



Cognitive Biases, Coping Mechanisms and Symptom Severity among Individuals with OCD Tendencies

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ARTICLE INFO	ABSTRACT
Article history: Submitted 20.02.2025 Accepted 26.05.2025 Published 30.06.2025 Volume No. 12 Issue No. I ISSN (Online) 2414-8512 ISSN (Print) 2311-293X DOI: Keywords: OCD, Cognitive Biases, Coping Mechanisms, Symptom Severity, Hierarchical Regression	<i>This study explores the cognitive biases, coping mechanisms, and symptom severity among individuals with OCD tendencies. A sample of 200 participants, aged 16-45 (22.71(4.41)), was recruited using purposive sampling technique. A correlational research design was employed. Participants were initially screened using the Obsessive-Compulsive Inventory-Revised (OCI-R). For measuring cognitive biases, Obsessive belief Questionnaire (OBQ-20) was used, Brief COPE was used as a measure for coping mechanisms and for measuring symptom severity Y-BOCS was used. Symptom severity measures, Obsessions, and Compulsions, demonstrated normal distributions. Pearson correlations revealed significant positive relationships between cognitive biases and symptom severity. Multiple Hierarchical regression analysis, explaining 30% of the variance in obsessions, found Importance/Control of Thoughts as a significant predictor ($B = .23, p < .01$). Adding coping mechanisms in Step 2 increased the explained variance to 36% with Maladaptive Coping emerging as a significant predictor of obsession severity ($B = .48, p < .01$). For compulsions, the model explained 36.2% of the variance, with Perfectionism/Certainty ($B = .28, p < .001$) and Maladaptive Coping ($B = .63, p < .001$) significantly predicting severity. These results highlight the significant role of maladaptive coping strategies and specific cognitive biases, in predicting symptom severity in OCD. Targeted interventions focusing on these factors may be beneficial for managing OCD symptoms.</i> 

Introduction

Obsessive-compulsive disorder (OCD) is a chronic mental condition characterized by persistent, intrusive thoughts (called obsessions) and repetitive acts or thoughts (called compulsions) performed to alleviate the anxiety caused by the obsessions. (American Psychiatric Association, 2013). OCD sufferers frequently struggle to manage their symptoms, even when they are aware of their irrationality, which causes them great discomfort and interferes with their ability to function in daily life. (Abramowitz et al., 2009). People may experience anxiety at such a high degree that it becomes debilitating, and their brain is always preoccupied, and they overreact to a very tiny quantity of stimulation that has no significance at all. As a result, anxiety disorders are the most frequent among the general population. OCD is a complex

disorder that causes significant discomfort for people all around the world (Abramowitz & Jacoby, 2014). Research indicates that cognitive biases, such as maladaptive thinking patterns and distorted perceptions of threat, play a central role in the development and maintenance of OCD symptoms (Salkovskis, 1999). Recent studies have explored various coping strategies, ranging from maladaptive avoidance tactics to more adaptive problem-solving approaches, highlighting the complexity of these responses (Tversky & Kahneman, 1982).

Anxiety in OCD often manifests as debilitating preoccupations, wherein individuals may overreact to insignificant stimuli (Adams, 2004). The disorder's manifestations are frequently connected to brain abnormalities and may have genetic underpinnings (Aardema et al., 2006).

Cognitive biases, defined as systematic thinking patterns diverging from rationality, play a crucial role in the tenacity of OCD symptoms (Kirchherr & Charles, 2018). Individuals may exhibit biases such as selective attention to perceived risks and a tendency to catastrophize outcomes. With these cognitive biases, various coping mechanisms from avoidance behaviors to compulsive rituals serve to manage the distress associated with OCD symptoms but can inadvertently exacerbate the cycle of obsession and compulsion (Beck, 1986).

Symptom severity can vary significantly among individuals with OCD. While some may experience mild distress, others contend with severe impairments that encroach on daily functioning and well-being (Wheaton et al., 2010). Understanding the interaction between cognitive biases, coping mechanisms, and symptom severity is vital for developing effective, personalized treatments and interventions (Krackow et al., 2014).

By clarifying the roles of cognitive biases and coping strategies in managing OCD symptoms, the findings may enhance clinical practices and improve patient outcomes (Sica et al., 2002). Information Processing Theory (IPT) suggests that individuals with anxiety disorders have a cognitive bias favoring threat-related stimuli, leading to heightened worry. IPT identifies two main biases: interpretational bias, which is a pessimistic interpretation of ambiguous cues, and attentional bias, the tendency to focus on threats (Mathews & MacLeod, 2005).

Cognitive Behavioral Theory (CBT) illustrates the interconnectedness of emotions, thoughts, behaviors, and bodily sensations, highlighting that changes in one area affect the others. It emphasizes that individuals' thoughts and behaviors significantly influence their psychological well-being (Beck, 1986). The Anxiety Management Theory, a subdivision of CBT, links effective coping strategies to anxiety management, suggesting that these techniques can alleviate anxiety disorder symptoms and severity (Rachman, 1980). Together, these theories address the roles of cognitive biases, coping mechanisms, and symptom severity in OCD development and maintenance.

The primary aim of this study is to address the significant gap in research concerning the relationship between cognitive biases, coping mechanisms, and symptom severity in people with (OCD) tendencies. Few studies have examined how these biases interact with coping strategies to influence symptom severity in OCD patients, especially in the context of Pakistani populations. Effective coping mechanisms have been shown to mitigate the effects of cognitive biases on anxiety and symptom severity. However, the interplay between coping mechanisms and cognitive biases remains largely unexplored in OCD. By investigating this relationship, this study aims to advance our understanding of OCD, improve theoretical models of the disorder, and inform the development of tailored interventions that could enhance therapeutic outcomes for those with OCD tendencies.

Obsessive-Compulsive Disorder is closely linked with several cognitive biases that contribute to the persistence and severity of symptoms. Key biases include overestimating the likelihood of negative events, thought-action fusion (TAF), and an exaggerated sense of responsibility, all of which play crucial roles in maintaining the disorder. Zetsche et al. (2015) found that individuals with OCD overestimate threats, with biases tied to specific themes, such as contamination and checking. Similarly, Hezel et al. (2016) identified TAF, where individuals equate their thoughts with harmful actions, exacerbating symptoms, especially in contamination and responsibility concerns.

Laposa and Rector (2009) further explored how exaggerated responsibility beliefs, particularly in contamination-washing, OCD, fuel compulsive behaviors and reinforce the obsession-compulsion cycle. Coping strategies also significantly impact OCD. Moritz et al. (2019) noted that OCD patients generally use maladaptive coping strategies, such as avoidance, which contribute to symptom persistence. Larson et al. (2010) found that combining cognitive behavioral therapy with exposure and response prevention (ERP) improved coping skills and reduced symptoms. Danks (2013) underlined that targeting certain cognitive

biases in CBT could improve treatment outcomes, particularly when tackling maladaptive behaviors such as reassurance-seeking. Sarfraz et al. (2021) discovered a clear correlation between cognitive distortions, suicidal ideation, and lower quality of life in OCD patients, emphasizing the necessity of targeting these distortions in treatment. Hezel and McNally (2016) concluded that dysfunctional beliefs, attentional, and memory biases contribute to the persistence of OCD symptoms because people with OCD are hypersensitive to perceived threats.

In summary, cognitive biases such as threat overestimation, thought-action fusion, and exaggerated responsibility beliefs play key roles in the development and maintenance of OCD. Addressing these biases in therapy, especially through CBT and ERP, is critical for improving symptom management and overall quality of life for individuals with OCD.

Objectives

1. To study the relationship between cognitive biases, coping mechanisms, and symptom severity among individuals with OCD tendencies.
2. To identify predictors of symptom severity in individuals with OCD tendencies.

Hypotheses

1. A significant relationship exists between cognitive biases, coping mechanisms, and symptom severity among individuals with OCD tendencies.
2. Cognitive biases and coping mechanisms are significant predictors of symptom severity in individuals with OCD tendencies.

Methodology

Research Design

The current study followed a correlational research design, which is appropriate for examining associations between cognitive biases, coping mechanisms, and OCD symptom severity without inferring cause-and-effect relationships (Wood & Brink, 1998).

Sample

The study recruited a sample of at least 200 participants aged 16-45. This sample size was determined through G-power analysis to ensure sufficient statistical power for detecting meaningful relationships among the variables.

Sampling Strategy

Purposive sampling was employed. Purposive sampling ensures that participants meet particular criteria pertinent to the study (Setia, 2016).

Inclusion Criteria/ and Exclusion Criteria

Participants must meet OCD tendencies criteria based on the Obsessive- Compulsive Inventory-Revised (OCI-R). Participants must be aged 16-45 years. (As Per screening tool-OCI-R) Participants should not have any other psychiatric or medical conditions that might confound results.

Individuals with severe co-occurring mental health conditions (e.g., bipolar disorder, schizophrenia) or substance use disorders will be excluded.

Table 2.1

Demographic Characteristics of Sample

Characteristics	M(SD)	frequencies (%)
Age	22.71(4.41)	
Gender		
Male		21 (10.5)
Female		179(89.5)
Educational Level		
FSc.		22(11.0)
BSc.		132(66.0)
MS.		43(21.5)
PhD		3(1.5)
Occupation		
Employed		45(22.5)
Unemployed		155(77.5)

Marital status	
Married	24(12.0)
Unmarried	175(87.5)
Divorced	1(.5)
Religion	
Islam	187(93.5)
Christ	13(6.5)
Family system	
Nuclear	144(72.0)
Joint family	56(28.0)
Socio-economic Status	
Upper class	20(10.0)
Middle class	177(88.5)
Lower class	3(1.5)

Note. *M*=Mean, *SD*=Standard Deviation, %=Percentage

Instruments

Age, gender, educational attainment, and other fundamental biodata are among the important background details gathered by the demographic sheet. OCD symptoms were measured using the OCI-R (Obsessive-Compulsive Inventory-Revised), a self-report questionnaire with six subscales: washing, checking, neutralizing, obsessing, ordering, and hoarding. According to Cronbach's alpha, which ranges from 0point 73 to 0point 90, it exhibits strong internal consistency. OCD-related dysfunctional beliefs, cognitive biases, such as responsibility, perfectionism, and intolerance for uncertainty, were assessed by the OBQ-20 (Obsessive Beliefs Questionnaire-20). It is a reliable psychometric tool with strong internal consistency (Cronbach's $\alpha = 0$ points 77–93). A popular tool for evaluating coping mechanisms in clinical research, the Brief COPE measures a variety of coping strategies and is divided into adaptive and maladaptive subscales. The Yale-Brown Obsessive Compulsive Scale, or Y-BOCS, is a commonly used instrument to assess the intensity of OCD symptoms. In addition to having a symptom checklist, it has shown high internal consistency (Cronbach's $\alpha = 0.89$) (Goodman et al., 1989).

Procedure

Institutional approval for the study was obtained from the Kinnaird College for Women's Institutional Review Board and Ethics Committee. Participants were recruited through purposive technique, with 200 individuals who met OCD criteria on the Obsessive-Compulsive Response Inventory (OCRI) included in the study, out of an initial target of 300. Three instruments were used: OBQ-20 for cognitive biases, Brief COPE for coping mechanisms, and Y-BOCS for symptom severity. Permission was obtained for OBQ-20 and Y-BOCS, while the Brief COPE was open access. Data collection took place over three months, with surveys offered both in-person and online based on participants' preferences. Informed consent and demographic data were collected, and participants were assured of confidentiality and their right to withdraw at any time. No incentives were offered, and reporting was done with full honesty and transparency.

Ethical Considerations

Throughout its duration, the study complied with established ethical guidelines. Participants received complete information about the study's objectives, their freedom to discontinue participation at any time, and the confidentiality of their answers. This research was approved by the relevant institutional ethics committees.

Statistical Analyses

Descriptive statistics were used to summarize demographic and study variables. Pearson product-moment correlation assessed relationships between cognitive biases, coping mechanisms, and symptom severity. Multiple hierarchical regression analysis was employed to identify predictors of symptom severity.

Results

This section presents the findings from the statistical analyses conducted on the data collected for this study. Descriptive and inferential statistics were used to assess the psychometric properties of the measures and test the hypotheses.

Descriptive Statistics

The reliability of the measures used in this study was evaluated to ensure internal consistency. The psychometric properties of the major study variables are summarized in following table:

The mean, standard deviation (SD), and Cronbach's alpha (α) for the primary variables, including cognitive biases, coping mechanism and symptom severity.

Table 3.1

Psychometric properties of Major Study Variables in the sample(N=200)

Variables	<i>k</i>	<i>M</i>	<i>SD</i>	<i>a</i>	Skewness	kurtosis	Range
Cognitive Biases							20-140
Responsibility/Threat	7	2.96	1.18	.76	.13	-.20	
Estimation							
Perfectionism/Certainty	8	3.38	1.18	.78	-.33	.00	
Importance/Control of Thoughts	5	3.48	1.26	.76	-.45	-.46	
Coping Mechanisms							28-112
Adaptive Coping	16	1.64	.41	.64	-.30	2.07	
Maladaptive Coping	12	1.31	.47	.66	.23	.41	
Symptom Severity							10-50
Obsessions	5	1.70	.85	.79	.18	-.23	
Compulsions	5	1.41	.82	.82	.21	.01	

Note. *k*=No of items, *a*=Cronbach alpha, *M*=Mean, *SD*=Standard Deviation

Cognitive Biases: The mean values for the subscales—Responsibility/Threat Estimation ($M = 2.96$), Perfectionism/Certainty ($M = 3.38$), and Importance/Control of Thoughts ($M = 3.48$)—suggest moderate levels of bias. The reliability for these subscales was adequate ($\alpha = .76$ to $.78$). Coping Mechanisms: Adaptive Coping ($M = 1.64$, $\alpha = .64$) and Maladaptive Coping ($M = 1.31$, $\alpha = .66$) showed moderate reliability, though Adaptive Coping was skewed. Symptom Severity: Obsessions ($M = 1.70$, $\alpha = .79$) and Compulsions ($M = 1.41$, $\alpha = .82$) demonstrated good internal consistency and normal distributions. To test the hypotheses, Pearson Product-Moment Correlation and Hierarchical Linear Regression were used.

Pearson Correlation

Displays significant correlations between cognitive biases, coping mechanisms, and symptom severity. Most correlations ranged from moderate to strong ($r = .16$ to $.78$) and were statistically significant:

Table 3.2

Pearson Product Moment Correlation Coefficient among Cognitive Biases, Coping mechanism and Symptom Severity in people with OCD tendencies (N=200)

Variables	1	2	3	4	5	6	7
1.Responsibility/TE	1	.78**	.77*	.18**	.40**	.49**	.53**
2. Perfectionism		1	.74**	.16**	.41**	.48**	.59**
3. Importance/CoT			1	.17**	.26**	.53**	.51**
4. Adaptive Coping				1	.38**	.19**	.21**
5.Maladaptive Coping					1	.41**	.53**
6. Obsessions						1	.73**
7. Compulsions							1
M	2.95	3.38	3.48	1.64	1.31	1.70	1.41
SD	1.18	1.18	1.26	.41	.47	.85	.83

Note. SD=Standard Deviation, M=Mean, TE= Threat Estimation, CoT= Control of Thoughts. * $p < .05$, ** $p < .01$, *** $p < .001$

Cognitive Biases: Responsibility/Threat Estimation showed significant positive correlations with Perfectionism and Importance/Control of Thoughts, as well as moderate correlations with Maladaptive Coping, Obsessions, and Compulsions. Coping Mechanisms: Adaptive Coping was weakly associated with Maladaptive Coping, while Maladaptive Coping showed moderate positive correlations with both Obsessions and Compulsions. Symptom Severity: Obsessions and Compulsions were strongly correlated ($r = .73$), indicating that increased obsessions were associated with more severe compulsions.

Multiple Hierarchical Regression for Obsessions

Table 3.3

Multiple Hierarchical Regression showing subscales cognitive biases subscales and coping mechanism subscales as Predictors of Symptom severity(Obsessions) among people with OCD tendencies(N = 200)

Predictors	B	95% CI for B		SE B	β	R^2	ΔR^2
		LL	UL				
Step I						.30	.30
Constant	.32	.01	.64	.16	---		
Responsibility/TE	.10	-.05	.25	.08	.14		
Perfectionism/Certainty	.09	-.05	.23	.07	.12		
Importance/CoT	.23**	.09**	.36**	.07	.33**		
Step II						.36	.06
Constant	-.06	-.53	.40	.24	----		

Responsibility/TE	.04	-.11	.19	.08	.05
Perfectionism/certainty	.02	-.12	.17	.07	.03
Importance/CoT	.27***	.14**	.40**	.07	.39**
Adaptive Coping	.01	-.25	.27	.13	.00
Maladaptive Coping	.48**	.24**	.73**	.12	.27**

Note: TE= Threat estimation, CoT= Control of Thoughts, CI = confidence interval; LL = lowerlimit; UL = upper limit

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

Table 3.3 reports the results of the multiple hierarchical regression model predicting obsession severity. In Step 1, the cognitive biases explained 30% of the variance in obsession severity ($R^2 = .30$). The Importance/Control of Thoughts subscale was a significant predictor ($B = .23$, $p < .01$), while Responsibility/Threat Estimation and Perfectionism/Certainty did not significantly predict obsession severity.

In Step 2, Maladaptive Coping added a significant 6% to the variance, bringing the total explained variance to 36% ($R^2 = .36$). Maladaptive Coping was a significant predictor ($B = .48$, $p < .01$), suggesting that higher levels of maladaptive coping are strongly linked to greater obsession severity.

Multiple Hierarchical Regression for Compulsions

Table 3.4

Multiple Hierarchical Regression showing subscales cognitive biases subscales and coping mechanism subscales as Predictors of Symptom severity (Compulsions) among people with OCD tendencies (N = 200)

Predictors	B	95% CI for B		SE B	B	R^2	ΔR^2
		LL	UL				
Step I						.36	.36
Constant	-.06	-.36	.23	.15	---		
Responsibility/TE	.09	-.05	.23	.07	.13		
Perfectionism/Certainty	.28***	.14***	.41***	.07	.40***		
Importance/CoT	.08	-.05	.20	.06	.12		
Step II						.46	.10
Constant	-.53*	-.94*	-.11*	.21	----		
Responsibility/TE	.01	-.12	.15	.07	.02		
Perfectionism/certainty	.19**	.07**	.32**	.06	.28**		
Importance/CoT	.13*	.02*	.25*	.06	.20*		
Adaptive Coping	-.02	-.25	.21	.12	-.01		
Maladaptive Coping	.63**	.41***	.85***	.11	.36***		

Note: TE= Threat estimation, CoT= Control of Thoughts, CI = confidence interval; LL = lowerlimit;

UL = upper limit

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

Table 3.4 shows the regression analysis for predicting compulsion severity. In Step 1, cognitive biases explained 36% of the variance in compulsions ($R^2 = .36$). Perfectionism/Certainty was a significant predictor of compulsion severity ($B = .28$, $p < .001$). The Importance/Control of Thoughts subscale showed a small but significant positive effect ($B = .08$, $p < .05$).

In Step 2, Maladaptive Coping emerged as a significant predictor ($B = .63$, $p < .001$), explaining an additional 10% of the variance, bringing the total variance explained to 46% ($R^2 = .46$). The results suggest that Maladaptive Coping significantly exacerbates compulsion severity, while Perfectionism and Importance/Control of Thoughts also play important roles.

Cognitive biases, especially Importance/Control of Thoughts, significantly predicted both obsession and compulsion severity. Maladaptive coping strategies were strong predictors of both obsession and compulsion severity, with higher levels of maladaptive coping linked to more severe symptoms. Perfectionism/Certainty was notably associated with more severe compulsions, highlighting its role in OCD symptomatology.

Emerged model 1

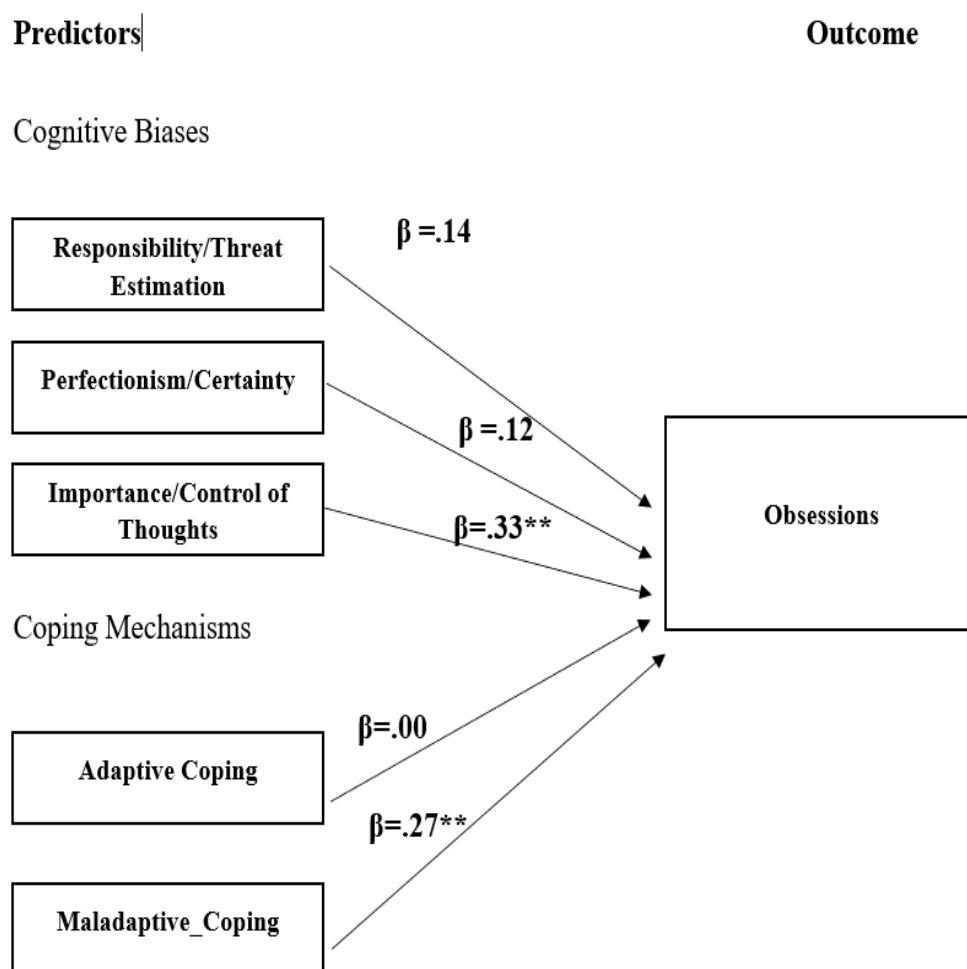


Fig 3.1 Emerged model of the predictors of obsessions component of Symptom severity among people with OCD tendencies

EmergEd Model 2

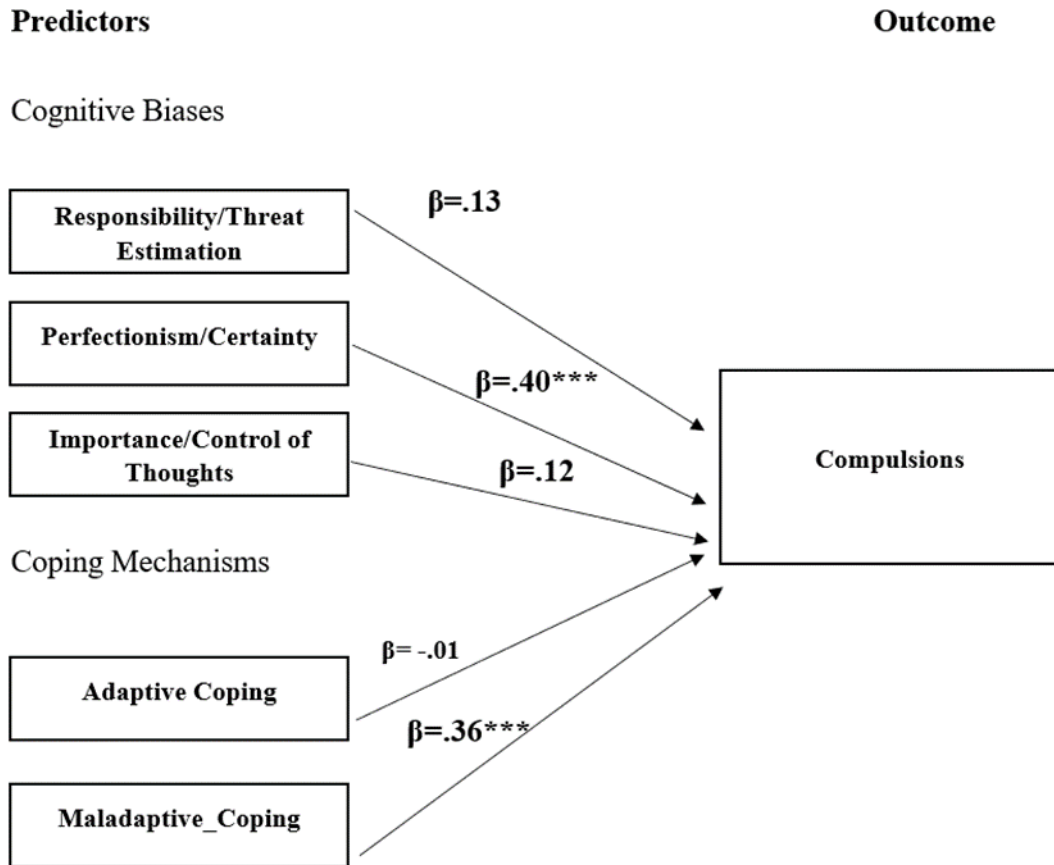


Fig 3.2 EmergEd model of the predictors of Compulsions component of Symptom severity among people with OCD tendencies

Discussion

This study explored the relationship between cognitive biases, coping strategies, and the severity of symptoms in individuals exhibiting obsessive-compulsive tendencies, offering valuable insights into the cognitive mechanisms underlying OCD. The findings indicate that cognitive biases—especially perfectionism, overestimation of threat, and beliefs about the importance and control of thoughts—significantly contribute to the intensity of OCD symptoms. These results align with established cognitive models of OCD, such as those by Salkovskis and Rachman (1999), which emphasize the role of distorted thinking in the onset and persistence of obsessive-compulsive behaviors. Among these biases, perfectionism emerged as a strong predictor of compulsive behaviors, supporting the idea that such actions may serve to alleviate anxiety and restore a sense of control. Moreover, the observed positive correlation between beliefs about the importance and control of thoughts and symptom severity reinforces the notion that individuals

who assign excessive meaning to their thoughts are more prone to experiencing severe obsessions and compulsions.

In addition to cognitive biases, the study highlighted the crucial role of coping mechanisms in shaping the intensity of OCD symptoms. The results showed that maladaptive coping strategies, such as avoidance and rumination, were strong predictors of both obsessions and compulsions, aligning with previous research (e.g., Abramowitz et al., 2014) that suggests such strategies may temporarily alleviate anxiety but ultimately exacerbate symptoms by preventing individuals from confronting their fears. Conversely, adaptive coping mechanisms did not exhibit a direct relationship with symptom severity in this study, suggesting that while these strategies are generally beneficial in other contexts, they may not be sufficient in addressing the cognitive biases that underpin OCD. This finding underscores the need for therapeutic approaches that target both cognitive and emotional processes to effectively manage OCD symptoms.

The hierarchical regression analysis further illustrated that cognitive biases and coping mechanisms together accounted for a significant portion of the variance in symptom severity, suggesting a complex, bidirectional relationship between these factors. For example, individuals with higher levels of perfectionism were more likely to engage in maladaptive coping behaviors, such as obsessive checking and reassurance-seeking, which in turn exacerbated their symptoms. These results have important implications for clinical practice, emphasizing the need for integrated treatment approaches that simultaneously address cognitive biases and maladaptive coping mechanisms. Cognitive-Behavioral Therapy (CBT), particularly Exposure and Response Prevention (ERP), is well-established as an effective intervention for OCD, as it targets both the distorted thinking patterns and compulsive behaviors that maintain symptoms. Additionally, therapeutic modalities that focus on improving emotional regulation, such as Acceptance and Commitment Therapy (ACT), may provide further benefit by promoting psychological flexibility and reducing emotional avoidance, thus potentially decreasing symptom severity. Overall, these findings suggest that a comprehensive, multidimensional treatment approach is essential for optimizing outcomes for individuals with OCD.

Strengths

This study addresses an important gap in understanding the relationship between cognitive biases, coping mechanisms, and OCD symptom severity in non-clinical individuals. The use of validated instruments (OCI-R, OBQ-20, Brief COPE, and Y-BOCS) enhances the validity of the findings by providing a comprehensive evaluation of cognitive biases, coping strategies, and symptom severity. The use of hierarchical regression analyses also provides robust statistical support for the predicted relationships among these variables.

Limitations

The study's sample, limited to individuals aged 16 to 45 with no other psychiatric or medical disorders, may restrict the generalizability of the findings to broader populations, including older individuals or those with comorbid conditions. Additionally, the multidimensional nature of cognitive biases and coping mechanisms in OCD may not be fully captured by the employed measures, suggesting a need for further qualitative or mixed-methods research to supplement the quantitative data.

Future Recommendations

Future research should focus on personalizing therapy to individuals' unique cognitive and coping patterns. Longitudinal studies could explore how these factors evolve over time, improving treatment methods. Additionally, future studies should examine the role of cultural factors and assess the long-term effectiveness of interventions aimed at modifying cognitive biases in OCD patients.

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