



The Effect of Stress on Compulsive Sexual Behavior Disorder: Active Coping Strategy and Self-Control as Mediators

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Objective The aim of this study was to verify the effects of stress on compulsive sexual behavior disorder and the mediating effects of active coping strategies and self-control.

Methods A self-reporting scale was administered to 300 adults aged 20 to 39, and the collected data were analyzed. The measures used for the study included a perceived stress scale, the way of coping checklist, a brief self-control scale, and an online compulsive sexual behavior disorder scale.

Results The correlations between stress and active coping strategy, stress and lack of self-control, and lack of self-control and compulsive sexual behavior disorder were -0.18 ($p < 0.01$), 0.38 ($p < 0.01$), and 0.26 ($p < 0.01$), respectively.

Conclusion First, stress level was positively correlated with compulsive sexual behavior disorder. Second, self-control completely mediates the relationship between stress and compulsive sexual behavior disorder. Third, self-control and active coping strategies had sequential mediating effects in that order.

Psychiatry Investig 2021;18(10):997-1005

Keywords Compulsive sexual behavior disorder; Stress; Self-control; Active coping strategy.

INTRODUCTION

We designed a structural equation model that explains compulsive sexual behavior disorder with stress as a predictor and with active coping and self-control as mediators. We seek a variable that affects compulsive sexual behavior disorder in adult men and women and demonstrate the relationship between the related variables. This will allow the study to be used as to understand and control compulsive sexual behavior disorder. More empirical research is required to explain the effects of stress on compulsive sexual behavior disorders, based on which education or treatment programs to prevent compulsive sexual behavior disorder may be developed. Through this study, we sought basic results to achieve these goals.

The definition of compulsive sexual behavior disorder is se-

riously lowered control over sexual activity despite negative consequences.^{1,2} Compulsive sexual behavior disorder refers to excessive sexual desire, which has been likened to being a slave to sexual desire, and to an obsessive pursuit of sexual behavior. Participants at higher risk for compulsive sexual behavior falls into a vicious cycle of “compulsive sexual behavior disorder,” in which they feel guilty after performing sexual acts, but then pursues further sexual behavior to relieve their bad moods. Participants at higher risk for compulsive sexual behavior, like other addicts, feel shame. In order to escape this shame, the addiction is reenacted, the shame worsens, and the cycle is repeated.³ Most addicts exhibit periodic cycles of immersion, habitual behavior or consciousness, obsessive sexual behavior, and despair to relieve their psychological distress.³ The first phase of immersion is a desperate and anxious search for objects that have been effective in avoiding and neutralizing psychological pain, sexually romantic fantasies, and sexual pleasure. Second, habits lead to addiction, so people who want to pursue sexual activity perform a variety of behaviors, such as searching for meeting spots, wandering the streets for sex, or soliciting prostitution. In the third stage, the obsessive sexual activity is carried out as planned, and sexual pleasure is at its zenith and out of control, which will make the addiction worse. Fourth, they feel guilty after their addictive behavior, and to

Received: February 22, 2021 Revised: June 4, 2021

Accepted: August 18, 2021

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reduce this feeling, another sexual behavior is pursued.³

Participants at higher risk for compulsive sexual behavior cannot be dismissed as having personal problems alone because they cannot escape the vicious cycle of compulsive sexual behavior disorder, which is why greater social preparedness is needed.⁴ It is important to find a way to control compulsive sexual behavior disorder, as it can cause serious problems for individuals and society.

Lazarus examined the sources of stress in three ways and divided it into chronic stress, major life events, everyday events, and trivial things.⁵ It is said that an individual's mood is affected by negative events that day, and that every day events affect one's mood. When people are placed in difficult environments, they feel tense, both mentally and physically. A person experiences stress events and finds ways to relieve stress when the level of tension increases; if this tension persists, it will cause physical illness or psychological maladjustment. In other words, addiction serves as a means to avoid tension during stress events. In this view, the tension or stress reduction theory explains addiction. This view assumes that addictions are used as a way of relieving stress in life, which can be described as using compensation or gains to relieve tension or stress. For Participants at higher risk for compulsive sexual behavior, sexual acts serve as rewards or benefits that can relieve stress because they seek compensation, such as relieving stress or tension, through sexual activity.⁶ When a Participants at higher risk for compulsive sexual behavior suffers from life stress, he or she finds a partner who can help relieve his sexual desire and feel comfort and relief after it is resolved.^{3,6} This feel comfort and relief give Participants at higher risk for compulsive sexual behavior a more positive experience than control.⁷ Participants at higher risk for compulsive sexual behavior avoid the anxiety they feel and relieve the frustration and helplessness they experience in life, treating sexual acts and sexual behavior as a means of escape important for them to maintain their life.⁶

Lazarus and Cohen⁸ stated that stress itself had a negative effect on individual adaptation rather than causing misconception. The use of appropriate coping mechanisms to address stress when stress occurs can reduce the impact of stress, and individuals who lack a strategy to cope with stress in daily life easily feel negative emotions such as discomfort and tension.^{9,10} Individuals who show signs of compulsive sexual behavior disorder try to solve their problems with sexual behavior that has been effective in the past as a way of relieving their psychological discomfort. Participants at higher risk for compulsive sexual behavior can perform sexual acts for this purpose because they temporarily feel stable when they are satisfied with their sexual desires in stressful situations. In other words, satisfaction from sexual behavior has been strengthened to an addictive level.⁶ People with high psychological stability use active

coping rather than passive coping in stressful situations.¹¹ On the other hand, those who believe that the lack of an active response to stress and that actions that can provide instant satisfaction, will find ways to lower negative emotions, such as discomfort and frustration in stress events, and improve positive emotions, not by actively addressing stress-causing events, but by pursuing actions that provide immediate satisfaction (e.g., drinking).¹² Individuals who lack a way of coping with the small stresses of everyday life will easily feel offended and nervous and try to minimize psychological discomfort by improving positive emotions, and the more impulsive they are, the higher their level of addiction if they do not use proactive coping to reduce problem behavior.^{5,13} Thus, if a Participants at higher risk for compulsive sexual behavior uses active coping to increase psychological stability in stressful situations, the addictive behavior can be reduced because the instability in stress situations can be reduced by this appropriate coping.

In addition, self-control, the ability to delay current satisfaction for the long-term future, can be a relieving factor of addiction. Self-control is involved in addiction because addiction is regarded as a problem of impulse control. However, among the addicts with these problems, there are people with self-perceived addiction, and it is not yet clear how to distinguish these people from patients who seek help because their impulses are not controlled.¹⁴ A person with high self-control learns appropriate skills or acts adaptively to meet social standards, while a person with low self-control is not able to set necessary long-term goals and is willing to act to gain immediate satisfaction.¹⁵ It is thus more appropriate to describe compulsive sexual behavior disorder as a disorder or illness marked by an inability to control desire, rather than as a disorder in which the individual tries to indiscriminately dissipate sexual desire. It is not just a desire, but also an obstacle of being unable to control emotions, impulses, or behavior. Their pursuit of sex becomes quite difficult to control, essentially obsessive. Unlike substance dependence, addiction to drugs such as alcohol or narcotics, the difference in compulsive sexual behavior disorder, a non-material addiction, is addiction to behaviors or a process; there is no difference in obsessiveness. Therefore, instead of seeking to control their behavior, they will adjust their lives to sexual behavior.⁶

METHODS

Research procedure

According to the purpose of the study, the data of 300 men and women aged 20 to 39 years from across South Korea (Seoul, Gyeonggi-do, Incheon, Busan, Gwangju, Daejeon, and other regions) were collected using self-reporting measures. Basic statistical analyses and SEM were performed with SPSS 22.0 and

AMOS 22.0 (IBM Corp., Armonk, NY, USA). A research model was designed in which stress affects compulsive sexual behavior disorder by mediating active coping strategies and self-control. To verify the goodness of fit of the model, the χ^2 test and goodness-of-fit indices were used. Bootstrapping was used to verify the mediating effects of self-control and active coping strategies between stress and compulsive sexual behavior disorder.

Measurements

Perceived Stress Scale

In this study, the stress scale developed by Cohen et al.¹⁶ and revised by Park and Seo¹⁷ was used. The scale consists of 14 questions scored on a 5-point Likert scale. A two-factor structure was adopted in the study of Park and Seo,¹⁷ with negative perception as Factor 1 and lack of positive perception as Factor 2.21. The internal consistency of these factors was 0.77 and 0.74, respectively. In this study, because these two variables did not converge on one endogenous variable, only the negative perception sub-factor was used of the two indicators; it showed a Cronbach's α of 0.813 in this study.

The Way of Coping Checklist: active coping strategy

The Way of Coping Checklist, composed of 68 questions developed by Lazarus and Folkman,⁵ was used. Kim and Lee¹⁸ validated the Korean version of this scale. In this validation study, 12 items were classified as active coping factors scored on a five-point Likert scale. In this study, Cronbach's overall α was 0.817; sub-factors were 0.750 for self-restraint and 0.639 for concentration.

Brief Self-Control Scale

This scale was developed by Tangney et al.¹⁹ It was translated into Korean and validated by Hong et al.²⁰ The scale consists of items scored on a five-point Likert scale, where higher scores indicate lower self-control. The study by Hong et al.²⁰ showed that two factor structures were stable rather than constituting a single factor. The first sub-factor was named self-restraint, as it refers to the ability to control undesirable behaviors that give only short-term fun and pleasure for greater goals and benefits, and the second sub-factor was named concentration, referring to the ability to focus on doing what needs to be done for a long-term goal. The internal consistency was 0.78. In this study Cronbach's overall α was 0.817; sub-factors were 0.750 for self-restraint and 0.639 for concentration.

Online Compulsive sexual behavior disorder Scale

Song et al.²¹ developed and validated this scale, which consists of 30 items scored on a 5-point Likert scale. This measure

comprises the four sub-factors of tolerance, daily disability, increases in deviant sexual behavior, and sexual imagination and impulses. This scale showed good test-retest reliability and internal consistency, its factor structure was shown to be suitable, and it demonstrates good concurrent validity. This measure reflects the recent trend toward compulsive sexual behavior disorder. It has been confirmed that this instrument measures the concept of compulsive sexual behavior disorder reasonably with a proper factor structure, and that each factor has an internal consistency of 0.860 to 0.946. Song et al.²¹ showed that the internal consistency of tolerance was 0.860, that of the daily disability 0.946, that of sexual imagination and impulses was 0.915, and that of the increase in deviant sexual behavior 0.910.

KCGU Institutional Review Board approved this study (IRB Approval number: 19-4-R-05).

RESULTS

Demographic characteristics and distribution of variables

There were 300 non-clinical participants; 34 subjects (11.3%) were a potential risk group, 21 subjects (7%) constituted a high-risk group, and 55 persons (18.3%) were confirmed to be at a higher risk of compulsive sexual behavior. Participants were selected so as to comprise 150 men (50%) and 150 women (50%), and 150 each in their 20s (50%) and 30s (50%). The final academic background of the sample was 20.3% high school graduates, 72% college graduates, and 7.7% graduate students or above. Regarding marital status, 66.3% of the people were unmarried and 31% were married; 1% were divorced, and 1.7% gave no response.

Descriptive statistics and correlation analysis

Descriptive statistics of each variable were calculated. An absolute value of less than 2 for skewness and kurtosis indicates a suitable degree of normality. The results of descriptive statistics among the variables used in this study are shown in Table 1.

Pearson's correlation analysis was conducted to identify the correlations between the main variables of this study: stress, active coping strategy, self-control, and compulsive sexual behavior disorder. A summary is shown in Table 2. The correlation between stress and active coping strategy was -0.18 ($p < 0.01$), a negative correlation, and stress and lack of self-control showed a positive correlation of 0.38 ($p < 0.01$). Lack of self-control and compulsive sexual behavior disorder showed a positive correlation of 0.26 ($p < 0.01$), while lack of self-control and active coping strategy -0.26 ($p < 0.01$) showed a negative correlation.

Structural equation model analysis

To verify the goodness of fit of the model, the χ^2 test and goodness-of-fit indices were used. The χ^2 test is too strict by itself to assess the research hypothesis and is sensitive to the sample size or the size of the correlation coefficients of the variables being measured. Accordingly, a variety of fitness indices were used in this study: the fitness index of comparative fit index (CFI), Tucker-Lewis Index (TLI), and root mean square error of approximation (RMSEA).^{22,23} The validity of the mea-

surement was evaluated and verified with confirmatory factor analysis, which confirmed that the measurement model was appropriate, $\chi^2=52.738$ (df=21, p=0.000), CFI=0.975, TCI=0.957, RMSEA=0.071, all meeting the standard criteria for good model fit to the data. The significance levels of all loadings of the measured variables were confirmed to be 0.001, suggesting that the measurement model used in this study is suitable. The measurement model is shown in Figure 1.

Table 1. Descriptive statistics among variables

Factor	Mean	Standard deviation	Skewness	Kurtosis
Stress	15.24	4.71	0.38	0.38
Negative perception 1	8.53	2.75	0.29	0.02
Negative perception 2	6.71	1.96	0.04	0.76
Active coping strategy	35.83	7.51	-0.31	1.04
Problem focused coping	16.86	3.19	-0.23	0.61
Seeks social support	18.98	4.32	-0.33	0.59
Lack of self-control	32.39	7.27	-0.05	0.53
Self-restraint	20.59	4.52	-0.03	0.38
Concentration	11.80	2.75	-0.00	0.27
Compulsive sexual behavior disorder	38.93	18.58	1.35	0.67
Difficult of daily living	12.44	6.41	1.55	1.13
Tolerance	14.76	6.68	0.93	-0.32
Increasing deviant sexual behavior	11.73	5.49	1.40	0.89

Table 2. Correlations between variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
Negative perception 1	1												
Negative perception 2	0.66**	1											
Stress total	0.94**	0.88**	1										
Self-restraint	0.30**	0.28**	0.32**	1									
Concentration	0.42**	0.33**	0.42**	0.63**	1								
Lack of self-control total	0.38**	0.33**	0.39**	0.95**	0.85**	1							
Problem focused coping	-0.21**	-0.07	-0.17**	-0.24**	-0.41**	-0.34**	1						
Seeks social support	-0.12*	-0.05	-0.10	-0.08	-0.25**	-0.16**	0.58**	1					
Active coping strategy total	-0.18**	-0.07	-0.14*	-0.17**	-0.36**	-0.26**	0.85**	0.92**	1				
Difficult of daily living	-0.06	-0.05	-0.06	0.20**	0.14*	0.19**	-0.19**	-0.01	-0.09	1			
Tolerance	0.07	0.05	0.07	0.30**	0.25**	0.30**	-0.23**	-0.05	-0.14*	0.77**	1		
Increasing deviant sexual behavior	0.02	0.04	0.03	0.23**	0.16**	0.22**	-0.13*	0.02	-0.05	0.83**	0.78**	1	
Compulsive sexual behavior disorder	0.01	0.01	0.01	0.26**	0.20**	0.26**	-0.20	-0.01	-0.11	0.93**	0.94**	0.93**	1

1. negative perception 1, 2. negative perception 2, 3. stress total, 4. self -restraint, 5. concentration, 6. lack of self-control total, 7. problem focused coping, 8. seeks social support, 9. active coping strategy total, 10. difficulty in daily living, 11. tolerance, 12. increasing deviant sexual behavior, 13. compulsive sexual behavior disorder total. *p<0.05; **p<0.01

Research model and competition model analysis

Figure 2 shows the research model used to verify the effectiveness of self-control and active coping strategies that mediate between stress and compulsive sexual behavior disorder, and Figure 3 shows the competitive model. A comparison of the goodness-of-fit indices using the difference between the χ^2 values of the research model and the competition model shows that the competition model is suitable for this study: for the research model, $\chi^2=52.738$, while for the competition model, $\chi^2=56.028$. The difference in χ^2 values between the research model and the competition model is 3.29 and the difference in degrees of freedom was 2, which is smaller than the threshold of 5.99 ($\Delta df=2$), indicating no statistical significant difference, so it can be said that the competition model, which is a simpler model, is more suitable than the research model. The final selected competition model has the path coefficients shown in Table 3.

Mediating effect analysis

Bootstrapping was used to verify the mediating effect of self-

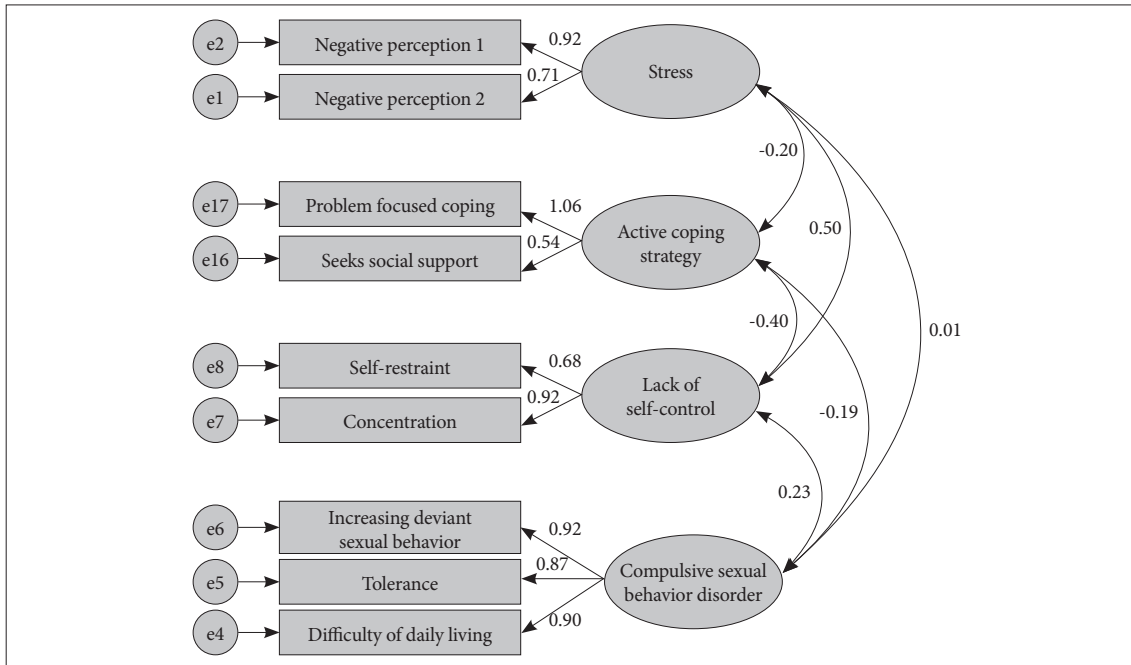


Figure 1. Measurement model analysis result.

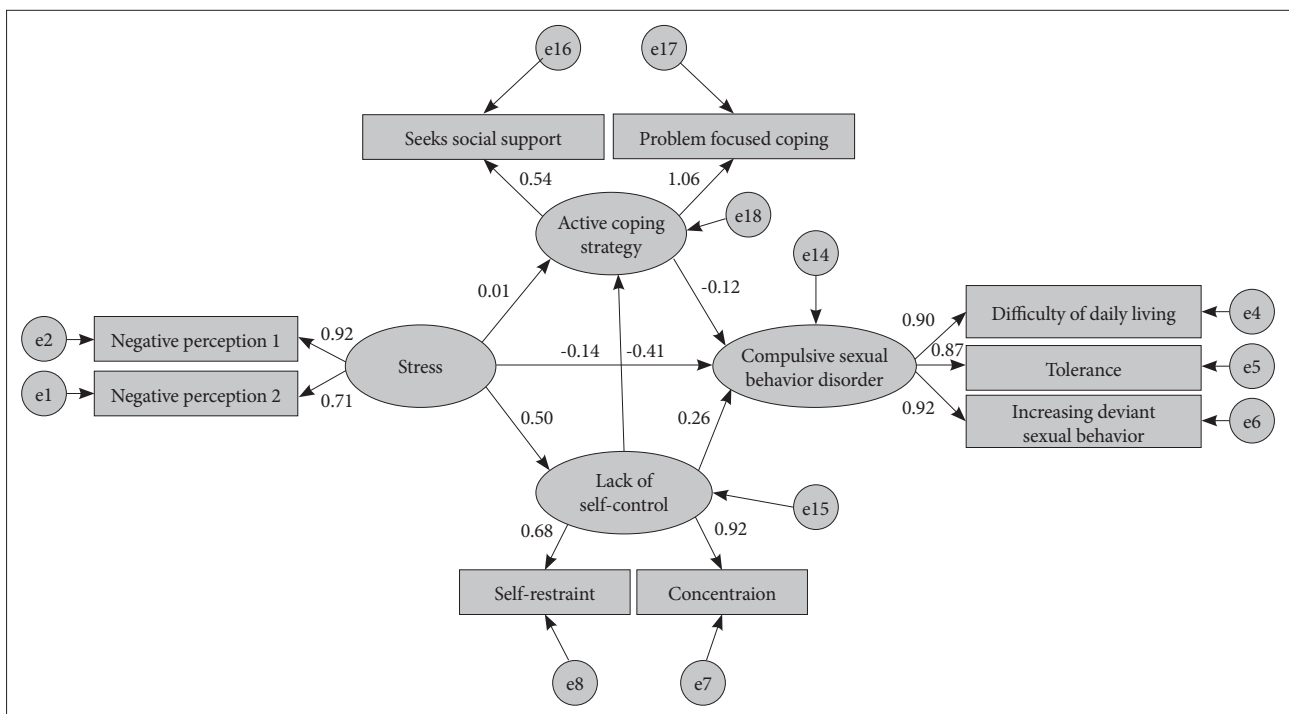


Figure 2. Research model.

control and active coping strategies between stress and compulsive sexual behavior disorder. As a result, since the value of 0 did not appear in the 95% confidence interval, the mediation path was verified to be significant. There was no zero in the path from stress to lack of self-control and compulsive sexual behavior disorder, and from stress to the path to compulsive sexual

behavior disorder through lack of self-control and active coping strategies, indicating statistical significance. The results of the verification show that, first, the lack of a self-control single mediating path was significant. Second, the mediating path of the lack of self-control and active coping was also significant. The verification results are presented in Table 4.

DISCUSSION

Participants at higher risk for compulsive sexual behavior cannot control their impulses until they can resolve the anxiety they feel when they feel a sexual urge, shame, and guilt, through

which their obsession with sexual behavior becomes central to their lives despite the difficulties they experience in their lives as a result. Domestic research has been lacking on what causes them to become addicted and what excuses they give for engaging in it. Therefore, this study aimed to identify variables af-

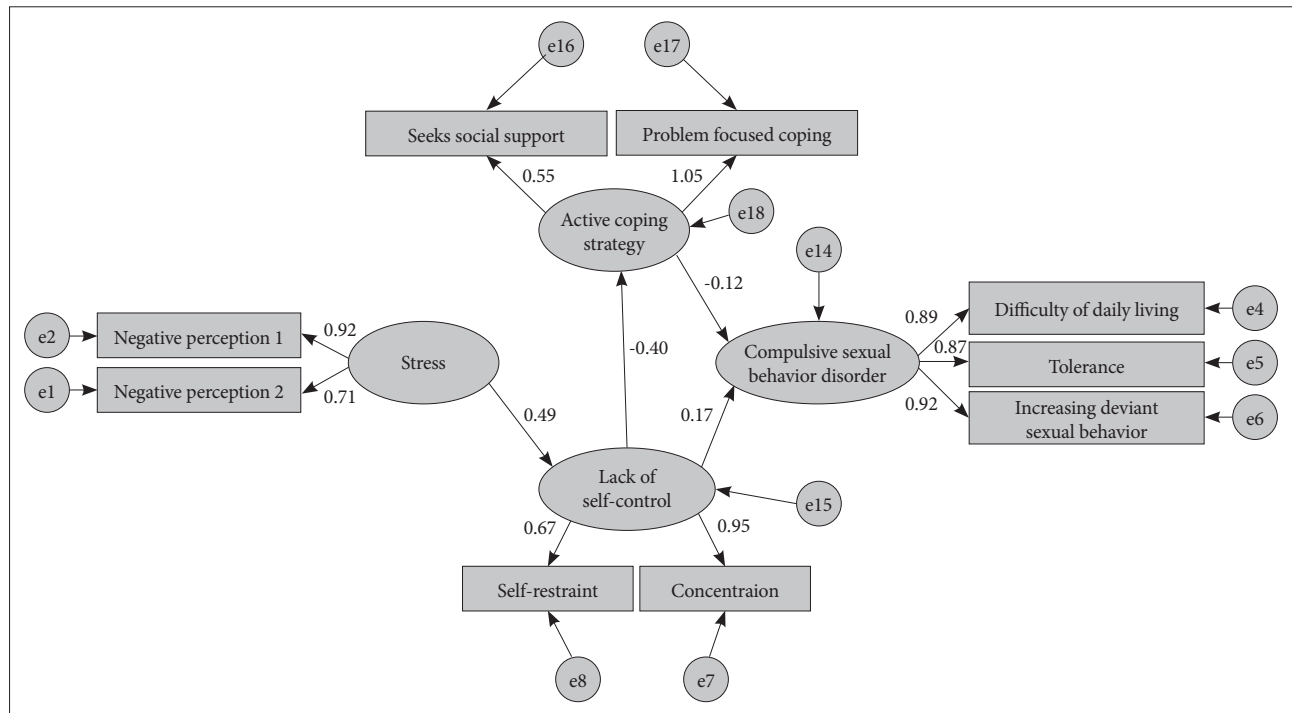


Figure 3. Competitive model.

Table 3. Path coefficients of the competition model

Path	Non-standardized coefficient	Standardized coefficient	SE	CR
Stress → lack of self-control	0.91	0.49	0.12	7.38***
Lack of self-control → active coping strategy	-0.37	-0.40	0.10	-3.67***
Lack of self-control → compulsive sexual behavior disorder	0.37	0.17	0.16	2.35**
Active coping strategy → compulsive sexual behavior disorder	-0.30	-0.12	0.15	-2.00**

p<0.01; *p<0.001. SE, standard error; CR, critical ratio

Table 4. Verification results for direct/indirect effects

Path	Effect
Stress → lack of self-control → compulsive sexual behavior disorder	0.08**
Stress → lack of self-control → active coping strategy → compulsive sexual behavior disorder	0.02**
Indirect effects, total	0.10
Stress → lack of self-control	0.49*
Lack of self-control → active coping strategy	-0.40*
Lack of self-control → compulsive sexual behavior disorder	0.17*
Active coping strategy → compulsive sexual behavior disorder	-0.12*
Direct effects, total	0.14*
Total	0.24

*p<0.5; **p<0.01. Standardized coefficient

fecting compulsive sexual behavior disorder so as to contribute to measures to control it. Thus, the study surveyed 300 men and women aged 20 or 39 from throughout Korea on stress, active coping strategy, self-control, and compulsive sexual behavior disorder through self-reporting methods. The purpose of this study was to verify the mediating effect of self-control and active coping methods on the effects of stress on compulsive sexual behavior disorder.

The specific results of this study are as follows: first, stress was positively correlated with compulsive sexual behavior disorder. Second, the single mediating effect of the absence of self-control was significant. Third, the sequential mediating effect through self-control absence and active coping was significant in the effect of stress on compulsive sexual behavior disorder.

A detailed discussion of the results is as follows. First, the significant positive correlation between stress and lack of self-control is the same as in previous studies that their self-control is reduced when stress is high.^{24,25} In stressful situations, people with high self-control and concentration can better deal with stress and overcome it through concentration. In other words, they accept stress as part of overcoming the negative emotions that arise when they experience stress if they consider themselves to be self-controlled. However, a previous study showed a higher correlation between self-control and self-control than concentration, which is a sub-factor of stress and self-control, but stress showed a higher correlation with concentration than self-control. It has been confirmed that a person with a higher concentration overcomes stress situations well. Second, the significant positive correlation in the relationship between lack of self-control and compulsive sexual behavior disorder confirms that lack of self-control is associated with an increased incidence of compulsive sexual behavior disorder. Lack of self-control shows a high correlation with immunity, a sub-factor of compulsive sexual behavior disorder, indicating that a person with low self-control has weak resistance to compulsive sexual behavior disorder, making it more difficult to escape from compulsive sexual behavior disorder. In addition, low self-control has been found to have an effect on compulsive sexual behavior disorder by causing disability and increasing deviant sexual behavior in everyday life. A previous study showed that high impulsivity and low self-control increases cyber compulsive sexual behavior disorder, a special type of compulsive sexual behavior disorder, which is consistent with the results of this study.²⁶ Third, active coping strategies showed a significant correlation with compulsive sexual behavior disorder. Sub-factors of active coping are divided into problem-centered coping and social support, and if it is thought that stress-causing incidents can be controlled, problem-centered active coping will be used. Therefore, the more active the actions taken in a stressful situation, the lower the risk of falling into compulsive sex-

ual behavior disorder. Compulsive sexual behavior disorder has shown a higher correlation with problem-centered treatment, a sub-factor of active response, showing that the more people try to eliminate the cause of stress themselves, the less likely they are to fall into compulsive sexual behavior disorder. Conversely, those who do not seek to avoid or eliminate stress sources show a high risk of becoming Participants at higher risk for compulsive sexual behavior. Previous studies have shown that people who use passive coping, a passive stress response strategy, are at high risk of falling into Internet addiction.²⁷ As Internet addiction includes cyber compulsive sexual behavior disorder, stress coping methods thus affect cyber compulsive sexual behavior disorder as well.²⁸ Therefore, since active coping is also part of a strategy to deal with stress, previous research and context can be seen as yielding the same result that the possibility of falling into compulsive sexual behavior disorder depends on the strategy adopted to deal with stress. Fourth, a structural model was established and verified of the parameter effects of self-control and active coping strategy on the relationship between stress and compulsive sexual behavior disorder, and significant results of the medium path were verified through bootstrapping, showing that self-control in the relationship between stress and compulsive sexual behavior disorder is completely mediating. Stress affects compulsive sexual behavior disorder through self-control but does not directly affect compulsive sexual behavior disorder. This result is inconsistent with previous studies in which stress was found to directly affects addiction.²⁹ However, high stress leads to lower self-control and greater risk of compulsive sexual behavior disorder, increasing the chances of becoming a Participant at higher risk for compulsive sexual behavior. In addition, self-control also affects active coping strategy, such that the greater the perceived stress and the lower the self-control, the greater the likelihood of becoming a participant at higher risk for compulsive sexual behavior by failure to apply active coping strategies. These results confirm that self-control shows dual-mediated effects of active coping strategies in stress and sex-addicted relationships.

In summary, stress has a positive correlation with lack of self-control, and lack of self-control has a positive correlation with compulsive sexual behavior disorder. The lack of self-control shows a relationship between pursuit of bad behavior and compulsive sexual behavior disorder. The effects of lack of self-control in stress events may vary with the degree of compulsive sexual behavior disorder. High stress causes low self-control, which prevents active coping strategies and increases the incidence of compulsive sexual behavior disorder. These findings show that self-control can be exerted when dealing with compulsive sexual behavior disorder and that active response can be suggested as an alternative, thereby lowering the risk of com-

pulsive sexual behavior disorder.

The study also has the following significance: first, it confirmed the importance of self-control and active response in making excuses on compulsive sexual behavior disorder. This study also identified the causes of compulsive sexual behavior disorder, which will enhance our understanding of compulsive sexual behavior disorder. Second, we identified the route from stress to compulsive sexual behavior disorder, as no research has shown the factors whereby stress leads to compulsive sexual behavior disorder. We found that self-control and active coping mediate between stress and compulsive sexual behavior disorder, thus identifying the path from stress to compulsive sexual behavior disorder. These results are significant in extending the scope of research on compulsive sexual behavior disorder. Third, in the course of counseling, self-control and active coping strategies can be suggested to help in interventions with Participants at higher risk for compulsive sexual behavior. Unlike other addictions, there has been a lack of domestic research on how to intervene in compulsive sexual behavior disorder by suggesting how to increase self-control in the future so as to escape stressful situations that cause psychological pain for Participants at higher risk for compulsive sexual behavior. In other words, a high degree of control can offer a way to be healthy life when you cannot get out of the yoke of compulsive sexual behavior disorder. As a result, participants at higher risk for compulsive sexual behavior may engage in sexual compulsive behavior in extreme situations and seek other ways in an attempt to escape their situation. In addition, increased self-control can increase the use of active coping methods, which can help to treat compulsive sexual behavior disorder. The number of counseling goals set by counselors who consult Participants at higher risk for compulsive sexual behavior can be provided as milestones in using self-control and proactive responses. Fourth, as this study did not target a specific population, but a general population of adult men and women, our research results are generally applicable, enhancing the understanding of compulsive sexual behavior disorder among adults suffering from it. As an adult, an individual may experience sexual discomfort, as by struggling with excessive sexual demands. However, due to the nature of Korean culture, Korean adults are shy about sex and try to hide it, which may lead to unintended problems that have a negative impact on one's life. Therefore, a better understanding of compulsive sexual behavior disorder can thus lead to preventive interventions in adults. Fifth, this study allows us to identify the pathways of compulsive sexual behavior disorder, and various treatment methods can be developed as the understanding of compulsive sexual behavior disorder increases. The development of treatment methods for compulsive sexual behavior disorder can help people who cannot control their sexual desires, particu-

larly through appropriate counseling and treatment for those who commit sexual crimes because they cannot control their sexual desires. Since the recurrence rate of sexual crimes is high, the introduction of various counseling treatments can help to reduce the crime recurrence rate.

Although this study has the above significance, the limitations of this study and suggestions for subsequent studies that may complement it are as follows. First, the study found that stress did not directly affect compulsive sexual behavior disorder. It was not confirmed whether this was because of strong parameters and relatively insignificant effects. Therefore, further research is needed to verify the link between stress and compulsive sexual behavior disorder. Second, this study was conducted on adults aged 20 years and under for general use. However, middle-aged, and elderly people were excluded, and gender differences in compulsive sexual behavior disorder were not studied. Therefore, research including more age groups and greater attention to gender differences is needed to generalize our results. Third, this study used a self-report questionnaire. In particular, because of the sensitive nature of the study, compulsive sexual behavior disorder, respondents might not be able to objectively look at their condition, but instead would respond with biases in a socially desirable manner. Thus, although this study is meaningful in identifying the causes of compulsive sexual behavior disorder by verifying the causal relationship through statistics, qualitative research for a thorough study and deep understanding of compulsive sexual behavior disorder is needed in the future because these limitations.

Availability of Data and Material

The datasets generated or analyzed during the study are available from the corresponding author on reasonable request.

Conflicts of Interest

The authors have no potential conflicts of interest to disclose.

Author Contributions

Conceptualization: all authors. Data curation: Jae Woo Park, Mi Hyun Shin. Formal analysis: Jae Woo Park, Mi Hyun Shin. Investigation: all authors. Methodology: Jae Woo Park, Mi Hyun Shin. Project administration: Mi Hyun Shin. Resources: all authors. Supervision: Jae Woo Park, Dai Jin Kim. Validation: Jae Woo Park, Dai Jin Kim. Visualization: Mi Hyun Shin. Writing—original draft: Mi Hyun Shin. Writing—review & editing: all authors.

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Funding Statement

None

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