

Original Article

The relationship between alexithymia, cognitive avoidance, and distress tolerance with the dimensions of obsessive-compulsive disorder symptoms

Reza Abdi ¹, Maryam Naseri ^{2*} & Fereshteh Mirmohamadi ²

1. Associate Professor, Department of Psychology, Azarbaijan Shahid Madani University, Tabriz, Iran.

2. Ph.D. Student, Department of Psychology, Azarbaijan Shahid Madani University, Tabriz, Iran.

Abstract

The purpose of this study was to investigate the relationship between alexithymia, cognitive avoidance, and distress tolerance with obsessive-compulsive symptoms. A total of 150 students (105 girls and 45 boys) from the Ferdowsi University of Mashhad participated in this research. The participants were asked to complete the Persian version of the 20-Item Toronto Alexithymia Scale (TAS -20), the Cognitive Avoidance Scale (CAQ), the Distress Tolerance Questionnaire (DTS), Maudsley Obsessive-Compulsive Inventory (MOCI), and demographic data questionnaire. The data were analyzed using Pearson correlation and stepwise regression. The highest correlation relationships were between Obsessive-Compulsive with a total score of Alexithymia ($r=0.43$), the total score of Cognitive Avoidance Questionnaire ($r=0.39$), the total score of Distress Tolerance Scale ($r=-0.43$), Checking sub-scale of Obsessive-Compulsive Scale ($r=0.71$), Cleaning sub-scale of Obsessive-Compulsive Scale ($r=0.75$), Slowness sub-scale of Obsessive-Compulsive Scale ($r=0.48$) and Doubting sub-scale of Obsessive-Compulsive Scale ($r=0.68$). This study showed that the subscales of cleanliness, revision, hesitation, and slowness of obsessive-compulsive disorder and emotional dyslexia, distress tolerance, and cognitive avoidance have the greatest contribution in predicting obsessive-compulsive disorder. The results from the present study highlight the need to pay attention to these variables in the research and treatment of obsessive-compulsive disorder.

Keywords

Obsessive-compulsive disorder
Distress tolerance
Cognitive avoidance
Alexithymia

Received: 2022/03/01

Accepted: 2022/11/23

Available Online: 2023/02/12

Introduction

One of the debilitating mental disorders is obsessive-compulsive disorder (OCD). OCD is characterized by obsession and/or compulsion. Obsessions are intentions or repetitive and persistent images that are experienced in a disturbing and unwanted way. Compulsions, on the other hand, are repetitive behaviors or mental actions that a person feels compelled to do in response to an obsession or according to rules that must be strictly enforced (American Psychiatric Association, 2013)

People who suffer from OCD may have trouble with emotional clarity, and naming their internal experiences; for instance, they may have alexithymia. These people may report that they have not experienced emotions (Bagheri, 2020; De Berardis et al., 2015; Smith, Wetterneck, Hart, Short, & Björgvinsson, 2012; Yousefi & Monirpoor, 2022). Difficulty in tagging and processing emotions may affect representation emotional states and

it may help clinical consolidation in special issues and special enforcements at OCD (Robinson & Freeston, 2014). Over the past three decades, alexithymia structure has created interest to recognize factors which may affect cognitive processing of emotions and individual differences at emotional awareness levels (Jansen, Overgaauw, & De Bruijn, 2020). The ability to recognize and express emotions to process emotional experiences is essential for life-long time. Alexithymia may interfere with emotional regulation (Smith, Killgore, & Lane, 2018). As an instance, in order to change individual emotional reactions, cognitive reassessment techniques, and emotional regulation, consisting of mood states, and situation interpretation are effective (Troy, Shallcross, Brunner, Friedman, & Jones, 2018). One of the important factors to confront unpleasant emotions is to recognize and to express emotions. An individual who is infected with disability to comprehend emotional experiences, may interpret their emotions more unpleasant (Ong & Thompson, 2019).

On the other hand, loss of emotional expression leads to all kinds of social problems, psychological problems and physical diseases. Studies have shown that alexithymia is related to OCD (Roh, Kim, & Kim, 2011). One study found that people with OCD have little awareness of their internal states (O'Kearney & Nicholson, 2008). Also, people with OCD have higher disabilities in all subscales of the alexithymia questionnaire (Besharat, 2008). It is considered as a trait with a normal distribution in the general population (Xu, Opmeer, van Tol, Goerlich, & Aleman, 2018). Ataxia is a major cause of depression, OCD, substance abuse, and eating disorders (Hemming, Taylor, Haddock, Shaw, & Pratt, 2019). Bankier, Aigner, and Bach (2001) showed in their research that extroverted thinking (a subscale of the Toronto Ataxia Scale) is correlated with OCD. It seems that patients with OCD have a deficit in emotional awareness and this disability causes disruption in social functioning (Apgáua & Jaeger, 2019).

Studies show that lack of emotional regulation leads to an increase in the severity of symptoms of obsessive-compulsive disorder (eftekhazade, Hosseinian, Shams, & Yazdi, 2016). Deficiencies in experiencing and resisting emotions create cognitive avoidance, which is critical to the onset of symptoms of obsessive-compulsive disorder (Armstrong, Zald, & Olatunji, 2011). Cognitive avoidance refers to a person's tendency to suppress unwanted thoughts and avoid disturbing thoughts or images (Dugas, Gagnon, Ladouceur, & Freeston, 1998). Highly anxious people actively suppress anxiety thoughts (Wells & Papageorgiou, 1998). Patients with OCD also use suppression to control thoughts, which is paradoxically less understood as thought control (Tolin, Abramowitz, Brigidi, & Foa, 2003). In addition, cognitive avoidance is associated with concern in clinical and non-clinical samples (Dugas, Marchand, & Ladouceur, 2005). Compared to people who are less anxious, people who are too anxious use more cognitive avoidance strategies (Gosselin et al., 2007). Studies show that distress tolerance is a vulnerable factor for obsessive-compulsive disorder (McCubbin & Sampson, 2006). For people with low anxiety levels, experiencing emotions is unbearable. These people do not accept the existence of emotion, and feel shame and confusion, when they experience it. They underestimate their ability to cope with emotions. If these people cannot experience their emotions, all their attention will be drawn to unpleasant emotions and their performance will be significantly reduced (Simons & Gaher, 2005).

Considering the relatively high prevalence of obsessive-compulsive disorder, its costliness, its chronic and debilitating course, additionally, the coexistence it owns with other emotional disorders such as depression and anxiety makes it is necessary to understand the dimensions of this disorder in order to diagnose and treat it on time. Therefore, the importance and necessity of the present study is to determine the relationship between the variables of emotional ataxia, cognitive avoidance and distress tolerance with obsessive-compulsive disorder in order to help the identification and treatment of

obsessive-compulsive disorder through more perception of the dimensions of this disorder. In addition, according to the studies conducted in the field of obsessive-compulsive disorder and factors related to it, there are gaps in researchers' understanding of the factors that seem to play a role in creating and maintaining OCD symptoms. Furthermore, by scrutinizing the available sources, no research was found that investigated the relationship between distress tolerance, cognitive avoidance, and alexithymia with obsessive-compulsive disorder in students of Ferdowsi University of Mashhad. Therefore, the aim of the present study was to investigate the relationship between distress tolerance, cognitive avoidance and emotional dyslexia with obsessive-compulsive disorder in students of Ferdowsi University of Mashhad.

Method

Participants

This study is applied research in terms of purpose. It is descriptive in nature and correlational in type of research. The population of this study consisted of all students of Ferdowsi University of Mashhad in the academic year of 2021-2022. According to James Steven's suggestion, it is appropriate to consider 15 items for each predictor variable in multiple regression analysis (Hooman, 2005). Due to the virtual conditions of the university, 150 students (105 girls and 45 boys) were selected by opportunity sampling from all the faculties of the university. After the subjects became aware of the research process, the questionnaires were provided to them and they were asked to answer all the questions carefully. SPSS (26) software was used for data analysis. In order to analyze the data, descriptive statistical methods such as frequency, percentage, mean, variance, standard deviation and inferential statistics of Pearson correlation and stepwise regression were used. Inclusion criteria were being a student of Ferdowsi University of Mashhad, non-use of psychiatric drugs and exclusion criteria were unwillingness to cooperate and completing questionnaires incompletely or invalid. It should be noted that the following instruments were used to collect data.

Instrument

The Toronto Alexithymia Scale (TAS-20):

This Introduced by Bagby, Parker, and Taylor (1994), TAS-20 has 20 questions and measures three subscales on a five-point Likert scale from 1 (completely disagree) to 5 (completely agree). The total score is also calculated from the sum of the scores of the three subscales for general alexithymia. The psychometric properties of this scale have been reviewed and validated in many studies (Parker, Taylor, & Bagby, 2001, 2003). Besharat (2007) reported Cronbach's alpha coefficients for total alexithymia and three subscales of difficulty in recognizing emotions, difficulty in

describing emotions, and objective thinking at 85%, 82%, 75%, and 72%, respectively. The reliability of the Toronto-20 Alexithymia Scale was confirmed in a 67-person sample in two four-week intervals from 0.70 to 0.77 for total alexithymia and various subscales. Concurrent validity of the Toronto-20 Alexithymia Scale was evaluated and confirmed in terms of the correlation between the subscales of this test and the Emotional Intelligence Scales of psychological well-being and psychological helplessness (Besharat, 2008, 2013). Cronbach's alpha in the present study for this scale was 0.87.

Cognitive Avoidance Scale (CAQ):

Designed by Sexton and Dugas (2008), this questionnaire has 25 questions and it is aimed to measure cognitive avoidance from different dimensions of repression, replacement of thoughts, distraction, avoidance of situations and turning imagination into thought. This questionnaire has a five-point range from totally false to totally true. In order to get the overall score of the scale, sum of all the questions' scores is calculated. The reliability coefficient of this scale is between 0.71 to 0.91 (Sexton & Dugas, 2008). In addition, calculated in Iran, the reliability coefficient of this scale is 0.86 (MahmudAliloo, Shahjooee, & Hashemi, 2011). Akbari, Hamidpour, and Andoz (2009) showed that this questionnaire has high internal stability, Cronbach's alpha coefficient (0.95) and the retest reliability of this scale over 6 weeks have been reported as 0.85. Cognitive avoidance questionnaire has better convergent and divergent validity compared to scales of worry, suppression of thoughts and coping style (Sexton & Dugas, 2009). Cronbach's alpha in the present study for this scale was 0.94.

The Distress Tolerance Scale (DTS):

DTS consists of 15 questions and four subscales called Emotional Distress Tolerance, Negative Emotion Absorption, Assessment of Mental Distress, and Adjustment of Effort Relief Efforts, developed by Simons and Gaher (2005). The items of this questionnaire are scored on a 5-point scale. Item 6 is scored in reverse. High scores on this scale indicate high distress tolerance. The reliability of this scale was reported to be 0.93 by Cronbach's alpha method and 0.61 by retest method. Correlation between distress tolerance scale with emotional distress is -0.59, with distortion is -0.51, and with mood regulation is -0.54 (Simons & Gaher, 2005). For the Persian version of this questionnaire, Cronbach's alpha was 0.67 and retest validity was 0.79 (Azizi, Mirzaee, & Shams, 2010). Besides, the validity coefficient was reported to be 0.32 at the same time as the moral intelligence questionnaire ($p < 0.05$).

In order to obtain the total anxiety tolerance, the scores of all items are added, and the score of each subscale is the sum of the items of the same subscale. This scale

has good psychometric properties. The reliability of this scale has been reported as 0.93 by Cronbach's alpha method and 0.61 by retest method (Bernstein, Zvolensky, Vujanovic, & Moos, 2009; Hsu, Collins, & Marlatt, 2013). The correlation between anxiety tolerance scale with emotional anxiety was equal to 0.59, with a regulatory curve of 0.51, and a positive correlation with mood regulation was equal to 0.54, and a strong correlation with mood acceptance was 0.47 (Simons & Gaher, 2005). The psychometric characteristics of this questionnaire in Iran have been reported as follows: reliability by Cronbach's alpha method is 0.67 and reliability coefficient by retest method is 0.81 for the whole scale and 0.77 and 0.71 for tolerance, absorption, evaluation and regulation subscales respectively. 0.69 and 0.73. The correlation of the disturbance tolerance scale with problem-oriented and emotion-oriented approaches were 0.33 and 0.27, respectively (Azizi, Mirzaie, & Shams, 2010). Also, the validity coefficient of the moral intelligence questionnaire was reported as 0.32 ($p < 0.05$). Cronbach's alpha in the present study for this scale was 0.93.

Maudsley Obsessive Compulsive Inventory (MOCI):

This questionnaire was prepared in 1977 by Hodgson and Rachman to investigate the dimensions of obsession symptoms. This test has 30 two-choice questions (true or false) that are mandatory to measure the symptoms of obsessive-compulsive disorder. The questionnaire detects various types of obsessive and compulsive symptoms in obsessive patients. It consists of 30 true and false questions and has 4 subscales (revision, cleanliness, slowness, doubt and doubt) (Hodgson & Rachman, 1977). By all means, there is a fifth scale titled as rumination, however, since it only includes two questions, it is not scored separately. The test score includes a total score and 4 scores related to the subscales that are scored separately. The validity of the test is generally more than 8% in all four classes. The retest reliability of the questionnaire is 0.98. The sensitivity of the questionnaire to changes is low due to its two answers. In Iran, Dadfar, Bolhari, Dadfar, and Bayanzadeh (2001) has reported the validity of the whole test (84%) and its validity and convergence with Bill Brown's Obsessive-Compulsive Scale (87%) (Abolghasemi, 2007). Hodgson and Rachman (1977) have estimated the convergent validity and retest reliability of this questionnaire as satisfactory and around 0.89. Cronbach's alpha coefficient for the total score was reported as 0.87 (de Silva, Menzies, & Shafran, 2003) and the correlation between the total scores of the Maudsley test and the Padua test is 0.70. The content validity of this test was checked and confirmed in Iran by Ezadikhah, Ghasemkhani, and Fadaea (2001) and its retest reliability was estimated by Mahmood Alilou (2006) on a group of 25 people to be 0.82. Cronbach's alpha in the present study for this scale was 0.85.

Results

The mean and deviation of the age criterion is (23.93 ± 23.46). Analysis of demographic data showed that 123 people (81%) were studying for a bachelor's degree, 21 of them (14%) were studying for a master's degree and 7 (5%) were studying for a doctorate. Besides, 105 participants (70%) were girls and 45 (30%) were boys. The results of Kolmogorov-Smirnov test were not significant for any of the variables, which means that the data were normal. Also, the value of the variance inflation factor used for the non-linearity assumption for all predictor variables is approximately equal to one,

which spaced 10. The Watson camera test was utilized to test the hypothesis of non-correlation of errors, and since it was 1.78, which lies between 1.5 and 2.5, so the errors are independent, and consequently, there are conditions for using multiple regression. Pearson correlation coefficients were used to investigate the relationship between emotional distress, cognitive avoidance and distress tolerance in students. The results related to the mean, standard deviation and correlation coefficients of the subjects' scores are illustrated in Table 1.

Table 1. Mean, standard deviation and correlation coefficients of the research variables

Variables	M	SD	1	2	3	4	5	6	7	8
1	49.42	9.82	1							
2	63.95	14.92	.451**	1						
3	45.93	9.35	-.617**	-.466**	1					
4	3.91	1.61	.389**	.230**	-.336**	1				
5	3.37	1.73	.307**	.251**	-.297**	.333**	1			
6	2.20	1.16	.086	.118	-.157	.176*	.180*	1		
7	2.92	1.31	.368**	.419**	-.379**	0.353**	.359**	.158*	1	
8	12.42	3.91	.439**	.394**	-.438**	.715**	.755**	.486**	.689**	1

(P<*.05), (P<**.01)

1. Alexithymia, 2. Cognitive avoidance, 3. Distress tolerance, 4 Checking, 5. Cleaning, 6. Slowness, 7. Doubting, 8. Obsessive-compulsive

As you can see in Table 1, the mean and the standard deviation of each variable presented are: mean and standard deviation of alexithymia (49.42±9.82), cognitive avoidance (63.95±14.92), distress tolerance (45.93 ±9.35), review (3.91±1.61), cleanliness (3.37 ±1.73), slowness (2.20 ±1.16), hesitation (2.92 ±1.31) and obsession (12.42 ±3.91). The results also showed that there is a significant relationship between the

variables of alexithymia of 0.43, cognitive avoidance of 0.39 and distress tolerance -0.43 with obsession. In other words, students' obsession decreases and increases by reducing alexithymia and cognitive avoidance, besides increasing distress tolerance. In order to determine the relative contribution of each variable, alexithymia, cognitive avoidance and distress tolerance in obsessive prediction, multiple regression was utilized in a stepwise manner. the results are provided in Table 2.

Table 2. Results of multiple analysis of variance of stepwise regression model of obsessive-compulsive disorder based on alexithymia, cognitive avoidance and distress tolerance in students

Step	Predictive variable	F	R	R ²	B	β	SE	t	P
First	Alexithymia	35.65	.439	.193	.174	.439	.029	5.97	.001
Second	Alexithymia	23.50	.491	.241	.130	.329	.032	4.09	.001
	Cognitive avoidance				.640	.245	.021	3.05	.003
Third	Alexithymia	17.79	.516	.266	.087	.221	.036	2.39	.018
	Cognitive avoidance				.051	.196	.022	2.38	.018
	Distress tolerance				-.088	-0.210	0.039	-2.25	.026

The results of Table 2 showed that the predictor variables of alexithymia, cognitive avoidance and distress tolerance were able to significantly predict obsessive-compulsive disorder among students. While scrutinizing the effect of alexithymia, cognitive avoidance and distress tolerance variables in the first stage, alexithymia was included in the model and it was able explain 19% of the obsession variance. In the second stage, alexithymia and cognitive avoidance together were able to explain 24% of the variance of obsession variance, which was 5% of cognitive avoidance. In the third stage, alexithymia, cognitive avoidance, and distress tolerance together contributed

26% of obsessive-compulsive variance, with distress tolerance contributing for 2%. Therefore, there is a relationship between alexithymia, cognitive avoidance and distress tolerance with obsession at the level (p < 0.05). Non-standard coefficients B, which are equal to line slope and predictive power, also show that there is a significant relationship between alexithymia, cognitive avoidance, and distress tolerance with obsession; This means that for each unit of change in alexithymia, cognitive avoidance, and distress tolerance, 0.17, 0.06, and 0.08 units of change in student obsession occur, respectively. Additionally, β coefficients for alexithymia (Beta = 0.22), cognitive avoidance (Beta =

0.19) and distress tolerance (Beta=-0.21) are the strongest variables for predicting obsession in students, respectively.

Discussion

Today, much attention has been paid to the role of emotion and inner experience in obsession. Obsessive thoughts are recurrent impulses that disturb a person, besides, eliminating these thoughts is exhausting for the person. Although the person with obsessive-compulsive disorder knows that thinking about these thoughts is useless, but by thinking constantly and unintentionally, they cause his own alexithymia and confusion (Amerio, Maina, & Ghaemi, 2019). Based on the results of this study, it was found that there is a statistically significant relationship between the mean of alexithymia, cognitive avoidance and distress tolerance with the mean of obsession. These findings are consistent with studies (Ustundag & Gokceimam, 2020; Wu, Shi, Dong, Li, & Wu, 2018) which clarify that there is a relationship between alexithymia and the severity of alexithymia symptoms; thereafter, the existence of alexithymia affects the severity of obsessive symptoms.

The findings demonstrate that difficulty in identifying and describing emotions in alexithymia due to maladaptive coping styles leads to a mismatch between self-awareness and experience in obsessive-compulsive individuals (Wu, Shi, Dong, Li, & Wu, 2020). Because obsessive people do not have the ability to think about internal issues and have external and objective thinking, they constantly spend energy to suppress their inner emotions and thoughts. With constant energy, repressed thoughts and emotions develop into mental and obsessive rumination. Alexithymia leads to more emotional arousal in obsessive-compulsive individuals and it makes the person incompatible with life stress. The greater the power and intensity of obsessive thoughts, the more turbulent the person becomes, and the more obsessive rituals and behaviors the person has to perform to reduce the pressure. In order to be able to survive in spite of these disturbing thoughts, they find themselves in need of coping strategies (De Berardis et al., 2015). In a study by Uslu, Erensoy, Meterelliyoç, Aytaç, and Berkol (2020), the level of alexithymia in patients with obsessive-compulsive disorder is significantly higher than in healthy individuals, which is in line with the findings of Robinson and Freeston (2014) meta-analysis. According to these results, patients with obsessive-compulsive disorder have high levels of all three subscales of variable alexithymia. Besides alexithymia, anxiety sensitivity, and distress tolerance are different in people with obsessive-compulsive disorder in comparison with normal people. Thereafter, people with alexithymia have problems with anxiety as well (Heydarian, Azami, Sahraei, Mohammadi, & Rezaei, 2017). As a result, people with higher alexithymia, anxiety sensitivity and lower anxiety tolerance have more severe obsessive-compulsive symptoms. Cognitive intolerance and

cognitive avoidance also have the ability to explain 20% of the total variance of alexithymia, and as cognitive intolerance and avoidance increase, levels of alexithymia increase (Tekel & Korkman, 2020).

People with high symptoms of obsessive-compulsive disorder have high cognitive avoidance. Besides, obsessive believes have a significant relationship with cognitive avoidance, and cognitive avoidance predicts obsessive-compulsive disorder. In explaining the relationship between cognitive avoidance and obsession, it can be argued that considering that the people with cognitive disorders have low self-esteem and isolation; They do not have the ability to interact and establish intimate relationships with others, while others enjoy these relationships, and they are angry with themselves. Fear and anxiety about criticism and rejection by others in social relationships and personal interactions make these people show avoidance behaviors such as avoiding social interactions, excitement and new ideas (American Psychiatric Association, 2013). Cognitive avoidance means changing cognitions to stress and tension, which plays an influential role in people's lives when dealing with life pressures and stresses; It helps them avoid situations or actions to reduce pressure or tension. This avoidance makes people to not respond appropriately to emotional stimuli in that situation, besides, they cannot use the ability to implement effective emotion management strategies (Fazakas-DeHoog, Rnic, & Dozois, 2017). Thus, when a person escapes from disturbing private experiences and tries not to encounter these emotions, cognitive avoidance occurs, which plays an important role in the onset and persistence of obsessive-compulsive disorder symptoms (Armstrong et al., 2011).

According to Besharat and Mirjalili (2014), people with obsessive-compulsive disorder and generalized anxiety disorder do not have a significant difference in cognitive avoidance score. It can be concluded from the results that cognitive avoidance is a meta-diagnostic factor that has similarities between obsessive-compulsive disorder and generalized anxiety disorder. Therefore, cognitive avoidance increases significantly when the two disorders coexist and the disease conditions worsen. Additionally, people with obsessive-compulsive disorder have higher cognitive avoidance than normal people (Mahmoodalilo, 2014). Therapies that target avoidance are useful for increasing distress tolerance, which reduces useless and problematic escape and avoidance of emotional pain and suffering (Walser et al., 2015).

Explaining the relationship between low distress tolerance and the severity of obsessive-compulsive symptoms is consistent with research findings (Cisler, Reardon, Williams, & Lohr, 2007; Keough, Riccardi, Timpano, Mitchell, & Schmidt, 2010; Laposa, Collimore, Hawley, & Rector, 2015). Nargesi, Fathi-Ashtiani, Davodi, and Ashrafi (2018) also explored a direct correlation between alexithymia, emotion regulation, distress tolerance, and sensitivity to anxiety

with obsessive-compulsive symptoms. Research has considered an important role in enduring low anxiety and increasing emotional response in obsessive-compulsive disorder (Cougles, & et al, 2013). Furthermore, the lower the distress tolerance in people with obsessive-compulsive disorder, the greater the severity of depression, and the lower the quality of life reported (Garner et al., 2018). According to research by Ay and Aytas (2018), the eating habits of obsessive-compulsive patients are more irregular than healthy individuals. In addition, the distress tolerance of obsessive-compulsive patients was slightly significant with an irregular eating attitude.

The negative relationship between distress tolerance and obsessive-compulsive disorder reflects the fact that people with obsessive-compulsive disorder have a greater cognitive bias that is constantly shaped by the lack or inefficiency of knowledge. These characteristics are related to the internal factors of the person over which the person has no control. These people have an anxious and negative view of the future events, while believing that it should be avoided. Overall, these characteristics predispose a person to any psychological problem, including anxiety, which in turn increases the likelihood of performing rituals to reduce anxiety (Summers, Matheny, Sarawgi, & Cougle, 2016).

Conclusion

The results of this research showed a statistically significant relationship between the average of emotional ataxia, cognitive avoidance and distress tolerance with the average of obsession and it was discovered that the subscales of cleanliness, revision, doubt and slowness of obsessive-compulsive disorder and emotional ataxia, distress tolerance and cognitive avoidance have the largest contribution in predicting the obsessive-compulsive disorder. Obsessives' thinking seems to be external and objective. They spend energy suppressing their emotions and inner thoughts, thus in such manner, they engage in rumination. This avoidance keeps the person safe from situations that have emotional arousal. Therefore, it makes them unable to use effective emotional management strategies. In general, cognitive avoidance plays an important role in the onset and continuation of obsessive-compulsive disorder symptoms. For this reason, treatments that target avoidance are useful for increasing distress tolerance, which reduces symptoms caused by avoidance.

Limitations

Among the limitations of this research, the small number of subjects, the use of available sampling and the correlation of this design can be counted, which cause caution in interpreting and generalizing the research. It is suggested that the research be conducted on the subject of causality and with more people in

clinical samples in order to increase the power of interpretation and generalization of results. Furthermore, questionnaires with fewer questions should be used to facilitate participation in research. Besides, in future studies, the variables of this research should be investigated in the form of mediators in the method of structural equations in order to determine their role as mediators.

Acknowledgments

Finally, we thank all the students of Ferdowsi University of Mashhad who helped us in conducting this research despite the many questions.

Conflict of interest

No potential conflict of interest was reported by the authors.

ORCID

Maryam Naseri: <http://ORCID.Org/0000-0001-8568-3290>

References

- Abolghasemi, A., Golpour, R., Narimani, M., Ghanbari, H. (2007). The effectiveness of two methods of cognitive reconstruction and attention control training on the correction of metacognitive beliefs of students suffering from exam anxiety. *Journal of Psychology*, 2, 2 .doi:10.29252/nrip.irj.16.1.69
- Akbari, M., Hamidpour, H., & Andoz, Z. (2009). Investigating predictors of pathological anxiety in students. *medical University Tehran*, 22-24.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5* (Vol. 5): American psychiatric association Washington,DC.
- Amerio, A., Maina, G., & Ghaemi, S. (2019). Updates in treating comorbid bipolar disorder and obsessive-compulsive disorder: A systematic review. *Journal of affective disorders*, 256, 433-440. doi:10.1016/j.jad.2019.06.015
- Apágua, L. T., & Jaeger, A. (2019). Memory for emotional information and alexithymia A systematic review. *Dement Neuropsychol*, 13(1), 22-30. doi:10.1590/1980-57642018dn13-010003
- Armstrong, T., Zald, D. H., & Olatunji, B. O. (2011). Attentional control in OCD and GAD: Specificity and associations with core cognitive symptoms. *Behaviour research and therapy*, 49(11), 756-762 . doi:10.1016/j.brat.2011.08.003
- Ay, R., & Aytas, O. (2018). The relationship between eating attitudes and distress tolerance in obsessive compulsive disorder. *Archives of Clinical Psychiatry (São Paulo)*, 45, 139-142 .doi:10.1590/0101-60830000000176

- Azizi, A. R., Mirzaea, A., & Shams, J. (2010). Correlation between distress tolerance and emotional regulation with students smoking dependence. *Research of Hakim Health System, 13*, 11-18 . <https://www.sid.ir/paper/29476/en>
- Bagby, R. M., Parker, J. D., & Taylor, G. J. (1994). The twenty-item Toronto Alexithymia Scale—I. Item selection and cross-validation of the factor structure. *Journal of psychosomatic research, 38*(1), 23-32 . doi:10.1016/0022-3999(94)90005-1
- Bagheri, M., Nematollah Z., Mahani, K., Pour Amrollahi, M. (2020). The Mediating Role of Alexithymia in the Relationship of Coping Strategies and Personality Traits With Obsessive-Compulsive Disorder. *QHMS, 27*(1), 62-81 . doi:10.32598/hms.27.1.3355.1
- Bankier, B., Aigner, M., & Bach, M. (2001). Alexithymia in DSM-IV disorder: comparative evaluation of somatoform disorder, panic disorder, obsessive-compulsive disorder, and depression. *Psychosomatics, 42*(3), 235-240. doi:10.1176/appi.psy.42.3.235
- Bernstein, A., Zvolensky, M. J., Vujanovic, A. A., & Moos, R. (2009). Integrating anxiety sensitivity, distress tolerance, and discomfort intolerance: a hierarchical model of affect sensitivity and tolerance. *Behav Ther, 40*(3), 291-301. doi:10.1016/j.beth.2008.08.001
- Besharat, M. (2008). Psychometric characteristics of Persian version of the Toronto alexithymia scale-20 in clinical and non-clinical samples. *Iranian Journal of Medical Sciences, 33*(1), 1-6 . https://ijms.sums.ac.ir/article_39805.html
- Besharat, M. (2013). Toronto alexithymia scale: Questionnaire, instruction and scoring. *Developmental Psychology, 37*, 90-92 . https://jip.stb.iau.ir/article_512923.html?lang=en
- Besharat, M. A. (2007). Reliability and factorial validity of a Farsi version of the 20-item Toronto Alexithymia Scale with a sample of Iranian students. *Psychological reports, 101*(1), 209-220 . doi:10.2466/pr0.101.1.209-220
- Besharat, M. A. (2008). Psychometric Characteristics of Persian Version of the Toronto Alexithymia Scale20 in Clinical and Non-Clinical Samples. *Iranian Journal of Medical Sciences, 33* .
- Besharat, M. A., & Mirjalili, R. S. (2014). P52: Worry, Cognitive avoidance, intolerance of uncertainty and metacognitive beliefs as transdiagnostic factors in generalized anxiety disorder and obsessive compulsive disorder. *The Neuroscience Journal of Shefaye Khatam, 2*(3), 76-76 . <http://shefayekhatam.ir/article-1-174-en.html>
- Cisler, J. M., Reardon, J. M., Williams, N. L., & Lohr, J. M. (2007). Anxiety sensitivity and disgust sensitivity interact to predict contamination fears. *Personality and Individual differences, 42*(6), 935-946 .doi:10.1007%2Fs10608-009-9253-y
- Cougle, J. R., Timpano, K. R., Sarawgi, S., Smith, C. M., & Fitch, K. E. (2013). A multi-modal investigation of the roles of distress tolerance and emotional reactivity in obsessive-compulsive symptoms. *Anxiety, Stress & Coping, 26*(5), 478-492 .doi:10.1080/10615806.2012.697156
- Dadfar, M., Bolhari, J., Dadfar, k., & Bayanzadeh, S. A. (2001). Prevalence of the obsessive-compulsive disorder symptoms %J Iranian Journal of Psychiatry and Clinical Psychology. *7*(1), 27-33 . <http://ijpcp.iuums.ac.ir/article-1-1963-en.html>
- De Berardis, D., Serroni, N., Campanella, D., Rapini, G., Olivieri, L., Feliziani, B . . . ,Di Giannantonio, M. (2015). Alexithymia, responsibility attitudes and suicide ideation among outpatients with obsessive-compulsive disorder: an exploratory study. *Comprehensive psychiatry, 58*, 82-87. <https://doi.org/10.1016/j.comppsy.2014.12.016>
- de Silva, P .,Menzies, R. G., & Shafran, R. (2003). Spontaneous decay of compulsive urges: The case of covert compulsions. *Behaviour Research and Therapy, 41*, 129-137. doi:10.1016/S0005-7967(01)00132-2
- Dugas, M. J., Gagnon, F., Ladouceur, R., & Freeston, M. H) .1998 .(Generalized anxiety disorder: A preliminary test of a conceptual model. *Behaviour research and therapy, 36*(2), 215-226 . doi:10.1016/s0005-7967(97)00070-3
- Dugas, M. J., Marchand, A., & Ladouceur, R. (2005). Further validation of a cognitive-behavioral model of generalized anxiety disorder: Diagnostic and symptom specificity. *Journal of anxiety disorders, 19*(3), 329-343 .doi:10.1016/j.janxdis.2004.02.002
- eftekhazade, r., hosseinian, s., shams, j., & yazdi, s. m. (2016). The effectiveness of psycho education on expressed emotion and decreasing severity of diseases in patient with obsessive compulsive disorder. *Journal of Psychological Studies, 12*(2), 67-84. doi:10.22051/psy.2016.2384
- Ezadikhah, Z., Ghasemkhani, H., & Fadaea, F. (2001). Investigating overt memory bias in trait anxiety and obsessive-compulsive *Iranian Journal of Psychiatry and Clinical Psychology, 7* (27). <http://ijpcp.iuums.ac.ir/article-1-1980-en.html>
- Fazakas-DeHoog, L. L., Rnic, K., & Dozois, D. J. (2017). A cognitive distortions and deficits model of suicide ideation. *Europe's journal of psychology, 13*(2), 178 .doi:10.5964/ejop.v13i2.1238
- Garner, L. E., Van Kirk, N., Tiff, E .D., Kropfing, J. W., Mathes, B. M., Fraire, M., . . . Elias, J. A. (2018). Validation of the distress tolerance scale-short form in obsessive compulsive disorder. *Journal of clinical psychology, 74*(6), 916-925 . doi:10.1002/jclp.22554
- Gosselin, P., Langlois, F., Freeston, M .H., Ladouceur, R., Laberge, M., & Lemay, D. (2007). Cognitive variables related to worry among adolescents: Avoidance strategies and faulty beliefs about worry. *Behaviour research and therapy, 45*(2), 225-233 . doi:10.1016/j.brat.2006.03.001
- Hemming, L., Taylor, P., Haddock, G., Shaw ,J., & Pratt, D. (2019). A systematic review and meta-

- analysis of the association between alexithymia and suicide ideation and behaviour. *Journal of Affective Disorders*, 254, 34-48. doi:10.1016/j.jad.2019.05.013
- Heydarian, S., Azami, E., Sahraei, A., Mohammadi, A., & Rezaei, M. (2017). Study of alexithymia among people with low distress tolerance compared to non-clinical sample. *Social Determinants of Health*, 3(1), 40-45 .doi:10.22037/sdh.v3i1.17158
- Hodgson, R. J., & Rachman, S. (1977). Obsessional-compulsive complaints. *Behaviour Research and Therapy*, 15(5), 389-395. doi:10.1016/0005-7967(77)90042-0
- Hooman, H. (2005). Structural equation modeling using LISREL software. *Samt Publications*, 80 .
- Hsu, S. H., Collins, S. E., & Marlatt, G. A. (2013). Examining psychometric properties of distress tolerance and its moderation of mindfulness-based relapse prevention effects on alcohol and other drug use outcomes. *Addict Behav*, 38(3), 1852-1858. doi:10.1016/j.addbeh.2012.11.002
- Jansen, M., Overgaauw, S., & De Bruijn, E. R. (2020). Social cognition and obsessive-compulsive disorder: a review of subdomains of social functioning. *Frontiers in psychiatry*, 11, 118 . doi:10.3389/fpsyt.2020.00118
- Keough, M. E., Riccardi, C. J., Timpano, K. R., Mitchell, M. A., & Schmidt, N. B. (2010). Anxiety symptomatology: The association with distress tolerance and anxiety sensitivity. *Behavior therapy*, 41(4), 567-574 .doi:10.1016/j.beth.2010.04.002
- Laposa, J. M., Collimore, K. C., Hawley, L. L., & Rector, N. A. (2015). Distress tolerance in OCD and anxiety disorders, and its relationship with anxiety sensitivity and intolerance of uncertainty. *Journal of anxiety disorders*, 33, 8-14. doi:10.1016/j.janxdis.2015.04.003
- Mahmood Alilou, A. (2006). Worry and its relation with checking and washing subtypes of (OCD). *Contemporary psychology*, 1, 3-10 . https://www.sid.ir/paper/120161/en
- Mahmoodalilo, M. (2014). Comparison of Cognitive Variables among Patients with Generalized Anxiety Disorder, Obsessive-Compulsive Disorder and Control Group. *Journal of Modern Psychological Researches*, 9(35), 153-169 .
- MahmudAliloo, M., Shahjooee, T., & Hashemi, Z. (2011). Comparison of Intolerance of Uncertainty, Negative Problem Orientation, Cognitive Avoidance, Positive Beliefs about Worries in Patient whit Generalized Anxiety Disorder and Control Group. *Journal of Modern Psychological Researches*, 5(20), 169-187 . https://psychologyj.tabrizu.ac.ir/article_4189_710.html?lang=en
- McCubbin, R & .Sampson, M. (2006). The relationship between obsessive-compulsive symptoms and appraisals of emotional states. *Journal of anxiety disorders*, 20(1), 42-57 . doi:10.1016/j.janxdis.2004.11.008
- Nargesi, F., Fathi-Ashtiani, A., Davodi, I., & Ashrafi, E. (2018). The mediating role of difficulties in emotion regulation strategies on the relationship between alexithymia, anxiety sensitivity and distress tolerance with obsessive-compulsive symptoms %J Middle Eastern Journal of Disability Studies. 8(0), 9-9 . http://dorl.net/dor/20.1001.1.23222840.1397.8.0.95.0
- O'Kearney, R., & Nicholson, C. (2008) .(Can a Theory of Mind Disruption Help Explain OCD Related Metacognitive Disturbances? *Behaviour Change*, 25(2), 55-70. doi:10.1375/bech.25.2.55
- Ong, E., & Thompson, C. (2019). The importance of coping and emotion regulation in the occurrence of suicidal behavior. *Psychological reports*, 122(4), 1192-1210 .doi:10.1177/0033294118781855
- Parker, J. D., Taylor, G. J., & Bagby, R. M. (2001). The relationship between emotional intelligence and alexithymia. *Personality and Individual differences*, 30(1), 107-115 .doi:10.1016/S0191-8869(00)00014-3
- Parker, J. D., Taylor, G. J & .Bagby, R. M. (2003). The 20-Item Toronto Alexithymia Scale: III. Reliability and factorial validity in a community population. *Journal of psychosomatic research*, 55(3), 269-275 . doi:10.1016/s0022-3999(02)00578-0
- Robinson, L. J., & Freeston, M. H. (2014). Emotion and internal experience in obsessive compulsive disorder: reviewing the role of alexithymia, anxiety sensitivity and distress tolerance. *Clinical Psychology Review*, 34(3), 256-271 . doi:10.1016/j.cpr.2014.03.003
- Roh, D., Kim, W. J., & Kim, C. H. (2011). Alexithymia in obsessive-compulsive disorder: clinical correlates and symptom dimensions. *J Nerv Ment Dis*, 199(9), 690-695. doi:10.1097/nmd.0b013e318229d209
- Sexton, K. A., & Dugas, M. J. (2008). The cognitive avoidance questionnaire: validation of the English translation. *Journal of anxiety disorders*, 22(4), 405-414 .doi:10.1016/j.janxdis.2007.04.005
- Sexton, K. A., & Dugas, M. J. (2009). An investigation of factors associated with cognitive avoidance in worry. *Cognitive Therapy and Research*, 33, 150-162. doi:10.1007/s10608-007-9177-3
- Simons, J. S., & Gaher, R. M. (2005). The Distress Tolerance Scale: Development and validation of a self-report measure. *Motivation and emotion*, 29(2), 83-102 .doi:10.1007/s11031-005-7955-3
- Smith, A. H., Wetterneck, C. T., Hart, J. M., Short, M. B., & Björgvinsson, T. (2012). Differences in obsessional beliefs and emotion appraisal in obsessive compulsive symptom presentation. *Journal of Obsessive-Compulsive and Related Disorders*, 1(1), 54-61 . doi:10.4103%2Findianjpsychiatry.indianjpsychiatry_1194_20

- Smith, R., Killgore, W. D., & Lane, R. D. (2018). The structure of emotional experience and its relation to trait emotional awareness: A theoretical review. *Emotion, 18*(5), 670 .doi:10.1037/emo0000376
- Summers, B. J., Matheny, N. L., Sarawgi, S., & Cogle, J. R. (2016). Intolerance of uncertainty in body dysmorphic disorder. *Body image, 16*, 45-53 . doi:10.1016/j.bodyim.2015.11.002
- Tekel, E., & Korkman, H. (2020). Teacher Candidates' Cognitive Avoidance and Intolerance of Uncertainty Predicting Alexithymia. *International Journal of Progressive Education, 16*(5), 275-287 . doi:10.29329/ijpe.2020.277.17
- Tolin, D. F., Abramowitz, J. S., Brigidi, B. D., & Foa, E. B. (2003). Intolerance of uncertainty in obsessive-compulsive disorder. *Journal of anxiety disorders, 17*(2), 233-242 .doi:10.1016/s0887-6185(02)00182-2
- Troy, A. S., Shallcross, A. J., Brunner, A., Friedman, R., & Jones, M. C. (2018). Cognitive reappraisal and acceptance: Effects on emotion, physiology, and perceived cognitive costs. *Emotion, 18*(1), 58 . doi:10.1037%2Femo0000371
- Uslu ,U., Erensoy, H., Meterellioz, K. S., Aytaç, H. M., & Berkol, T. D. (2020). Obsesif kompulsif bozukluğa sahip hastalar ile sağlıklı bireyler arasındaki aleksitimi düzey farklılıklarının karşılaştırılması; Comparison of alexithymia level differences associated with obsessive compulsive disorder patients and healthy people. *The Journal of Neurobehavioral Sciences, 7*(2), 52 . Doi: 10.4103/JNBS.JNBS_7_20
- Ustundag, M., & Gokceimam, P. Ş. (2020). Temperament, character traits and alexithymia in patients with obsessive compulsive disorder .*Family Practice and Palliative Care, 5*(2), 45-52 . https://doi.org/10.22391/fppc.756632
- Walsler, R. D., Garvert, D. W., Karlin, B. E., Trockel, M., Ryu, D. M., & Taylor, C. B. (2015). Effectiveness of Acceptance and Commitment Therapy in treating depression and suicidal ideation in Veterans .*Behaviour research and therapy, 74*, 25-31 .doi:10.1016/j.brat.2015.08.012
- Wells, A., & Papageorgiou, C. (1998). Relationships between worry, obsessive-compulsive symptoms and meta-cognitive beliefs. *Behaviour research and therapy, 36*(9), 899-913 .doi:10.1016/s0005-7967(98)00070-9
- Wu, C., Shi, C., Dong, W., Li, B & ,Wu, R. (2018). Alexithymia, ego-dystonicity, and obsessive-compulsive symptoms: A path modeling analysis. *Psychopathology, 51*(5), 335-345 . doi:10.1159/000492789
- Wu, C., Shi, C., Dong, W., Li, B., & Wu, R. (2020). Association between alexithymia and immature coping styles is mediated by self-inconsistency and is correlated to obsessive-compulsive symptoms. *The Journal of nervous and mental disease, 208*(5), 377-386 .doi:10.1097/nmd.0000000000001133
- Xu, P., Opmeer, E. M., van Tol, M.-J., Goerlich, K. S., & Aleman, A. (2018). Structure of the alexithymic brain :A parametric coordinate-based meta-analysis. *Neuroscience & Biobehavioral Reviews, 87*, 50-55. doi:10.1016/j.neubiorev.2018.01.004
- Yousefi, N., & Monirpoor, N. (2022). The role of alexithymia and irrational beliefs in predicting obsessive-compulsive disorder in people with obsessive-compulsive disorder %J Rooyesh-e-Ravanshenasi Journal(RRJ). *10*(12), 159-168 . http://dorl.net/dor/20.1001.1.2383353.1400.10.12.10 .2