

Modeling the Relationship between the BIS, Victimization and Reward on BDD Considering Mediating Role of Interpersonal Cognitive Distortions in Students

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Abstract

The aim of this study was to investigate the relationship between Behavioral inhibition system (BIS), victimization and reward and body dysmorphic (BDD) with mediating role of interpersonal cognitive distortions. The research was the correlation based on path analysis method. The study population consisted of high school students in academic year of 2019 in Tehran. 364 participants were selected via multistage cluster sampling method and were assessed with Yale- Brown obsessive compulsive scale modified for BDD, behavioral inhibition subscale, Moradi bully victimization scale, interpersonal cognitive distortions scale and reward probability index. The result showed BIS, victimization and interpersonal cognitive distortions had a positive and direct relationship with BDD. Reward had a direct and negative relationship with BDD. Also cognitive distortions play a significant mediating role on the relationship between BIS, victimization, and reward with BDD. The result can be used to design counseling and therapeutic program for students.

Keywords: Behavioral inhibition system, body dysmorphic, interpersonal cognitive distortions, reward, victimization

Introduction

Body dysmorphic disorder (BDD) is affected by biologically and environmentally vulnerable processes. One of the biological components of behavior is the behavioral inhibition system (BIS), which is associated with harm avoidance and threat monitoring. Fear of negative evaluation by others and avoidance of social interactions are prominent features in BDD. Studies have shown that people with BDD have a more active BIS and they show higher levels of avoidance (Johnson, et al., 2018; Rashidi, et al., 2017). According to the behavioral perspective, mental disorders are the result of failure in the reinforcement process. Studies have shown that multiple experiences of failed reward pathways act as unconditional stimuli that trigger mental disorders (Hanson, et al., 2016). A study has shown that people who underestimated their environment in terms of reinforcement had more mental preoccupation with appearance (Wood, 2016). Therefore, it seems that lack of reward can explain BDD behaviors such as body-focused compulsions. Victimization can lead to failure in the reinforcement process and lead to mental disorders. Studies have shown that childhood victimization affects the onset and severity of BDD and is associated with a history of suicide attempts in patients (Thomas, et al., 2018; Naziroglu, et al., 2018). BIS, reward and victimization lead to cognitive biases and misinterpretation of social interactions (Rashidi, et al.,

2017; Ghaedi, et al., 2017; Naziroglu, et al., 2018). Interpersonal cognitive distortions are exaggerated, irrational, and absolute beliefs about the nature of relationships. Studies have shown that cognitive bias plays a key role in the etiology of BDD. They trigger negative appearance-related thoughts in sufferers and exacerbate dysfunctional coping such as body-centered compulsion (Johnson, et al., 2018). The aim of this study was to investigate the relationship between behavioral inhibition system, victimization and reward and body dysmorphic with mediating role of interpersonal cognitive distortions.

Method

The research design was correlational and based on path analysis. The reason for choosing the path analysis design was that according to approach of Baron & Kenny's (1986) the mediating variable are the influence mechanisms of the independent variables on the dependent variable. The study population consisted of high school students in academic year of 2019 in Tehran. 400 participants were selected via multistage cluster sampling method. Of these, 364 questionnaires were fully completed and evaluated. Data were collected using these tools:

Yale- Brown obsessive compulsive scale modified for BDD: It was developed by Philips, et al. (1997). Rashidi, et al. (2017) reported its Cronbach's alpha 0.93 and its correlation coefficient with Padua questionnaire 0.58.

Bully Victimization Scale: It was developed by Moradi (2010). Its reliability coefficients were 0.98 and its correlation coefficient with Beck depression was 0.41 (Salimi, et al., 2017).

Behavioral activation /inhibition Scale: The questionnaire that prepared by Carver and White (1994). Rashidi, et al. (2017) reported internal consistency of inhibition subscale 0.86 and its correlation coefficient with Beck Depression Inventory 0.31.

Interpersonal cognitive distortions scale: The scale was designed by Hamamci (2004). Cronbach's alpha coefficient for the subscales were between 0.75 and 0.83. Jafarzadeh, et al. (2017) reported internal consistency of 0.73, 0.76 and 0.74. for subscales of rejection, unrealistic expectations and misconceptions respectively, and its correlation coefficient with the irrational beliefs questionnaire was 0.54.

Reward Probability Index: It was developed by Carvalho, et al. (2011). Internal consistency of this scale was 0.92 and its internal correlation with environmental reward questionnaire was 0.55. Azimi, et al. (2021) reported Internal consistency of this scale 0.90 and its internal correlation with social support questionnaire was 0.45.

Findings

In the research sample, 135 people were in the age range of 16-15 years with 37.1% and 229 people were in the age range of 18-17 years with 62.9% and in terms of economic status, 24.7% were good, 57.1%. Medium and 18.1% were in a weak economic situation. As Table 1 shows, there is a significant correlation between all research variables at the level of 0.01.

Table 1: Mean, standard deviation and correlation matrix between the variables

variables	X	SD	1	2	3	4	5
Body dysmorphic	21.63	11.19	1				
Behavioral inhibition System	16.90	4.53	0.51**	1			
Reward	50.78	10.10	0.46**	-0.42	1		
Victimization	34.73	17.79	0.57**	0.35	-	1	
Interpersonal Cognitive Distortions	57.37	13.15	0.60**	0.27	0.40**	-	1
					0.20**	**	

**P<0/01

In order to investigate the direct effects of research variables, path analysis was used. For this purpose, the assumptions of structural equations including the analysis of outdated data, normality and multiple alignment were examined. To examine multivariate outlier data, the Mahalanobis distance was calculated. Skewness and elongation were used to normalize the variables. The values of skewness and kurtosis were between 0.01 and 1.37, which indicates that the research variables have a normal distribution. Multiple alignment was assessed by tolerance statistics and variance inflation factor. The tolerance statistic of the variables was higher than 0.1 and the rate of variance inflation of each variable was less than 2, which indicates that there was no multiple alignment between the variables.

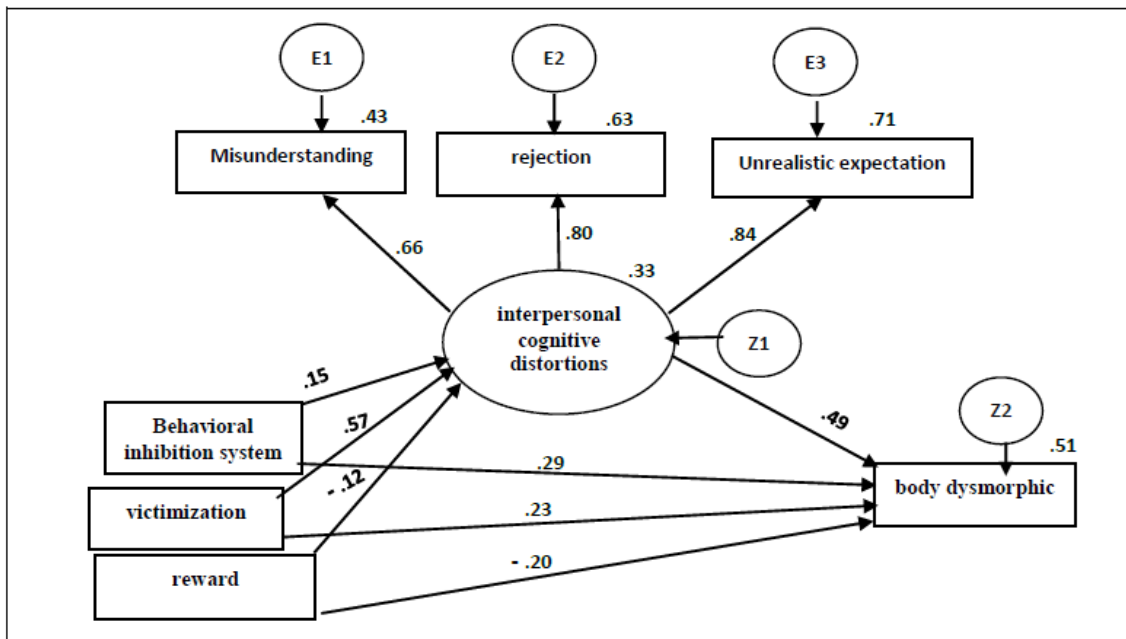


Figure 1. path analysis model

Discussion and Conclusion

The results showed that BIS directly and indirectly through cognitive distortions predicts BDD. This finding is consistent with Rashidi (2017). it showed that high activity of the BIS is associated with BDD and cognitive biases. victimization directly and indirectly through cognitive distortions predicts BDD. The findings are consistent with Thomas, et al. (2018). It showed that childhood victimization affects the severity of BDD. people with BDD think that they are victims because they are not attractive. Therefore, they develop cognitive biases. Other result showed that reward

directly and indirectly through cognitive distortions predicts BDD. This effect is in the negative direction. This finding is consistent with Wood (2016). Decreased reward lead to the development of cognitive deficits and mental disorders. This study used a sample of high school students in Tehran. therefore, the ability to generalize the results is limited, so studies in other samples, especially clinical samples are recommended.

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