-2.511*	.012
Negative self-compassion		-.006	-.005	.046	-.115	.909

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

Table 4 The Analysis of mediation effect

Independent variable a	Parameter b	Dependent variable c	Total effect	Total indirect effect	Direct effect a→c	Indirect effect a→b→c [bootstrapping CI 95%]
	Positive self-compassion		.253	.000	.254	-.004

Attachment anxiety	Negative self-compassion				[.017 ~ .331]	.004
Attachment avoidance	Positive self-compassion	Sex addiction	.007	.033	-.026	.032 [.010 ~ .059]
	Negative self-compassion					.001

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

4. Conclusions

The purpose of this study was to investigate the correlation between the variables of attachment avoidance, self-compassion, and sex addiction among the adults of 20s-40s in South Korea (N=1,340). In addition, we examined the structural equation model that shows that the factor of the positive self-compassion shows the mediating effect.

The significance of this study is as follows. In the study of Leedes[11], the number of statistically correlated samples (N=22) in the relationship between adult attachment and sex addiction was very small. However, we verified that the relationship between two variables is correlated with the number of large samples (N=1,340). In addition, the self-compassion, which was not attempted in previous studies, was verified by the structural equation model for the pathways affecting sex addiction. The results showed that negative factor of self-compassion showed a negative correlation in the relationship between adult attachment avoidance and sex addiction. It confirms that the higher the adult attachment avoidance, the lower the positive factor of self-compassion and the higher the sex addiction.

The limitation of this study was the online sampling, so we cannot confirm whether the respondent's faithful reply was possible. In the subsequent study, it is necessary to examine the gender differences in the structural relations between the variables and gender.

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