



Meta-diagnostic Model to Explain the Relationship between Neuroticism and Anxiety Intensity in Anxiety Disorders: Mediating Role of Emotion Dysregulation

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Abstract: The objective of this study is to examine the Meta diagnostic model in order to elucidate the correlation between neuroticism and the intensity of anxiety in anxiety disorders, specifically focusing on the mediating role of emotion dysregulation in the year 2022. This research is categorized as basic and non-experimental or descriptive, based on its aims. The statistical population consisted of all female patients (aged 20-55) who were diagnosed with generalized anxiety disorder, social anxiety disorder, or panic disorder and sought treatment at eight psychiatric and psychological centers in Tehran during the second half of 2022. The sample group, selected through purposive sampling, comprised 678 individuals, including 207 female patients (aged 20-55) with generalized anxiety disorder, 242 female patients (aged 20-55) with social anxiety disorder, and 229 female patients (aged 20-55) with panic disorder. The research employed the following tools: the Neo McCree and Costa (1985) five-factor personality questionnaire, the Aaron Beck et al. (1990) anxiety questionnaire, and the Gratz and Romer (2004) emotional disorder questionnaire. Data analysis was conducted using the structural equation modeling method, with the assistance of SPSS-25 and AMOS-25 software. The findings revealed a significant direct relationship between emotional dysregulation and neuroticism, as well as between anxiety intensity and emotional dysregulation, and neuroticism in social anxiety disorder. Conversely, no significant relationship was observed between emotional dysregulation and neuroticism, anxiety intensity and emotional dysregulation, and neuroticism in panic disorder. Furthermore, in the case of generalized anxiety disorder, no significant relationship was found between anxiety intensity and observational emotional disorder, as well as between anxiety intensity and narcissism, and emotional disorder and narcissism. Moreover, the indirect relationship between anxiety intensity and neuroticism through emotional dysregulation was confirmed in social anxiety disorder and generalized anxiety disorder, but not in panic anxiety disorder.

Keywords: Anxiety disorders, anxiety intensity, emotion disorder, neuroticism

Introduction

Anxiety disorders represent a prevalent manifestation of mental disorders. Anxiety disorders are fundamentally characterized by the presence of fear and anxiety. Individuals experiencing these emotions often exhibit high levels of anxiety regarding future events and fear in response to current events, thereby significantly impacting their day-to-day functioning (Esawar et al., 2018).

Broadly speaking, anxiety disorders can be categorized into three distinct groups. The first group is social anxiety disorder, also known as social phobia. This specific disorder entails a debilitating fear of unfamiliar and inappropriate behavior, as well as the fear of negative evaluation. Socially anxious individuals frequently exhibit heightened anxiety levels and avoidance behaviors in both social and functional settings (Kringlen et al., 2001; Pesche et al., 2016). This disorder is often accompanied by

associated issues such as low self-confidence, difficulties in interpersonal relationships, discomfort in social environments, all of which significantly impact adolescents due to their active social lives. Moreover, socially anxious individuals often harbor negative self-perceptions of their performance in social situations, further exacerbating their anxiety (Vitasari et al., 2010).

The second category of anxiety disorder is panic attacks. This disorder is characterized by sudden and unprovoked episodes of distressing symptoms, including shortness of breath, palpitations, nausea, chest pain, feeling of suffocation, dizziness, trembling, intense fear, panic, and a sense of imminent death. The lifetime prevalence of panic disorder is approximately 2% in men and over 5% in women (Johnson et al., 2015).

Lastly, generalized anxiety disorder is another type of anxiety disorder. This particular disorder is characterized by excessive anxiety and uncontrollable worry. Multiple mechanisms and risk factors contribute to its development and persistence (Khodayari et al., 2017).

In recent years, researchers have placed significant emphasis on understanding the underlying mechanisms of these disorders, specifically focusing on meta-diagnostic factors. One prominent model posits that individual with anxiety disorders struggle with identifying, describing, and differentiating their emotional experiences (impaired emotional perception). Emotions, instead of serving as informative cues guiding behavior, are experienced as bothersome and unpleasant (Menin et al., 2009). Furthermore, individuals with anxiety disorders encounter difficulties in recognizing the timing of their emotions and employing adaptive strategies to reduce the intensity of their negative emotional experiences within the appropriate environmental context (maladaptive emotion management and regulation). For these individuals, worry serves as a cognitive process aimed at controlling emotional experiences, but it may also involve the use of other non-adaptive cognitive emotion regulation strategies (Decker et al., 2008).

A multitude of researchers have delineated cognitive factors implicated in anxiety disorders (Rifi et al., 2011; Bolter et al., 2014). The research conducted by Rifi et al. (2011) demonstrated that deficiencies in the cognitive regulation of emotions, encompassing the differentiation of emotions, discerning emotional cues in relation to others, and disregarding physical manifestations during emotional encounters, contribute to the manifestation of anxiety disorders. Hovaleks et al. (2016) unveiled the presence of information processing bias as a cognitive factor associated with anxiety. As posited by Wells (2009), the impact of the strategies that individuals with anxiety employ to regulate their thoughts and emotions within appraised situations can give rise to physical symptoms, negative self-perceptions, negative perceptions of the social world, and alterations in behavior. The presence of negative cognitive

self-beliefs may serve as a predisposing factor for fear and avoidance tendencies in individuals prone to anxiety within anxiety-inducing circumstances.

Donlan et al. (2016) conducted a study titled "The Relationship between Perfectionism, Metacognitive Beliefs, and Cognitive Emotion Regulation Insufficiency in Individuals with Social Anxiety Disorder" which demonstrated a positive and significant correlation between perfectionism, metacognitive beliefs (especially negative ones), and emotion regulation insufficiency in patients with social anxiety disorder. Wells and Carter (2001) conducted a study titled "The Impact of Dysfunctional Metacognitive Beliefs, Concern for Action, and Intolerance of Ambiguity on Panic Disorder" which revealed that false metacognitive beliefs, concern for action, and intolerance of ambiguity significantly predict the severity of panic anxiety symptoms.

In their study titled "The Predictive Role of Anxiety Intensity, Worry Intolerance, and Emotion Regulation in Generalized Anxiety Disorder," Yilmaz et al. (2011) found that anxiety intensity, worry intolerance, and emotion regulation significantly contribute to the development of generalized anxiety disorder.

Miguel Angel et al. (2022) conducted a study titled "The Relationship between Worry Intolerance, Emotion Dysregulation, and Generalized Anxiety Disorder" which revealed a link between emotional dysregulation and symptoms of generalized anxiety disorder, as well as between emotional dysregulation, worry intolerance, and symptoms of generalized anxiety disorder in non-clinical examples.

Akbari and Mohammad Khani (2018) conducted a study demonstrating that there were no significant differences in negative repetitive thoughts, cognitive fusion, and distress intolerance between clinical groups. However, these groups did differ significantly from the normal group in terms of emotional disorder. Furthermore, the study found that participants with major depression and generalized anxiety disorders did not show a significant difference. Repetitive negative thoughts, cognitive fusion, and distress intolerance are common meta diagnostic processes in anxiety and depression disorders and can play a crucial role in the development and persistence of various anxiety and depression disorders.

Akbari et al. (2016) conducted a study revealing that cognitive fusion acts as a full mediator in the relationship between emotional dysregulation and anxiety intensity. The results of the Sobel test confirmed the mediating role of cognitive fusion in anxiety. By controlling for cognitive fusion, the relationship between emotional disorder and anxiety becomes nonsignificant.

Birami et al. (2012) conducted a study showing a significant difference in anxiety sensitivity, over-anxiety, and reappraisal between students with social anxiety and normal students. Students with social anxiety experienced higher levels of anxiety sensitivity and over-anxiety, while reappraisal was lower

compared to the control group. However, no significant difference was observed in terms of suppression between the two groups.

The development of meta-diagnostic approaches has been necessitated by the inefficiency and limitations of specific diagnosis, regardless of the coexistence and common factors of mental disorders. These approaches aim to identify the fundamental and shared processes underlying mental disorders (Vakili Harris et al., 2019). Furthermore, the investigation of meta-diagnostic factors has led to the emergence of significant factors that explain the pathology of mental disorders (Barlow & Frechion et al., 2017).

By adopting the conceptual model of the research, it is anticipated that an integrated and simultaneous model of the emotional process in neuroticism of anxiety disorders will be established. This will contribute to a more effective understanding of the pathology of anxiety disorders and the development of efficient treatment methods. Thus, the present study aims to examine whether the intensity of anxiety in neuroticism of anxiety disorders can be predicted by considering the mediating role of emotion dysregulation.

Material and Methods

In terms of purpose, the present research is applied and in terms of research design, it is descriptive-correlation type through structural equations model. The statistical population of the research included all female patients aged 20 to 55 years with generalized anxiety disorder, social anxiety disorder, and panic disorder who referred to eight psychiatric and psychological centers in Tehran in the second six months of 2011, which were approximately 1500 people. 678 people, including 207 female patients suffering from generalized anxiety disorders, 242 female patients suffering from social anxiety disorder and 229 female patients suffering from panic disorder, formed the sample of this study, which were selected using the purposeful sampling method.

Instruments

Neo's five-factor questionnaire: Neo's five-factor personality questionnaire was designed by McCree and Costa (1985). The short form of this questionnaire called (NEO-FFI) has 60 questions and is used to evaluate 5 main personality factors. Answers are graded based on a 5-point Likert scale (totally disagree = 1 to totally agree = 5). In scoring some of the items in the short form of the questionnaire, completely disagree is given a score of 4, disagree with a score of 3, indifferent with a score of 2, agree with a score of 1, and completely agree with a score of zero. Bencharad et al. (1999) in their research, this coefficient of neuroticism was 0.85, extroversion 0.72, openness 0.68, agreeableness 0.69, and conscientiousness 0.79. Also, in a seven-year longitudinal study, reliability coefficients between 0.82

and 0.51 for 18 N, E, O sub-traits and 0.63 to 0.81 for the five main factors were reported in men and women (Costa and McCree, 1998). Roshan Chelsi et al. (2006) in their research reported the retest coefficients of this tool between 0.61 and 0.82 with an interval of one week, and the construct validity of this tool with the revised symptom list. 90 items were satisfactory. In addition, they reported reliability coefficients between 0.55 and 0.83 using Cronbach's alpha.

Anxiety Scale: The Beck and Steer Anxiety Questionnaire (1990) is a self-report questionnaire designed to measure the intensity of anxiety in adolescents and adults. This questionnaire is a 21-item scale. The reliability coefficient of this tool is 0.92, its validity is 0.75 with the retest method after one week, and the correlation of its items varies from 0.30 to 0.76. Beck et al. (1988) reported the internal consistency of this scale between 0.73 and 0.62. In the research of Namvar et al. (2020) through retesting at a two-month interval, 0.94 was obtained and the reliability coefficient using Cronbach's alpha was 0.87.

Emotional Dysregulation Scale: This scale was designed by Gratz and Romer (2004) to measure the level of emotional dysregulation and emotional self-regulation strategies and has 36 items and six subscales of non-acceptance of emotional responses (non-acceptance), difficulty in engaging in behavior Purposeful (goals), difficulty in impulse control (impulsive), lack of emotional awareness (awareness), limited access to emotion regulation strategies (strategies) and lack of emotional clarity (clarity). Responses are measured on a five-point Likert scale (1=almost never to 5=almost always). In their study, Gratz and Romer (2004) reported the validity of this tool using exploratory factor analysis for six factors from 0.68 to 0.55. Cronbach's alpha coefficient is 0.93 and the two-week retest reliability coefficient is 0.85. The reliability of the Persian version was reported by Asgari et al. (2008) through internal consistency and halving of 0.86 and 0.80. The reliability of the emotional regulation questionnaire fluctuates between 0.54 and 0.86. In addition, the validity of this tool had a significant correlation with the score of Zuckerman's sensation seeking questionnaire (1987) (cited by Naqavi et al., 2018).

Research implementation process: By referring to the psychiatric and psychological centers of Tehran, people who have a case there and were willing to participate in the research were asked to complete the consent form to participate in the study and to indicate their contact number on the form. Then a questionnaire was given to the target people. The criteria for entering this study include above the cut-off point in the anxiety and neuroticism questionnaire, emotion dysregulation, age range between 30 and 55 years, absence of paranoid, acute symptoms of mania (such as irritability, deviance and talkativeness) or psychotic symptoms (hallucinations, delusions, associative weakness and autism), obtaining consent was optional and informed.

Ethical considerations: Obtaining informed consent before completing the checklist and assuring the participants to keep their information confidential, publishing the study results honestly and accurately

and not mentioning the names of the participants in the data and results were among the ethical considerations considered in this research.

Results

In the study of the demographic information of the research participants, 53.3% were single and 46.7% were married in the social anxiety disorder group, 49.8% were single and 50.2% were married in the panic disorder group, and 54.6% were single and 4.45% of married people were in the generalized anxiety disorder group. In addition, the mean \pm SD age of the social anxiety disorder group was 9.55 ± 36.70 , the panic disorder group was 10.305 ± 37.314 , and the generalized anxiety disorder group was 9.55 ± 38.691 .

Table 1. Mean and standard deviation of research variables

Variable	Social anxiety group (n = 242)		panic group (n = 229)		Generalized anxiety group (n = 207)		Total (n = 678)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Not accepting emotions	18.17	3.33	17.86	3.03	18.12	3.57	18.05	3.31
Goals	15.46	2.76	15.32	2.41	15.94	3.07	15.56	2.76
Impulses	18.38	3.60	18.60	3.07	19.12	3.89	18.68	3.53
Consciousness	18.64	3.42	18.92	3.29	18.43	4.03	18.67	3.57
Strategies	24.98	4.32	25.04	4.13	25.87	4.92	25.27	4.46
Clarity in emotions	13.49	2.99	13.59	2.73	13.66	2.87	13.58	2.86
Emotional disorder	109.14	13.81	109.36	10.78	111.16	13.53	109.83	12.79
neuroticism	39.99	7.95	24.12	8.14	26.38	8.94	30.47	10.97
Factor 1	11.02	3.13	15.49	2.46	12.27	2.97	12.91	3.44
Factor 2	10.76	2.94	15.71	2.31	10.45	3.44	12.34	3.78
Factor 3	10.83	3.29	14.87	2.75	10.93	3.32	12.23	3.65
Factor 4	5	1.84	6.29	2.27	5.56	1.78	5.60	2.05
Factor 5	4.21	2.11	9.56	1.66	4.21	1.91	6.02	3.16
Anxiety intensity	41.84	10.61	61.94	8.05	43.44	9.29	49.12	13.14

Reliability and validity in SMART PLS3 structural equation modeling method includes measurement part and structural model part. To examine the fit of the measurement model, index reliability, convergent validity, and divergent validity were used. The reliability of the index is measured by three criteria including Cronbach's alpha, composite reliability (CR) and factor loading coefficients. In addition, convergent validity was evaluated with the standard (Average Variance Extracted) and divergent validity was evaluated with Fornell and Larcker table. To evaluate the fit of the structural part, significant coefficients (Z), values (T-values), Squares R, R^2 , Q^2 , effect size criteria (f^2), and GOF criteria were examined for fitting the overall model. SPSS-23 software was used for descriptive statistics. Considering that the appropriate value for factor loading coefficients is more than 0.3, Cronbach's alpha is 0.7, for composite reliability is 0.7, and for AVE is 0.5, and all the criteria in the factor loading section have an appropriate value, it can be appropriate the reliability and convergent validity of the research. According to the findings, the root value of AVE of all first-order variables is

higher than the correlation value of the variables with each other, which shows the appropriate divergent validity and good fit of the measurement model. R^2 is a standard that shows the effect of an exogenous factor on an endogenous factor, and three values of 0.19, 0.33 and 0.67 are considered as criteria for weak, medium and strong values. R^2 value for exogenous or independent factors is equal to zero. Q^2 criterion was also used to check the quality or validity of the model.

Table 2. Review of R^2 and Q^2 criteria

Variable	SA disorder				Panic disorder				GA disorder			
	R^2		Q^2		R^2		Q^2		R^2		Q^2	
Not accepting emotions	0.84	Strong	0.42	Strong	0.77	Strong	0.39	Strong	0.78	Strong	0.38	Strong
Goals	0.73	Strong	0.37	Strong	0.72	Strong	0.36	Strong	0.78	Strong	0.42	Strong
Impulses	0.77	Strong	0.43	Strong	0.68	Strong	0.37	Strong	0.79	Strong	0.49	Strong
Consciousness	0.19	Moderate	0.10	Moderate	0.50	Strong	0.28	Strong	0.60	Strong	0.39	Strong
Strategies	0.77	Strong	0.37	Strong	0.51	Strong	0.26	Strong	0.78	Strong	0.38	Strong
Clarity in emotions	0.49	Strong	0.30	Strong	0.49	Strong	0.29	Strong	0.55	Strong	0.32	Strong
Emotional disorder	0.16	Weak	0.09	Moderate	0.007	Weak	0.004	Weak	0.14	Weak	0.09	Moderate
Neuroticism	0.32	Moderate	0.16	Moderate	0.06	Weak	0.02	Moderate	0.16	Weak	0.09	Moderate
Factor 1	0.362	Strong	0.36	Strong	0.61	Strong	0.35	Strong	0.53	Strong	0.32	Strong
Factor 2	0.78	Strong	0.37	Strong	0.71	Strong	0.36	Strong	0.44	Strong	0.31	Strong
Factor 3	0.70	Strong	0.36	Strong	0.47	Strong	0.28	Strong	0.64	Strong	0.34	Strong
Factor 4	0.55	Strong	0.39	Strong	0.27	Moderate	0.19	Strong	0.44	Strong	0.29	Strong
Factor 5	0.43	Strong	0.30	Strong	0.42	Strong	0.26	Strong	0.26	Moderate	0.19	Strong

The F^2 criterion, which determines the relationship between the constructs of the model, is presented in Table 3

Table 3. Result of f^2 criterion

Variable	f^2					
	SA disorder		Panic disorder		GA disorder	
The size of the effect of emotional disorder on the non-acceptance of emotions	5.16	Strong	3.32	Strong	3.55	Strong
The effect size of emotional disorder on goals	2.71	Strong	2.51	Strong	3.55	Strong
The size of the effect of emotional disorder on impulses	3.41	Strong	2.17	Strong	3.89	Strong
The effect size of emotional disorder on consciousness	0.24	Strong	0.99	Strong	1.51	Strong
The effect size of emotional disorder on strategies	3.41	Strong	1.02	Strong	3.58	Strong
The size of the effect of emotional disorder on clarity in emotions	0.96	Strong	0.95	Strong	1.21	Strong
The effect size of emotional dysregulation on neuroticism	0.10	moderate	.003	weak	.008	weak
The effect size of anxiety intensity on emotional dysregulation	0.19	Strong	.007	weak	0.16	Strong
The size of the effect of anxiety intensity on neuroticism	0.06	moderate	0.03	moderate	0.002	weak
The size of the effect of anxiety intensity on factor 1	1.68	Strong	1.56	Strong	1.12	Strong
The size of the effect of anxiety intensity on factor 2	3.57	Strong	2.44	Strong	0.77	Strong
The size of the effect of anxiety intensity on factor 3	2.31	Strong	0.89	Strong	1.79	Strong
The size of the effect of anxiety intensity on factor 4	1.24	Strong	0.37	Strong	0.78	Strong
The size of the effect of anxiety intensity on factor 5	0.77	Strong	0.72	Strong	0.35	Strong

The GOF standard is related to the general part of structural models. This means that by this criterion, after examining the fit of the measurement part and the structural model part of the research, the fit of the overall part can be controlled. According to the three values of 0.01, 0.25 and 0.36 which are introduced as weak, medium and strong values for GOF and the values of 0.587, 0.505 and 0.534 for

GOF in 3 models The group of social anxiety disorder, panic anxiety disorder and generalized anxiety disorder, all 3 models have a good fit. Standard coefficients of social anxiety disorder, panic anxiety disorder, and generalized anxiety disorder models are shown in Table 4.

Table 4. Standard coefficients of social anxiety disorder, panic anxiety disorder, and generalized anxiety disorder models

Group	Path	Beta	T Value	P Value
SA	Emotional disorder → non-acceptance of emotions	0.91	73.14	0.001
	Emotional disorder → goals	0.85	38.84	0.001
	Emotional disorder → impulses	0.88	48.34	0.001
	Emotional disorder → awareness	-0.04	1.50	0.13
	Emotional disorder → strategies	0.88	44.24	0.001
	Emotional disorder → Clarity in emotions	0.70	19.39	0.001
	Emotional disorder → Neuroticism	0.32	2.70	0.007
	Intensity of anxiety → emotional disorder	0.40	7.24	0.001
	Severity of anxiety → neuroticism	-0.23	3.81	0.001
	Intensity of anxiety → factor 1	0.79	3.0.32	0.001
	Intensity of anxiety → factor 2	0.88	69.21	0.001
	Intensity of anxiety → factor 3	0.84	37.06	0.001
	Intensity of anxiety → factor 4	0.74	20.91	0.001
	Intensity of anxiety → factor 5	0.65	13.71	0.001
Panic	Emotional disorder → non-acceptance of emotions	0.88	60.16	0.001
	Emotional disorder → goals	0.85	45.58	0.001
	Emotional disorder → impulses	0.83	35.03	0.001
	Emotional disorder → awareness	-0.71	18.66	0.001
	Emotional disorder → strategies	0.71	18.90	0.001
	Emotional disorder → Clarity in emotions	0.70	18.41	0.001
	Emotional disorder → Neuroticism	-0.05	0.53	0.59
	Intensity of anxiety → emotional disorder	0.08	1.10	0.26
	Severity of anxiety → neuroticism	-0.18	1.46	0.14
	Intensity of anxiety → factor 1	0.78	28.09	0.001
	Intensity of anxiety → factor 2	0.84	35.86	0.001
	Intensity of anxiety → factor 3	0.69	11.07	0.001
	Intensity of anxiety → factor 4	0.52	6.97	0.001
	Intensity of anxiety → factor 5	0.65	10.52	0.001
GA	Emotional disorder → non-acceptance of emotions	0.88	49.18	0.001
	Emotional disorder → goals	0.88	55.50	0.001
	Emotional disorder → impulses	0.89	67.75	0.001
	Emotional disorder → awareness	-0.78	25.44	0.001
	Emotional disorder → strategies	0.88	58.75	0.001
	Emotional disorder → Clarity in emotions	0.74	21.99	0.001
	Emotional disorder → Neuroticism	0.10	1.29	0.19
	Intensity of anxiety → emotional disorder	0.37	4.78	0.001
	Severity of anxiety → neuroticism	0.04	0.51	0.61
	Intensity of anxiety → factor 1	0.73	20.91	0.001
	Intensity of anxiety → factor 2	0.66	12.26	0.001
	Intensity of anxiety → factor 3	0.80	32.36	0.001
	Intensity of anxiety → factor 4	0.66	11.38	0.001
	Intensity of anxiety → factor 5	0.51	5.22	0.001

In Table 5, the results related to the significance test of the indirect paths of the research models are presented.

Table 5. Significance of indirect paths of research models

Group	Indirect path	Beta	T Value	P Value	Result
Panic disorder	Anxiety intensity → emotional disorder → neuroticism	-0.005	0.37	0.71	Not confirmed
SA disorder	Anxiety intensity → emotional disorder → neuroticism	0.13	2.62	0.009	Confirmed
GA disorder	Anxiety intensity → emotional disorder → neuroticism	0.028	2.65	0.008	Confirmed

According to Table 5, the mediating role of emotional dysregulation in the relationship between anxiety intensity and neuroticism was confirmed in the social anxiety disorder and generalized anxiety disorder models, but not in the panic anxiety disorder model.

Discussion

This investigation was undertaken with the objective of scrutinizing the meta-diagnostic model in order to elucidate the correlation between neuroticism and the intensity of anxiety in anxiety disorders, with the mediating function of emotion dysregulation. The results revealed that the direct pathways connecting emotional dysregulation with neuroticism, anxiety intensity with emotional dysregulation, and neuroticism in social anxiety disorder were verified. Conversely, the direct pathways connecting emotional dysregulation with neuroticism, anxiety intensity with emotional dysregulation, and neuroticism in panic disorder were not validated. Furthermore, in generalized anxiety disorder, the direct pathways associating anxiety intensity with emotional dysregulation were confirmed, while the connections between anxiety intensity with narcissism and emotional dysregulation with neuroticism were not supported. Moreover, the indirect relationship between anxiety intensity and neuroticism through emotional dysregulation was substantiated in social anxiety disorder and generalized anxiety disorder, but this association was not corroborated in panic anxiety disorder. Based on the outcomes of this investigation, emotional dysregulation can be regarded as a shared meta diagnostic process in anxiety disorders. The emotional dysregulation variable, which has been meta diagnosed in previous studies on anxiety disorders, was also validated in the present study. The findings of this investigation are consistent with the research conducted by Akbari and Mohammadkhani (2018), Akbari et al. (2016), Birami et al. (2012), Herten Stein et al., (2001), Donlan et al. (2016), Yilmaz et al. (2011).

Notably, individuals with these anxiety disorders encounter challenges in recognizing, describing, and distinguishing their emotional experiences from one another (deficient comprehension of emotions). Instead of serving as informative cues for guiding behavior, emotions are perceived as bothersome and unpleasant (Menin et al., 2009). Additionally, individuals with anxiety disorders struggle with discerning the appropriate timing for their arousal and employing effective strategies to alleviate the intensity of their negative emotional encounters in a manner that aligns with their environmental context (ineffective management and regulation of emotion). For these individuals, worry serves as a cognitive mechanism utilized to regulate emotional experiences, although other maladaptive cognitive strategies for regulating emotions may also be employed (Dicker et al., 2008).

The relationship between emotional dysregulation and anxiety is mostly influenced by the process of cognitive fusion. This finding is consistent with the claims of models based on acceptance and

mindfulness (Hayes et al., 2017). According to these models, what causes people to get stuck in their inner experiences is the cognitive process known as non-acceptance of negative emotions, which leads to intense effort. People try to avoid internal experiences, which in the long run causes emotional distress and turns normal pain into unpleasant suffering (Hayes et al., 2017). According to the research of Akbari and Mohammad Khani (2018), difficulty in regulating emotion is an important underlying factor for emotional disorders, which plays an important role in the onset of emotional disorders, but until the process of cognitive fusion is not formed in the individual, it causes the continuation of the disorder by itself. can't; Therefore, the cause of continuation and intensification of anxiety is the process of not accepting emotions. In addition, it is possible that another part of the variance of emotional disorder is also explained by the lack of clarity of emotions, and the confirmation of such a claim requires mediating research and can only be proposed as a speculation.

The most important clinical application of the current research is that the high coexistence of anxiety disorders poses problems to the usefulness or effectiveness of specific cognitive behavioral therapies, because the use of several treatment protocols for people with comorbid anxiety disorders is not economical and These people are not able to complete their treatment process until full recovery, for this reason, pathological research related to meta-diagnostic structures can be an important step in the design of a theory-based meta-diagnostic protocol for emotional and cognitive disorders, because summarizing the results of meta-analytical meta-diagnostic research indicates that Meta diagnostic protocols must be both theory-based and focused on the fundamental meta diagnostic process in their treatment structure to achieve a validated treatment. Among other clinical implications of the present study is the investigation of meta-diagnostic processes in the clinical population, which considering that in most of the studies conducted in the field of meta-diagnostic pathology, the target population was the healthy community, the present study can be an important step in identifying the true nature of the meta-diagnostic pathology of disorders be considered anxiety. In addition, the results of the current research led to the identification of common meta diagnostic processes of anxiety disorders (generalized anxiety disorder, social anxiety disorder, panic disorder), which can somehow relate the high coexistence of these disorders to common meta diagnostic processes and the meta diagnostic process. To identify specific and anxiety disorders in a clinical sample, which on the other hand is a confirmation of the fundamental difference between anxiety disorders despite their fundamental similarities, and access to similar and specific diagnostic processes can be considered another step in understanding the coexistence nature of these disorders.

This research, like other researches, faced limitations. The first limitation of the research was related to the limited number of samples and low diversity in the research sample selection centers, so it is

suggested that future research in this field be conducted in more diverse clinical environments and with a larger number of patients. The second limitation of the research was related to the lack of examination of coexisting anxiety disorders, which, of course, should be noted that the reason for this neglect in the present study was the limited number of these coexisting disorders in the research groups, and it is suggested that coexisting disorders be considered in future research. Therefore, it is suggested to the researchers interested in this field to control disturbing variables to the maximum and generalize more. The results of random sampling methods are used in selecting the research sample. The final limitation of this research is the non-use of other anxiety disorders such as post-traumatic stress disorder, specific panic disorder in the research, and paying attention to this point in future research can attribute these meta-diagnostic processes to anxiety disorders more decisively. It is suggested that workshops on psychological approaches, development of meta-diagnostic treatment strategies for anxiety disorders should be considered, and acceptance and commitment treatment approaches and dialectical behavior therapy and combination of other treatment methods should be carried out on the structures and variables investigated in this research.

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References

- Akbari, M., & Mohamadkhani, S. (2018). Transdiagnostic processes of cognitive, behavioral and emotional in depression and anxiety disorders. *Counseling Culture and Psychotherapy*, 9(35), 117-146.
- Akbari, M., Mohamadkhani, S., & Zarghami, F. (2016). The mediating role of cognitive fusion in explaining the relationship between emotional dysregulation with anxiety and depression: A transdiagnostic factor. *Iranian Journal of Psychiatry and Clinical Psychology*, 22(1), 17-29.
- Asgari, P., Pasha, Gh., & Aminian, M. (2008). The relationship between emotional regulation, life stressors and body image with eating disorders in women. *Thought and Behavior in Clinical Psychology*, 13, 65-76.

- Barlow, D. H., Farchione, T. J., Bullis, J. R., Gallagher, M. W., Murray-Latin, H., Sauer-Zavala, S., ... & Cassiello-Robbins, C. (2017). The unified protocol for transdiagnostic treatment of emotional disorders compared with diagnosis-specific protocols for anxiety disorders: A randomized clinical trial. *JAMA Psychiatry*, 74(9), 875-884.
- Beck, A. T., Steer, R. A., & Garbin, M. G. (1988). Psychometric Properties of the Beck Depression Inventory: Twenty-five Years of Evaluation. *Clinical Psychology Review*, 8, 77-100.
- Beck, A.T., Steer, R.A. (1990). *Beck anxiety inventory manual*. San Anto: Psychological Corporation.
- Beirami, M., Akbari, E., Qasempour, A., & Azimi, Z. (2012). An investigation of anxiety sensitivity, meta-worry and components of emotion regulation in students with and without social anxiety. *Clinical Psychology Studies*, 2(8), 40-69.
- Bouchard, G., Lussier, Y., & Sabourin, S. (1999). Personality and marital adjustment: Utility of the five-factor model of personality. *Journal of Marriage and the Family*, 61(3), 651-660.
- Boulter, C., Freeston, M., South, M., & Rodgers, J. (2014). Intolerance of uncertainty as a framework for understanding anxiety in children and adolescents with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 44(6), 1391-1402.
- Costa, P. T., Jr., & McCrae, R. R. (1998). Trait theories of personality. In D. F. Barone, M. Hersen, & V. B. Van Hasselt (Eds.), *Advanced personality* (pp. 103–121). Plenum Press.
- Decker, M. L., Turk, C. L., Hess, B., & Murray, C. E. (2008). Emotion regulation among individuals classified with and without generalized anxiety disorder. *Journal of Anxiety Disorders*, 22(3), 485-494.
- Donnellan, C., Al Banna, M., Redha, N., Al Sharoqi, I., Al-Jishi, A., Bakhiet, M., ... & Abdulla, F. (2016). Association between metacognition and mood symptoms poststroke. *Journal of Geriatric Psychiatry and Neurology*, 29(4), 212-220.
- Essau, C. A., Lewinsohn, P. M., Lim, J. X., Moon-ho, R. H., & Rohde, P. (2018). Incidence, recurrence and comorbidity of anxiety disorders in four major developmental stages. *Journal of Affective Disorders*, 228, 248-253.
- Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the Difficulties in Emotion Regulation Scale. *Journal of Psychopathology and Behavioral Assessment*, 26, 41-54.
- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2017). *Acceptance and commitment therapy: The process and practice of mindful change* (8nd Ed). New York: Guilford.
- Hertenstein, E., Rose, N., Voderholzer, U., Heidenreich, T., Nissen, C., Thiel, N., ... & Külz, A. K. (2012). Mindfulness-based cognitive therapy in obsessive-compulsive disorder—A qualitative study on patients' experiences. *BMC psychiatry*, 12(1), 1-10.

- Hollocks, M. J., Pickles, A., Howlin, P., & Simonoff, E. (2016). Dual cognitive and biological correlates of anxiety in autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 46, 3295-3307.
- Johnson, Sh. L., Kering, A., Davison, J., & Neal, J. (2015). *Psychopathology* (Volume II) (abnormal psychology). In Shamsipour, h. and Mahmoud Dejkam, M (Eds). Tehran: Arjmand Publications.
- Khodayari Fard, M., Mansouri, A., Basharat, M. A., & Gholam Ali Lavasani, M. (2017). Religiously and spiritually integrated treatments and generalized anxiety disorder. *Journal of Research in Behavioural Sciences*, 15(1), 126-134.
- Kringlen, E., Torgersen, S., & Cramer, V. (2001). A Norwegian psychiatric epidemiological study. *American Journal of Psychiatry*, 158, 1091–1098.
- McCrae, R. R., & Costa, P. T. (1985). Updating Norman's "adequacy taxonomy": Intelligence and personality dimensions in natural language and in questionnaires. *Journal of Personality and Social Psychology*, 49(3), 710-721.
- McEvoy, Peter M. and Mahoney, Alison E.J. (2013). Intolerance of uncertainty and negative metacognitive beliefs as transdiagnostic mediators of repetitive negative thinking in a clinical sample with anxiety disorders. *Journal of Anxiety Disorders*. 27 (2): pp. 216-224.
- Mennin, D. S., McLaughlin, K. A., & Flanagan, T. J. (2009). Emotion regulation deficits in generalized anxiety disorder, social anxiety disorder, and their co-occurrence. *Journal of Anxiety Disorders*, 23(7), 866-871.
- Naghavi, N., Akbari, M., & Moradi, A. (2018). *The role of emotion dysregulation, repetitive negative thoughts, intolerance of uncertainty and experiential avoidance*. Prediction of positive and negative perfectionism.
- Namvar, M., Khorrami, M., Noorollahi, A., & Pournemat, M. (2020). Effectiveness of mindfulness-based stress reduction (mbsr) therapy on anxiety and depression symptoms in patients with Multiple Sclerosis (MS), Bojnurd, Iran. *Psychology of Exceptional Individuals*, 10(39), 179-200.
- Pesce, L., Van Veen, T., Carlier, I., Van Noorden, M. S., van der Wee, N. J. A., Van Hemert, A. M., & Giltay, E. J. (2016). Gender differences in outpatients with anxiety disorders: the Leiden Routine Outcome Monitoring Study. *Epidemiology and Psychiatric Sciences*, 25(3), 278-287.
- Rieffe, C., Oosterveld, P., Terwogt, M. M., Mootz, S., van Leeuwen, E., & Stockmann, L. (2011). Emotion regulation and internalizing symptoms in children with autism spectrum disorders. *Autism*, 15(6), 655-670.
- Roshan Chesly, R., Shaeeri, M., Atrifard, M., Nikkhah, A., Ghaem Maghami, B., & Rahimierad, A. (2006). Investigating psychometric properties of the "NEO-Five Factor Inventory" (NEO-FFI). *Clinical Psychology and Personality*, 1(16), 27-36.

- Vakili Heris, S., Livarjani, S., & Moheb, N. (2019). The transdiagnostic model of depression and anxiety among nonclinical population: The mediating role of Overcontrolling. *Journal of Research in Psychological Health*, 13(1), 81-98.
- Vitasari, P., Nubli, A. M., Othman, A., Herrawan, T., & Sinnadurai, S. K. (2010). The relationship between study anxiety and academic performance among engineering students. *Procedia Social and Behavioral Sciences*, 8, 490-497.
- Wells, A. (2009). *Metacognitive therapy for anxiety and depression*. New York: The Guilford Press.
- Wells, A., & Carter, K. (2001). Further tests of a cognitive model of Generalized Anxiety Disorder: Metacognitions and worry in GAD, panic disorder, social phobia, depression, and nonpatients. *Behavior Therapy*, 32, 85-102.
- Yılmaz, A. E., Gençöz, T., & Wells, A. (2011). The temporal precedence of metacognition in the development of anxiety and depression symptoms in the context of life-stress: A prospective study. *Journal of anxiety disorders*, 25(3), 389-396.



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