

Original Research

The Mediating Role Of Maladaptive Cognitive Emotion, Regulation Strategies In The Relationship Between Negative Perfectionism And Social Anxiety In Adolescent Girls

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Abstract:

Background: Social anxiety is one of the most common psychological problems among teenagers, which is related to various factors. The aim of the present study was to determine the mediating role of maladaptive cognitive emotion regulation strategies in the relationship between negative perfectionism and social anxiety in adolescent girls.

Method: The method of this research was descriptive-correlational. Our sample was consisted of 350 female secondary students from Kashan, who were selected by multi-stage cluster sampling method. Social anxiety questionnaire, perfectionism questionnaire and cognitive emotion regulation questionnaire were used to collect information. To analyze the data, Pearson's correlation, standard deviation, mean, and structural equation modeling method were used to test the relationships between variables.

Results: The present study showed the optimal fit of the model. The direct effect of negative perfectionism and maladaptive cognitive emotion regulation strategies on social anxiety was significant.

Conclusion: The results obtained from the analysis showed the mediating role of inconsistent cognitive emotion regulation strategies in the relationship between negative perfectionism and social anxiety. The findings of the present research have practical implications in the field of prevention, diagnosis and treatment of social anxiety disorder in teenagers.

Keywords: Social Anxiety, Negative Perfectionism, Cognitive Emotion Regulation, Teenagers.

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Introduction

Social anxiety is one of the most debilitating types of anxiety that is characterized by constant and excessive fear in social interactions and negatively affects the quality of one's life (1). People with this problem avoid any social situation in which they think they may have an embarrassing behavior or be negatively evaluated by others (2). Social anxiety is one of the most common mental disorders across the world, the prevalence of which is 0.2-12.1% (3). This disorder in women is 1.5 to 2.2 times that of men, where this difference is more visible in teenagers and young people (4). Adolescent women and girls are more vulnerable to stressors than men (5). These people experience higher levels of psychological disturbances, helplessness and negative emotions in their social communication and interpersonal relationships (6). Recent studies in the field of anxiety disorders have shown that negative perfectionism is one of the important factors in creating social anxiety disorder. According to Frost et al. (1990), perfectionism is a multidimensional personality trait that is characterized by setting very high standards, worrying about achieving the standards, and negative self-criticism (7). Hamachak (1978) suggested that perfectionism has both positive and negative aspects (8). Positive perfectionism is characterized by striving to achieve appropriate achievements and negative perfectionism by avoiding failure (9). In people with negative perfectionism, setting very high expectations is often accompanied by a strong fear of not meeting the set criteria, which leads to criticism, failure, ridicule and rejection (10). According to McKinnon (2014), negative perfectionism includes a person's tendency to excessively show his abilities to others and avoid revealing flaws, which is considered an important factor in a person's social anxiety disorder. Several studies show that the critical self-evaluation that exists in negative perfectionism leads to the diagnosis of social anxiety disorder (11). According to Ellison and Partridge (2012), perfectionism has been observed more in women

and girls than in men (12). Smith (2013) (13) believes that most women have an innate desire to correct their visible flaws and achieve perfection. The research on perfectionism clearly showed that those cultural norms that idealize male power and downplay female qualities have a negative effect on women consciously and unconsciously. For example, if a woman is ashamed of her condition, her self-esteem is threatened, which leads to compensatory actions to cover up her flaws in order to achieve perfection (13). Studies show that as the level of negative perfectionism increases, the symptoms of social anxiety also increase. In these people, the tendency to be effective in others and to believe in the inadequacy of their abilities leads to avoiding social situations and ultimately increasing social anxiety (14). Recent anxiety researches have shown that difficulty in emotional regulation is one of the prominent factors in social anxiety disorder. During adolescence, regulating emotions plays an important role, especially when facing unpleasant life events. Emotion regulation can be defined as a purposeful process that affects the intensity, duration and type of emotion experienced (9). Also, based on recent studies, emotion regulation includes the ability to manage, regulate and moderate emotional reactions (13). Kraij et al (13) defined cognitive emotion regulation strategies as mental and conscious processes that people use to manage their emotional excitement. These strategies are usually differentiated into adaptive and maladaptive strategies. Adaptive strategies include acceptance, positive refocusing, positive reappraisal, and planning, and maladaptive strategies include rumination, catastrophizing, blaming oneself and others (15). Cognitive strategies of emotion regulation play an important meta-diagnostic role in the initiation and maintenance of emotional disorders such as anxiety and depression (16). Using maladaptive strategies such as rumination and catastrophizing increases anxiety disorders in people (17). According to Hambur (2018), inconsistencies in emotion regulation leads to difficulty in impulse control, limited access to

regulation strategies, problems caused by lack of emotional awareness and inability to accept emotional responses (6). Emotional regulation strategies have characteristics related to gender. According to Hoeksma (2012), women believe that they do not have the necessary ability to face their strong emotions and often seek immediate and inconsistent coping to regulate their emotions (18). Mohammadi and Davoudi (2019) showed in their research that the lack of adaptive strategies in adolescent girls causes them to endure higher anxiety in interpersonal situations. In other words, the use of inconsistent emotion regulation strategies plays an important role in the initiation and continuation of anxiety disorders, especially social anxiety (19). Also, recent studies have shown that there is a strong relationship between negative perfectionism and the use of maladaptive cognitive emotion regulation strategies. Salehi's research (2019) showed that perfectionism in girls increases the implementation of inconsistent cognitive emotion regulation strategies such as thought patterns (20). The results of Baradaran's research (2019) showed that the higher the negative perfectionism in people, the lower the use of adaptive cognitive emotion regulation strategies and developed defense mechanisms, and this leads to the formation of high anxiety sensitivities (21). Donahue et al. (2018), in their research, showed that maladaptive mechanisms of cognitive emotion regulation act as mediators in the relationship between perfectionism and eating disorders (22). The study of Richardson et al. (2014) indicates that people with positive perfectionism, compared to people with negative perfectionism, use adaptive and healthy cognitive emotion regulation strategies when faced with negative and stressful life events (23). Adolescence is one of the most important and decisive stages of life. During this period, the physical and mental changes of a person are accompanied by intense emotional changes. Since paying attention to the physical, mental and social health of teenagers and preparing them to achieve a healthy and joyful life is considered one of the

necessities of having a healthy society, therefore, today, trying to identify the psychological injuries of teenagers is one of the important research goals. One of the important components of psychopathology in teenagers is the problem of anxiety and especially social anxiety. Considering that the rate of social anxiety disorder in women is higher than in men, therefore, taking care of teenage girls and identifying traumatic factors paves the way for timely and appropriate coping to protect their psychological health as well as the future generation. Considering that previous research shows the relationship between negative perfectionism and incompatible strategies of cognitive regulation of emotion with social anxiety, and on the other hand, incompatible strategies of cognitive regulation of emotion can be influenced by perfectionism, it seems that in the relationship between negative perfectionism with social anxiety, maladaptive strategies of cognitive emotion regulation can play a mediating role. So far no research has investigated the mediating mechanism, therefore, the present study aims to determine the mediating role of maladaptive strategies of cognitive emotion regulation in the relationship between negative perfectionism and Social anxiety. Hence, the following hypotheses were examined: 1- There is a relationship between negative perfectionism and social anxiety in adolescent girls; 2- There is a relationship between the incompatible strategies of cognitive regulation of excitement and social anxiety in adolescent girls; 3- There is a relationship between negative perfectionism and inconsistent strategies of cognitive emotion regulation in adolescent girls; 4- Inconsistent strategies of cognitive emotion regulation play a mediating role in the relationship between negative perfectionism and social anxiety.

Methods

Research method, statistical population and sample: The current research is descriptive with a correlational design, which tries to simultaneously examine the relationships between the research variables in the form of a

pattern through structural equation modeling. In the present study, the bootstrap method was used to evaluate direct and indirect paths. The statistical population of this research included all female secondary students in Kashan, Iran. The target sample was selected by a multi-stage cluster method. According to the size of the statistical population, and based on the table of Karjesi and Morgan (1987), the sample size was determined to be 350 people. In this way, four schools and four classes from each school were randomly selected among all of the secondary schools of Kashan. The participants were assured about the confidentiality of information, respect for privacy, and the right to withdraw from the research.

Measurement tools: Connor's Social Anxiety Inventory (SPIN): The Social Anxiety Inventory developed by Connor et al. (2000) is a self-report scale that includes 17 items and is designed to assess the subscales of fear, avoidance, and physiological distress. In this questionnaire, each item is graded on a 5-point Likert scale from 0 (not at all) to 4 (very much). The scores range from 0 to 68 (13). The validity of this scale with the retest method in groups diagnosed with social anxiety disorder has been reported as 0.78-0.89. Also, the validity of the structure has been evaluated by comparing the findings of two groups of subjects diagnosed with social anxiety disorder and the normal group, which had a significant difference, which indicates the high validity of this tool (24). Soltani and Mohammadi Forud (2018), reported the Cronbach's alpha coefficient of this questionnaire to be 0.92. In Hazmi et al.'s research (2020), the reliability of this scale was 0.94. In the current study, the reliability of the social anxiety scale was estimated to be 0.91 using Cronbach's alpha method, and for the subscales of fear, avoidance and physiological discomfort, it was obtained as 0.80, 0.80 and 0.70, respectively.

Hill's perfectionism questionnaire: Hill's perfectionism questionnaire was designed by

Hill et al. (2004) and has 59 items and 8 subscales. The reliability coefficients of different dimensions of this questionnaire were obtained between 0.83 and 0.91 by Cronbach's alpha method (25). In the Iranian sample, the Persian version of this questionnaire with 58 items and 6 subscales was validated, normalized and standardized by Samaei and Homan (2009) (26). In this version, the negative dimension of perfectionism includes interpersonal sensitivity, high standards for others, perception of pressure from parents, and the positive dimension includes order and organization, purposefulness, striving for excellence (Roshan, 1400). These subscales are scored based on four Likert options as completely disagree (score 1), somewhat disagree (2), somewhat agree (3), completely agree (4) (27). Hill et al., (2004) reported the reliability coefficients of different dimensions of the perfectionism scale between 0.83-0.91 using Cronbach's alpha (28). In Nikookar et al.'s research (2020), Cronbach's alpha for the subscales was between 0.75-0.89 (29). In the present study, the Cronbach's alpha coefficient for the whole set is 0.94 and for each subscale of interpersonal sensitivity, order and organization, purposefulness, perception of pressure from parents, striving for excellence and high standards for others, 0.92, 0.81, 0.77, 0.82, 0.73 and 0.71 have been obtained, respectively.

Cognitive Regulation of Emotion Questionnaire (CERQ): The Cognitive Regulation of Emotion Questionnaire was designed by Garnovsky et al. (2001) and evaluates a person's cognitive strategies in response to threatening and stressful life events. This questionnaire consists of 36 items and 9 subscales. Five subscales of perspective development (less important), positive refocusing, acceptance of circumstances, positive reappraisal and refocusing on planning adaptive strategies and four subscales of self-blame, blaming others, rumination,

catastrophizing maladaptive strategies of cognitive emotion regulation measures. The response range of this questionnaire is a five-point Likert scale from (1) never to (5) always. The range of scores for each subscale will be between 4 and 20. The reliability of this test has been reported using Cronbach's alpha coefficient for 9 subscales between 0.62-0.80 (30). The construct validity of this questionnaire was evaluated by means of exploratory factor analysis and 9 factors with commonality values between 0.55-0.78 were extracted (31). Also, in Iranian culture, the validity and reliability of this questionnaire was investigated. For validity, the correlation between subscales was used, which ranged from 0.73-0.88, and for reliability, Cronbach's alpha coefficient was used, which ranged from 0.68-0.86 for the subscales (32). The reliability of this questionnaire was obtained using Cronbach's alpha method of 0.87 and its validity in the range of 0.42-0.72. In the present study, the Cronbach's alpha coefficient of the subscales of this questionnaire was reported in the range of 0.60-0.83. In this research, non-adaptive cognitive emotion regulation strategies have been used to measure emotion regulation.

Results

The mean and standard deviation of the age of the participants were 17.25 and 1.06, respectively. Table 1 shows the mean, standard deviation and correlation coefficients of the studied variables. This table shows that there is a significant positive correlation between social anxiety and uncompromising perfectionism ($r=0.54$, $p<0.01$). Also, there is a significant positive correlation between social anxiety and non-adaptive cognitive emotion regulation strategy ($r=0.47$, $p<0.01$). In addition, there is a significant positive correlation between uncompromising perfectionism and non-adaptive cognitive emotion regulation strategy ($r=0.57$, $p<0.01$). In order to determine the appropriateness of the

proposed model, the method of structural equation modeling with the maximum likelihood method was used. The use of this method requires compliance with several main and important assumptions. For this purpose, to ensure that the data of this research meet the main assumptions of the analysis, they have been examined. These assumptions include the normality of the distribution of scores, the sample size of at least 10 people for each parameter, the interval scale of the research variables, the linear relationship between the predictor variables and the criterion variable, and the absence of multiple collinearity between the predictor variables. In this research, for each parameter, more than 10 people were considered as a sample group. All variables were measured with an interval scale. The skewness values show the normality of the research variables. Pearson's correlation coefficient also shows the linear relationship between predictor and criterion variables (Table 1). The tolerance index of each predictor variable is greater than 0.1 and the variance inflation factor of each of them is less than 6. Therefore, there is no multi-collinearity between predictor variables and the assumption of multi-collinearity is maintained.

In order to test the fit of the proposed model (the mediation of the non-adaptive cognitive emotion regulation strategy in the relationship between uncompromising perfectionism and social anxiety), a number of fit indices were used to determine the fit of this model, which are given in Table 2.

As presented in Table 2, the values of the properness of fit indices of the proposed model include the ratio of chi square to the degree of freedom (χ^2/df) 3.298, goodness of fit index (GFI) 0.93, adjusted goodness of fit index (AGFI) 0.88, the incremental fit index (IFI) is 0.96, the Toker-Lewis fit index (TLI) is 0.94, the comparative fit index (CFI) is 0.96, and the root mean square error of approximation (RMSEA) is 0.07. Since the values of the

indicators meet the acceptable limit, the proposed model has a good fit (Table 2). The conceptual model of the current research indicates the existence of direct and indirect paths. Table 3 shows the evaluation of direct and indirect paths.

To determine the significance of these paths, bootstrap method based on Imus software was used. Table 3 and Figure 1 show the evaluation of direct and indirect paths using the bootstrap method based on 5000 samples and with a confidence interval of 95%. As can be seen, the direct effect of uncompromising perfectionism on social anxiety ($p<0.001$, $\beta=0.466$) and the direct effect of maladaptive cognitive emotion regulation strategy on social anxiety ($p<0.01$, $\beta=0.238$) is significant. When the non-adaptive strategy of cognitive regulation of emotion is entered as a mediator in the relationship between uncompromising perfectionism and social anxiety, the indirect effect of the non-adaptive strategy of cognitive regulation of emotion on social anxiety is equal to 0.144, which according to the high limit and the bottom is significant at the 95% confidence level ($p<0.01$, $\beta=0.144$). Therefore, the maladaptive cognitive emotion regulation strategy mediates the relationship between uncompromising perfectionism and social anxiety (Table 3).

Discussion

The present study was conducted to investigating the relationship between negative perfectionism and social anxiety through the mediation of maladaptive cognitive emotion regulation strategies. In this research, the relationship between research variables including negative perfectionism and incompatible strategies of cognitive regulation of emotion with social anxiety in teenage girls was studied, and on the other hand, the mediating role of incompatible strategies of cognitive regulation of emotion in the relationship between negative perfectionism and anxiety Social was investigated.

The results of data analysis showed that there is a positive and significant relationship between negative perfectionism and social anxiety in adolescent girls. This result is in line with the results of Aliloo et al., Nikoei (39), McComb (17), Ping Ike (40) Gnilka (41), Morgan (42), Newby (43), Nepon (44)

Studies show that girls have more negative perfectionism than boys. Women and girls in various life situations have a greater desire to determine ideal standards, but still feel that they are not successful in achieving these standards and do not perform well (12). Also, these people are always trying to reach the ideals that have been determined by the society and they try to stay away from the criticism of others. They experience a lot of distress because they may face mistakes or failures in the goals specified by other members of society, which leads to the formation and maintenance of social anxiety in them (35). Women and girls with a high negative perfectionism are more vulnerable to social influences. According to Fairburn (2002), people with negative perfectionism depend too much on self-imposed and self-determined standards in at least one area of life, thus, they always face dissatisfaction with themselves compared to ideal people in everyday life. Having social fears and perfectionistic tendencies, these people have the motivation to create a favorable impression, but the inability to do so causes feelings such as anxiety and shame (45). People with negative perfectionism have problems in social interactions due to dissatisfaction and fear of negative judgment by others, which leads to a higher level of social anxiety (46). People who suffer from this disorder have a distorted view of their social capabilities. They believe that they are always involved in stupid behaviors and inefficient practices (47).

Another finding of the current research showed that inconsistent cognitive emotion regulation strategies have a positive and significant

relationship with social anxiety. This result is in agreement with the findings of Esmailian et al. Cook (51) and Odi et al. (52), Amstadter et al. (52). In explaining the relationship between inconsistent cognitive emotion regulation strategies and social anxiety, it can be said that difficulty in emotion regulation is related to a wide range of emotional disorders including anxiety and depression (53). Studies have shown that the inability to identify and accept emotions, helplessness in continuing purposeful behaviors and controlling impulses in stressful situations and not having consistent emotion regulation strategies are associated with an increase in social anxiety disorder in women and girls (34). Since the explicit expression of emotions in these people leads to negative consequences such as the feeling of social rejection, suppressing emotions in them can have an adaptive function. Despite the protective value of emotion suppression, the use of maladaptive cognitive emotion regulation strategies exacerbates the negative experiences of people with social anxiety, because ignoring emotions and not properly managing them is linked to unfavorable social functioning. Maladaptive emotion regulation in people with social anxiety symptoms causes avoidance behaviors (54). In addition, inconsistent strategies of cognitive emotion regulation have a detrimental effect on social relationships. People who use these strategies report less satisfaction in social relationships, more dissatisfaction, weaker social support and more isolation (55).

Among the other findings of the current research was that there is a positive and significant relationship between negative perfectionism and incompatible cognitive emotion regulation strategies. This finding is consistent with the results of the research of Salehi (20), Baradaran (21), Kamali igli and Abul Maali al-Husseini (56), Weiss et al. (55), Richardson et al. (23) and Hill et al. (28). Research findings show that when teenage girls

with negative perfectionism consider their ability to be dependent on achieving success and unrealistic standards, they have difficulty in achieving their goals and then experience failure and dissatisfaction, which causes negative images and faulty cognitions. Negative and distorted images cause a person to use incompatible strategies of cognitive regulation of emotions such as catastrophizing and blaming himself and others in facing different life situations (57).

Also, in the present study, it was shown that inconsistent strategies of cognitive emotion regulation play a mediating role in the relationship between negative perfectionism and social anxiety. Based on the studies conducted so far, there is no research that has investigated the mediating effect of inconsistent cognitive strategies of emotion regulation in the relationship between negative perfectionism and social anxiety, but the findings of the present study are in some ways similar to the results of Ebrahim nejad Moghadam (58) Soltani et al. (59), Red et al. (60). In the aforementioned studies, it was shown that negative perfectionism can lead to the emergence of negative emotions and psychological disorders, and since the main cause of these difficulties is a deficiency in the cognitive regulation of emotion, it can be said that the use of incompatible strategies of cognitive regulation of emotion can cause the emergence and continuation of negative mood and avoidance of facing others and ultimately leads to social anxiety. In explaining this relationship, it can be said that adolescents with negative perfectionism believe that others hold extremely high standards for themselves and consider being accepted by others conditional on meeting these standards. In most cases, these people increasingly deny their emotional responses, cannot control their impulsive behaviors during mental stress, and finally, have less access to effective emotion regulation strategies (55). Inefficient emotion regulation

also causes teenage girls to experience anxiety in situations where they are reviewed and investigated, especially in social situations. The lack of anxiety control in social situations and the inability to cope with the emotions caused by these situations can lead to the creation or continued social anxiety in these people (61). In people with negative perfectionism, the threat of perfectionist standards by criticism and failure causes an increase in negative emotions and the use of incompatible cognitive emotion regulation strategies. The use of maladaptive strategies such as suppression and rumination may cause relative peace in a person in a short period of time, but in the long term, it has devastating effects and causes psychological distress (1). In addition to increasing the level of anxiety in people, suppressing emotions in social situations has an unpleasant effect on their social relationships. In other words, people's inability to control and manage emotions leads to loss of support from others and fear of social situations (62-65). This apprehension and fear, in turn, increases focused social attention, avoids fearful situations, and ultimately causes social anxiety disorder in people (32).

Conclusion

In this research, examining the relationships between variables provides a better understanding of the determinants of social anxiety in adolescent girls, however, this research also has limitations, such as the fact that the research was conducted on female students of the second year of secondary school in Kashan. This issue makes generalization difficult, so it is suggested that future researches be conducted on statistical communities with different ages, educational levels, and ethnic groups. It is also suggested that other variables that may play a role in the creation and continuation of this disorder should be investigated and evaluated in order to have a more basic understanding of social anxiety disorder. Considering the important

role that social anxiety disorder has in the personal and social functioning of people and also taking into account the fact that despite the helplessness and trauma associated with this disorder, sufferers are less likely to seek professional help and treatment. Health professionals are suggested to design and implement programs to identify, prevent and treat this disorder.

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Table**Table 1: Mean, SD and Pearson's correlation coefficients of variable**

	Variables	Mean	SD	Skewness	Kurtosis	1	2	3
1	uncompromising perfectionism	01.94	61.18	10.0	40.0-	1		
2	non-adaptive cognitive emotion regulation strategy	46.46	65.10	009.0	11.0	**57.0	1	
3	social anxiety	34.16	53.11	67.0	22.0-	**54.0	**47.0	1

Table 2. Fit indices of structural model

	χ^2	df	χ^2/df	GFI	AGFI	IFI	TLI	CFI	RMSEA
Proposed pattern	528.105	32	298.3	93.0	88.0	96.0	94.0	96.0	07.0
Acceptable limit	-	-	5>	9.0<	8.0<	9.0<	9.0<	9.0<	08.0>

Table3. Coefficients of the total, direct and indirect path of model

	Paths	Effect	Standard error	Sig.	Confidence interval
Overall path	uncompromising perfectionism> Social anxiety	61.0	040.0	<001.0	(528.0) (684.0)
Direct path	uncompromising perfectionism> Social anxiety	466.0	057.0	<001.0	(359.0) (582.0)
	uncompromising perfectionism> non-adaptive cognitive emotion regulation strategy	607.0	055.0	<001.0	(491.0) (707.0)

	non-adaptive cognitive emotion regulation strategy> Social anxiety	238.0	067.0	002.0	(097.0) (366.0)
Indirect path	uncompromising perfectionism > non-adaptive cognitive emotion regulation strategy > Social anxiety	144.0	040.0	001.0	(068.0) (231.0)
