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## The role of extroversion and introversion traits in relation between girls' anxiety and parenting styles

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### Abstract

**Introduction:** Anxiety disorders can affect all attitudes, behaviors and even individuals state, and these effects in children will be far broader than adults. Therefore, this study aimed to assess the role of extroversion and introversion traits in relation between girls' anxiety and parenting styles.

**Materials and Methods:** The statistical population of this descriptive correlative study included all 15872 junior girls in Qom city in academic year 2017-2018. Amongst them, 375 girls were selected by multistage cluster sampling method. The research instrument included Eysenck Personality Questionnaire, Baumrind parenting questionnaire, and Spielberger Anxiety Inventory. Data analyzed using statistical tests such as Kolmogorov-Smirnov test, and SPSS and AMOS software.

**Results:** The results showed that traits of extroversion and introversion and parental parenting styles have a direct and significant effect on the anxiety in girls ( $P < 0.05$ ). In an indirect way, traits of extroversion and introversion in children show a mediator role in the relationship between parenting styles and anxiety, and in general, the conceptual model was approved. Also, 0.27 of the anxiety variable can be explained by traits of extraversion and Introversion traits and parenting styles.

**Conclusion:** These findings are based on the family systematic theory on psychological interplay of children with parents' behavior patterns in the family environment and express the effects of personality traits on promoting parent-child relationship and child's anxiety.

**Keywords:** Anxiety, Extroversion, Introversion, Parenting

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## Introduction

Anxiety is one of the most common psychiatric disorders included in the range of mental disorders. It is associated with cognitive and behavioral problems in different interpersonal, educational, and even occupational domains so that if anxiety persistency is seen, it often becomes chronic, and the treatment will become difficult (1). This resistance to change involves a reaction involving undesirable feelings that is consciously and even unconsciously perceived and associated with the arousal of the nervous system, which causes changes in the hormones secretion and the activation of the sympathetic system, and in a sustained mood not only causes suffering other psychological disorders but also it leads to diseases such as hypertension and heart disease (2).

According to some systematically conducted studies, all types of anxiety outbreak over the 1990 to 2010 period has been reported to be around 0.9 increase on average in all over the world, and these studies that have been reported over the years about the outbreak, revealed that the increase of the anxiety traits and characteristics was due to communication topics, health, psychological, social and so on patterns (3,4). In this regard, considering the extent of the anxiety area, there are two types of anxiety; the state and anxiety of the trait have been defined conceptually: state and attribute anxiety. State anxiety is the temporary emotional reactions varying in intensity and frequency, but the attribute anxiety is a late feature, which provides a person's readiness to react heavily in different situations (5).

In addition to the role of cognitive and situational variables in the emergence of anxiety, it seems that in the family environment and between adolescents, the communicational and parenting patterns play a significant role in the formation of anxiety in their children (6), and precisely, the patterns that used by parents to communicate with the child and learn him/her the values and norms of the society are called child-rearing (7).

The selected parenting style by parents is a model that incorporates a set of attitudes toward the values, communication, freely decision-making, practice, and education, which leads to the creation of an emotional environment in which we could see the child and parental behaviors (8). These behaviors include specific bilateral actions in which parents act based on

their duties, such as creating mental security and responding to their child's needs, and also the behaviors that are not related to the parent's purpose as the expression of non-intentional excitement is included in this part too (9).

According to parental authority theory, there are three fundamental principles; freedom, tyranny, and rational authority (10). Parents have a pivotal role in social development and their personality dimensions during childhood (11). Many studies have shown that the inappropriate parenting styles combined with punishing, insecure or controlling, a cold style, and low interpersonal interactions are related to the maladaptive behavioral disorders in children, such as the range of disordered relationships (12).

In a study, parenting is related to children's extraversion behaviors (13). Also, parents' warmth and response are positive predictors of the child's internalization and exteriorization behavior, and the inadequate and ineffective interaction of the mother against her child is a negative predictor of the child's internalization and exteriorization behaviors (14).

In this regard, studies have shown that personality traits such as introversion-extraversion can be considered as the main components of personality in the interpersonal interactions and social development. The anxiety caused by the psychological stress and the amount of the defenses mechanism use in dealing with stressful and full of tension situations (15).

Personality traits are an organized set of relatively stable characteristics of individuals from the birth time that, on the one hand, differentiate one person from others and could also measure the level of behavioral and emotional actions and reactions against the anxiety (16).

The three personality dimensions that provide a central space for the personality are a) extraversion; a state in which the forces of a person are directed away from him/herself and into his/her surroundings; b) introversion; the state in which personal energy with no interest to the outside world with a little interest to his/her inner is focused to him/herself, and c) neuroticism (17). Introspection persons have a slower, but more precise, tendency toward isolation, rather than extraversion persons. Based on studies, Introspection persons feel much deficiency and develop anxiety, depression, obsession, and other disorders more

than others (18). The personality traits of extroversion, introspection, and mental neurosis of mothers affect their behavioral patterns and their relationship with their children and increase or decrease the severity of disorder in children with attention-deficit and hyperactivity disorder. Ismailpoor and Jamil showed a significant relationship between the perception of parenting styles and the amount of child anxiety (19,20).

Whenever parents have less controlling and authoritarian behaviors, children will experience lower anxiety (21). Persons with low levels of abnormalities and neuroticism are more likely to be at increased risk of developing depression, fluctuations in sleep, and educational, and occupational problems (22). On the other hand, interactive methods and parental personality features interact with perceived control could affect the extent of the anxiety experienced by children (23), and the use of appropriate parenting styles along with free will by parents can be an important decisive item for the anxiety and depressive symptoms in adolescents (24).

The parenting styles and interest can be a key determinant for the experienced children's anxiety (25). Parenting styles and parental personality characteristics are related to child anxiety (26), and parental parenting styles affect the functional experience and identification in children by mediating psychological needs (27).

The personality factors can affect adolescents' externalization and behavioral intrusion due to environmental interactions (28). Also, the extraversion factor can be the main factor in the direction of the social behavior between the youth (29).

Most studies about the factors affecting anxiety point out to the simple interaction of two or more variables.

In sum, there is little research about the effects of parenting styles on the anxiety and the personality traits of introverts and extraversion as a mediator variable. This study aimed to link these variables as much as possible, focusing on anxiety as the main predictor variable, because the basis of the person's transformation in various aspects of the psychological, emotional, and social aspects is begun in the family as the first society.

The parenting styles are in it, and these items affect the formation and development of personality. So, the main issue of this study is

whether the extroversion and introversion traits in children affect the relationship between anxiety and parenting styles or not?

### Materials and Methods

The research method was descriptive-correlational modeling of structural equations. The statistical population included all 15872 high school female students studying in Qom city in academic years of 2017-18. According to Cochran's formula, at the level of 0.05, 375 students were selected.

The sampling method was a multistage clustering that three districts were selected randomly from the education districts of Qom city. In the second step, a list of all the 21 high schools for girls in the districts was prepared. The samples were selected from two high schools of each district were randomly selected. In the next step, from each high school, the tenth, eleventh, and twelfth grades, a class was selected randomly. Finally, at the last step, among all the female students of the mentioned grades, the correct number was selected.

The inclusion criteria included female students aged 15 to 17 years, residency in Qom city, the second grade at high school, and willingness to participate in the research.

The exclusion criteria included physical illness or psychological disorder, and refuse to continue the research. At first, we explained the purpose, the method of research, and privacy and confidentiality of the results. The informed consent was obtained from the student's parents (students were under legal age).

### Research instrument

*A) Eysenck Personality Questionnaire (EPQ):* This questionnaire used to measure adults' personality. It has four levels of extroversion, Introversion, psychosis, and neuroticism.

Each scale has 12 substances and collectively containing 48 substances. The response to the questions is by yes or no (two options). The credit degree for men and women, neuroticism, extraversion, psychotics was reported at 0.84 and 0.80, 0.88 and 0.84, 0.61 and 0.62, and 0.77 and 0.73, respectively. Bakhshi Pour reported the test validity for psychosis and neurosis, 0.89 and 0.90, respectively. The internal consistency was calculated to be 0.52 and 0.77, respectively. Also, to calculate the questionnaire's criterion validity, a short form of the NEO questionnaire was used, and the correlation of the extroversion scale in the two

tests was 0.70, and the neuroticism scale of the two tests was 0.72 (27). In the present study, Cronbach's alpha method's reliability for the introversion and extroversion traits was 0.735 and 0.714, respectively.

*B) Parenting Style Questionnaire:* This tool is adapted based on the Bamrind's authority theory consisting of three patterns; free choices, tyranny, and logical authority to examine the patterns of the influence and parenting practices.

The questionnaire contains 30 items. In the questionnaire, ten items are related to liberalization, ten items are related to despotic, and ten other items are related to rational authority in the parenting field.

In this test, the parents specify their opinion regarding a 5-degree scale scored from zero to four. The reliability by the retest method reported as 0.81, 0.85, and 0.92 for the free choices, tyranny, and logical authority. Esfandiari has translated the questionnaire to Persian, and verified its factual validity by referring to the ten psychology and psychiatry professors, and validated it using Cronbach's alpha coefficient equal to 0.55, 0.44, and 0.61 for logical authority, tyranny, and free choices, respectively.

In this study, reliability has been obtained by Cronbach's alpha 0.659, 0.701, and 0.663 for free choices, tyranny, and logic, respectively (30).

*C) Spielberger's Anxiety Questionnaire:* This tool was developed by Spielberger et al. (1973) in the United States to measure children's anxiety with high academic credentials and has been used as a standard test in various researches. This questionnaire includes 40 questions.

The questions 1-20 are about the anxiety state and the questions 21-40 are related to anxiety.

The questions about state anxiety are graded into the four scores: not at all, sometimes, generally, and very much. Trait anxiety questions are also graded in the same way as rarely, sometimes, more often, and almost always. Spielberg et al. (31) reported the Cronbach's alpha coefficient for the state anxiety and anxiety trait subscales 0.92, and 0.90, respectively.

The test-retest coefficients for the anxiety state and anxiety trait subscales were 0.62 and

0.68, respectively. In a study, 219 patients with generalized anxiety disorder and major depression and a group of ordinary people participated. Cronbach's alpha coefficients for the anxiety state and anxiety trait were reported 0.92 and 0.90, respectively (32).

In Iranian study on 600 individuals, the reliability of this questionnaire was obtained by Cronbach's alpha for the anxiety state, anxiety trait and the total scale 0.91, 0.90, and 0.9, respectively (33). In this research, the reliability, according to Cronbach's alpha, was 0.682.

To find the mediator role, structural equation modeling test, in particular, structural regression equations (combination of path analysis and factor analysis) are used thorough SPSS24 and AMOS23 software. Data analyzed by descriptive statistics, and Kolmogorov-Smirnov tests.

## Results

Using the Mahalanobis test, the data were corrected, and after correction, the sample was decreased to 356 cases. To create latent variables, it is necessary to have multiple markers of each of the variables; usually, we use the sub-scales of the measurements as separate indicators that are introducing the structure, but in some cases, no multiple sub-scales are representing the specific structure. In this case, the item packets described by Russell et al. (34) are used.

We used this method to analyze parenting styles, extroversion, and Introversion. Initially, the narrative form was confirmed (measurement model), and then the initial and final models were examined.

Table 1 shows the demographic information in different indices, including; age, parental occupational, and educational status.

Table 2 shows the values obtained from mean and standard deviations related to the extroversion, introversion, parenting styles, and anxiety variables.

The findings indicated the positive correlation coefficient of the introspection personality trait and the authoritarian parenting style with anxiety, and the negative correlation of the extroversion personality trait, the free choice, and logical styles with anxiety.

**Table 1.** Demographic characteristics of the participants

Variables	Classes	Number	Percent
Age (Year)	15-year	123	34.55
	16-year	112	31.46
	17-year	121	33.98
Father's educational status	Under diploma	77	21.62
	Diploma	166	46.62
	Bachelor	82	23.03
	Masters	31	8.70
Mother's educational status	Under diploma	93	26.12
	Diploma	189	53.08
	Bachelor	65	18.25
	Masters	9	2.52
Father's job status	Self-employed	231	64.88
	Employee	125	35.11
Mother's job status	Employee	74	20.78
	Self-employed	93	26.12
	Housekeeper	189	53.08

**Table 2.** The mean and standard deviation of scores

Variable	M	SD	1	2	3	4	5	6
Extroversion	7.87	0.851	1					
introversion	6.33	1.54	**-.036	1				
Free choice style	28.19	5.25	**0.19	**-.23	1			
Tyranny style	32.20	4.81	**-.021	**-.016	**-.031	1		
Logical authority style	28.55	5.08	**0.24	**-.029	**0.44	**-.034	1	
Anxiety	118.44	13.00	**-.028	**0.24	**-.031	**0.27	**-.029	1

\*\*Significance level =0.01

According to Table 3, the values obtained from the determination coefficient, the effect values, the critical values, and the significant levels between the personality trait of Introversion and extroversion, and the

parenting styles with the girls' anxiety were shown.

According to Table 4, there are indirect parenting styles on anxiety related to extroversion and Introversion.

**Table 3.** Direct estimation of the model by exponential maximization

Variables	determination Coefficient (R2)	Beta value (β)	Critical values (t)	P
Extroversion to anxiety	0.241	0.269	9.642	0.000
introversion to anxiety	0.174	0.176	6.280	0.000
Free choice to anxiety	0.282	0.287	11.309	0.000
Tyranny to anxiety	0.028	0.082	3.431	0.006
Logical to anxiety	0.193	0.206	7.377	0.000

**Table 4.** Indirect estimation of the Model by using bootstrap

Variable	B	Lower limit	Upper limit	P
The free choice style related to the extroversion to the anxiety	0.19	0.096	0.21	0.002
The free choice style related to the introversion to the anxiety	0.21	0.052	0.26	0.000
The tyranny style related to the extroversion to the anxiety	0.15	0.031	0.18	0.011
The tyranny style related to the introversion to the anxiety	0.22	0.011	0.29	0.000
The logical style related to the extroversion to the anxiety	0.28	0.061	0.21	0.000
The logical style related to the introversion to the anxiety	0.14	0.026	0.18	0.021

According to Table 5, the RMSEA value is 0.059. Therefore, this value is less than 0.1, indicating that the model's average square error is appropriate, and the model is acceptable. Also, the Chi-square of the two degrees of freedom (2/524) is between 1 and 3, and the rate of GFI (adjusted adjustment index), CFI (adaptive fit index), and NFI (the softened fit index) indices are approximately equal to and more significant than 0.9 which indicates that

the model for measuring the variables of research is appropriate. We now looked at model hypotheses using a structural model.

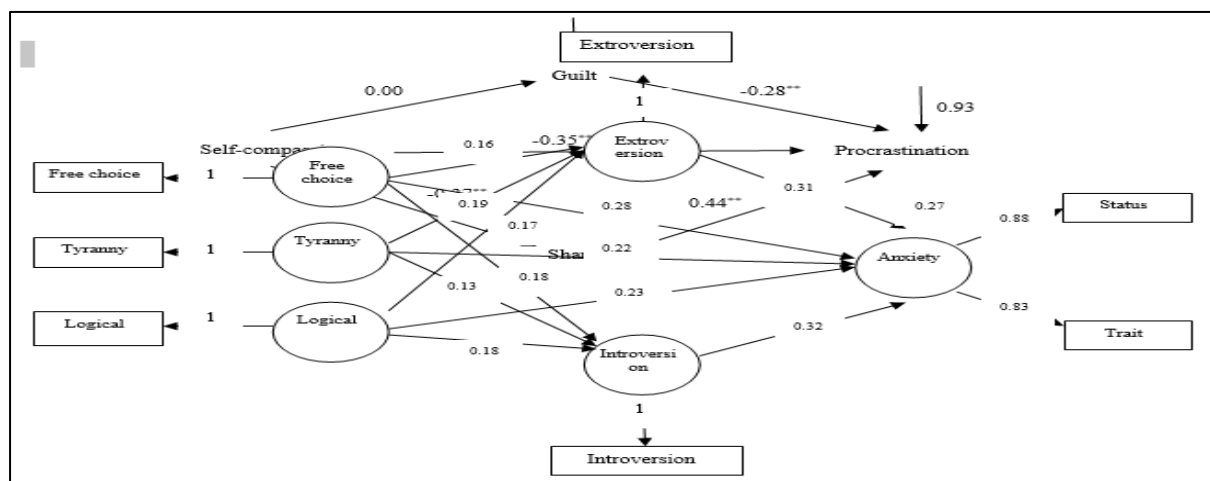
According to the above model, in general, parenting styles, extroversion, and Introversion could predict (R2= 0.27) the anxiety variable, which could be explained by 27% of the endogenous variable 73% other non-research variables.

**Table 5.** Fit indicators derived from data and variables analysis

Test type	Explanation	Acceptable values	Obtained values
X <sup>2</sup> /df	Relative chi-square	<3	2.524
RMSEA	Average root mean square second approximation error	0.1<	0.049
GFI	Adjusted fit index	0.9>	0.967
NFI	Softened fit index	0.9>	0.958
CFI	Adaptive fit index	0.9>	0.939
DF	58		

Table 3 shows the correlation matrix of the research variables. This table shows that academic procrastination is positively correlated with depression, anxiety, stress, and proneness to shame and negatively correlated with self-compassion. Self-compassion has a

negative relationship with depression, anxiety, stress, and proneness to shame. Multivariate linear regression was used to investigate the data. Direct, indirect, and the overall effects of each variable on the dependent variable were analyzed through path analysis.



**Figure 1.** Pattern of the relationship between research variables

## Discussion

This study aimed to investigate the mediating role of sibling introversion and extroversion traits associated with the parenting styles and anxiety in girls who are in the second grades of high schools in Qom city. In general, the research model was confirmed; this finding is consistent with the results conducted studies (9,12,13,35-38). In the extroversion compared to the introversion, we could see more reactions to positive manners (not harmful) (39). The effect of Eysenck's personality dimensions on emotionality over time and in situations is stable (40). Also, some studies have shown that the personality factor of extroversion could be an essential mediator between interpersonal relationships and the rate of anxiety and depression (41). Other studies have shown that the personality factor of extroversion and Introversion in the relationships between parenting styles and maintaining stronger ego have a mediating role in interpersonal interactions (42).

Parents who pay more attention to their children and are more kind to them, providing more opportunities for the growth of their children talent and social development along with the adaptive responses of the children, and, of course, this relationship is a two-sided one and is based on the family-therapeutic approach, so all the positive and negative actions of the family members could affect each other (43).

Children with anxiety disorders, see more rejection on their mothers than the healthy children. When we compare and review these research findings to the extreme controlling of parents or their tyrannical behaviors to the children, the issue becomes more obvious. Parental control or tyranny behaviors are considered as controls and limitations on the behavior of the child. It seems that more control and intervention by parents reduce the children's autonomy, which would be the cause of more anxiety in children (44). If parents have less controlling and tyrannical behaviors, the children will show lower level of anxiety. Parents' control on many behavioral disorders types in children is sufficient, and any contradiction is seen, maybe due to different types of studies (45). When parents judge their parenting style, they may not notice some of their unconscious behavioral features and their effects on children or highlight some of the features, which indicate that several factors

over time could exacerbate or moderate the destructive effects on parent-child relationships (46). In researchers have shown, what hurts the child is not a factor but a gradual accumulation of anxiety. At the same time, protective factors also in case of gradual accumulation and persistence of environmental supporting factors in the family, school, and peer groups could cause an appropriate behavioral choice and adaptive responses to anxiety (47,48).

Findings showed that extraversion strengthens the relationship between rational parenting style and anxiety. Based on the research findings, logical parenting style is associated with positive developmental consequences such as better relationships with peers; due to these factors, observational learning improvement based on the socio-cultural theories will be seen. The trial and error process for the individual in different situations and reactions shows improvement (8). The parents of the logical children learn when negotiating the others' views is considered in a friendly manner, the conflict is best avoided, and this set of skills will solve the problem jointly and effectively for good relationships with peers. This results in a good social support network, which leads to festive excitement and reduced anxiety. In general, children's behavioral problems concluded from a bad relationship between the family members and they are related to parents' improper parenting methods and their interactions with children (6).

By explaining this finding, we could see that the difference in response to anxiety by individuals is a cognitive-based item in the mental-psyche processing. Purely a psychological aspect of the events, the cryptographic selection of signs and symptoms of the anxious circumstances, and this mental load could be due to hereditary (1), and interactive aspects such as personality characteristics (18), and communication patterns (21) in the early years of life with the prominent persons who have care of them. Also, in people with tense situations and extravagant personality traits with logical and free choice parenting styles, they are less likely to be affected by negative stimulations due to repetitive situations and adaptive behavioral responses (18).

On the other hand, people with the introversion trait, when experiencing the same parenting styles, because the personality traits

are the basic mental changing patterns of each person's lifetime, their traits cannot be easily changed (36), and they still are affected by inefficient anxiety which, from this point of view, it is based on the mentioned backgrounds, and is admissible according to the psychological views and logic of the findings. On the other hand, based on Eysenck's theory about the differences in personality arousal, introverted persons are more showing arousal mood and search for low levels of arousal, while people with extroversion traits are less excited and search for high levels of excitement mood (49). Extroversion describes how individuals are actively involved with the world instead of avoiding social experiments and struggle with family members and their peers (37).

One of the reasons that individuals are at risk of psychological disorders is undesirable emotion regulation strategies. For supporting this idea, some studies have shown that the ability to manage emotion successfully is related to several consequences of physical, social, and physiological health circumstances (50,51); on the contrary, it is assumed that insufficiency in the emotion regulation is the underlying mechanism of an anxiety disorder (52). One of the limitations of this research is not considering the type of anxiety disorder in the target population that was the girls, which is recommended to the other researchers. If possible, the other researches focus on the clinical communities or people suffering from a specific type of anxiety disorder. The other limitation of this research is the lack of controlling the families' socioeconomic status

associated with the target community, which appears to be effective in the interpersonal-communication domains and is suggested to the other future scholars to control this item if possible.

### Conclusion

The results showed that the characteristics of extraversion and introversion play a vital role in the relationship between anxiety in girls and their parenting styles, that the logical parenting style is a little a deterrent and decrement factor for anxiety experienced by girls in conjunction with the role of the personality trait of extroversion as a mediator.

In another way, a tyranny style and partly free choice style in association with the introversion personality trait could increase the level of experienced anxiety; in general, considering the role of extraversion in reducing the anxiety of female students. It is suggested that in the educational systems of the country, and specifically in schools, the role of parenting styles and parents behaviors be considered.

The knowledge-based courses and family-based management techniques based on a systematic approach related to these behavioral consequences can reduce the childhood disorders.

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