

**Research Article**

## **Prediction of Anxiety Based on Attachment Styles: The Mediating Effect of Emotional Schemas**

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### **ABSTRACT**

The purpose of this research was to predict anxiety based on attachment styles with intermediary role of emotional schemas. Statistical population consisted of all students at the University of Shiraz. From among this population, 270 individuals (140 girls and 130 boys) were selected by convenient sampling for participation in the study. Participants completed the Adult Attachment Scale (Besharat, 2005), Revised Emotional Schemas Scale (Shahvarani, 2014) and Spielberger's Anxiety Scale (2004), respectively. For data analysis, descriptive statistics and path analysis and modeling was used. Analysis of research data showed the two styles of attachment secure and ambivalent and emotional schemas of understanding and control and rumination meaningfully predict anxiety and ultimately ambivalent attachment style with complete intermediation by two emotional schemas of understanding and control and rumination predicts anxiety. With consideration of the desired model fit and complete intermediary influence in the final research model, it can be concluded that emotional schemas have high explanatory power regarding emotional disorders.

**Key Words:** Attachment Styles, Emotional Schemas, Anxiety

### **INTRODUCTION**

Undoubtedly, one of the very important evolutions in the domain of contemporary psychology is Bowlby's attachment theory that highlights the role of primary emotional experiences of the child with his or her caretaker in his or her emotional and cognitive growth (Ghorbani, 2003). John Bowlby and Mary Ainsworth have combined important points from psychoanalysis, behavior science, growth psychology and cognitive psychology regarding emotional connection and emotional regulation and have used them in organizing the attachment theory (Mikulincer & Shaver, 2005).

Bowlby (1969, 1973 & 1980) has described the formation process of infant attachment (emotional bond) to the mother and showed that how emotions and attachment behaviors determine the nature of individual's imagination and experiences about emotional bonds and interpersonal relationships. Following research by Ainsworth, Blehar, Waters and Wall (1987), three attachment styles of secure, avoidant and ambivalent were identified. Persistence of attachment style in the process of evolution is the topic of modern research in this context and results obtained confirm this continuity (Main,

Kaplan & Cassidy, 1985). Based on the attachment theory, activity of the attachment system is not limited to the childhood period and persists all along life and in other emotional connections such as friendships, marriage, family relations and ... and humans are not completely free of the sense of trust towards important people in their life (Mazaheri, 2000; Ainsworth, 1989; Hazan & Shaver, 1994). Bowlby (1980) has claimed that infants are involved in the kind of experiences with their caretakers that lead to variety of internal attachments or active internal models regarding themselves and others in relationships and the show of attachment following this forms expectations with respect to relations and the future (Wearden, Peters, Berry, Barrowclough & Liversidge, 2008).

Bowlby (1973) believes in emphasis on the importance of the relationship between mother and child. What is critical for the child's psychological health is experience of a warm, close and persistent relationship with the mother or her permanent substitute. He believes that many forms of psychological pathology and disorders of personality are products of the child's deprivation from motherly care or lack of stability in the relationship of the child with his or her attachment figure. Any gap in the mother-child interaction can have a definite negative influence on the child's personality development and lead to more or less pathological disorders in the future (Mansour & Dadsetan, 2002). Similar research also shows that signs of anxiety, depression or anger can represent negative emotional experiences from attachment relationships in the past or the present (Sabel, 2004; cited in Jahanbakhsh, Bahadori, Amiri & Jamshidi, 2011).

Insecure attachment is directly correlated with disorders such as depression and anxiety (Lopez, Mauricio, Gormley, Simko & Berger, 2001), negative emotions and nervousness (Collins, 1996; Wei, Vogel, Ku & Zakalik, 2005), inefficient outlooks and low self-

esteem (Roberts, Gotlib & Kassel, 1996), psychological pressures and interpersonal difficulties (Wei et al, 2005), hopelessness, anger and anxiety (Wei, Heppner & Mallinckrodt, 2003) and intermarital problems (Mazaheri, 2000). Adults afflicted with avoidant attachment styles have a tendency towards fear of closeness, find trusting others difficult and are concerned about getting too close to others (Hazan & Shaver, 1987). These individuals tend towards having a weak model of themselves in their relationships and are worried about not being liked (Wiederman, 1996). Anxious-ambivalent adults wish closeness and more than anything else are fearful of being rejected (Pietromonaco & Barrett, 2000b).

Additionally, probably the relationship between attachment pathologies and anxiety disorders is not a linear one (Besharat, Hedayati & Kurdmirza Nikoozadeh, 2014). Based on the findings of the attachment theory, individual differences in active internal models and naturally in laterality of adult attachment are correlated with different models of coping styles and strategies of emotional and cognitive regulation (Kafetsios, 2004; Wei et al, 2005; Milkunicer et al, 2003; Pereg & Mikulincer, 2004; Shaver & Mikulincer, 2002; McCarthy, Moller & Fouladi, 2001; Greenberger & McLaughly, 1998; Kobak & Sceery, 1988). In other words, individuals with different attachment styles apply different strategies for emotion regulation and emotional information processing.

On the one hand, schemas are responsible for organizing information, providing meaning and guiding behavior (Thimm, 2010). Cognitive schemas focus on cognition, communication schemas focus on relationships and emotional schemas focus on emotions (Meyer, Olivier & Roth, 2005). Cognitive therapists believe that schemas have axial role in progress and maintenance of chronic forms of psychopathology such as personality disorders, anxiety and depression (Padesky, 1994). Meanwhile, emotional

schemas are related to plans, concepts and strategies for responding to emotions. The method a person responds to an experienced emotion, whether it is normative or pathological, shows his or her understanding of emotion and provides him or her with necessary information for guiding his or her subsequent reactions. In the emotional schemas model, it is assumed that individuals respond based on interpersonal beliefs towards a specific emotion. On this basis, other research regarding emotional schema therapy has shown that negative emotions are not problematic, but it is reaction towards emotions that can cause disorder (Leahy, 2002).

The cognitive model where its first plan was developed by Leahy is that individuals may be different regarding how they conceptualize emotions. In other words, individuals have different schemas regarding their emotions. These schemas reflect methods in which emotions are experienced. It is clear that everyone experience anger, anxiety or sadness; yet, only few people will transfer these emotions to an anxiety disorder or chronic or severe mood disorder. This point means that cognitive schemas regarding emotions can influence progress of disease (Leahy, 2008).

Overall, understanding and expressing emotions is correlated with positive reaction towards oneself, increased self-perception and better physical health (Pennebaker, Mayne & Francis, 1988). Wells (2009) in a study regarding relationship between level of negative beliefs about emotion and each of the meta-cognitive factors, meaningful correlation was found between negative emotional beliefs and negative meta-cognitive beliefs. Additionally, meaningful correlation was found between psychological resilience, nervous pre-occupation and emotional schemas in recent studies (Tirch, Leahy & Silberstein, 2009).

In another research, 53 adult patients undergoing psychotherapy were evaluated and their responses to emotional schemas

questionnaire, Beck's depression inventory and Beck's anxiety inventory were correlated and strong support for the cognitive model of emotional processing was shown. Depression with feelings of guilt after emotion, long emotional expectation, increased mental rumination and considering emotions less understandable, less controllable and different from emotions of others were correlated. Anxiety was also correlated with increased feelings of guilt after emotion, simplistic outlook towards emotion, increased mental rumination, considering emotions less controllable and different in form from emotions of others (Leahy, 2002). Therefore, emotional schemas can be attended to as an important element in explanation of clinical disorders and also other psychiatric variables. Additionally, the definition of Young and Lindman (1993; cited in Vilchinsky, Findler & Werner, 2010) regarding schemas, even though considered a conceptualization of primary inefficacious schemas, can be perceived as a fundamental conceptualization of attachment styles. In fact, attachment is considered as a constant and general lateralization towards the self, others and relationships.

Another important construct is anxiety. Anxiety is a painful emotion which is dependent either to a current impacting situation or with expectation of a danger that its source is not clear. The state of anxiety was defined by Spielberger as a transient emotional state and anxiety predisposition refers to individual differences leading to relatively stable proneness to anxiety. In other words, among individuals, tendency to respond to threatening situations is different (Spielberger, 1983).

As noted from prior research, attachment styles as a fundamental and persistent variable from initial years of life are predictors of many disorders such as anxiety. On the one hand, emotional schemas can be related to attachment styles and emotional models. Additionally, based on previous research, emotional schemas can explain anxiety. The

purpose of this research was prediction of anxiety based on attachment styles with intermediation of emotional schemas. The issues that emotional schemas can as a product of active internal models form the quality of human relations of an individual and are an intermediary for anxiety can help in gaining deeper understanding of human issues and also in correctly following up treatment processes. On this basis, the overall and preliminary research model includes all possible paths from three attachment styles to emotional schemas and anxiety and from six emotional schemas to anxiety.

### Method

The design of this study was correlational and by modeling. Statistical population consisted of all students at Shiraz University in the 2013-2014 academic year. From among them, 270 individuals were selected by convenient sampling. In this sample, 140 were girls and 130 boys. Additionally, participants were requested to carefully respond to questionnaires and not to leave an item unanswered. Next the Adult Attachment Scale (Besharat, 2005), Revised Emotional Schemas Scale (Shahvarani, 2014) and Spielberger's Anxiety Scale (2004) were respectively completed.

**Adult Attachment Inventory (AAI).** Adult Attachment Scale has been prepared by Hazen and Shaver (1978). Besharat (2005), using the contents of this test, prepared a 21 item questionnaire for evaluating three attachment styles of secure, avoidant and ambivalent-anxious. In this questionnaire, each of the three attachment styles of secure, avoidant and ambivalent-anxious had 8, 6 and 7 items respectively and were scored using a five degree Likert scale.

Content validity of this scale was confirmed by evaluation by four psychologists. Concurrent implementation of this scale with the Cooper Smith Self-Esteem Scale also has confirmed validity of the Attachment Styles questionnaire. The Cronbach's alpha coefficient was also calculated for this questionnaire with values for secure, avoidant

and ambivalent-anxious styles being 0/69, 0/79 and 0/74 respectively. In retesting, correlation coefficient between two implementations was 0/92 which shows appropriate reliability for the questionnaire (Besharat, 2000).

**Spielberger's Anxiety Scale.** For measuring anxiety trait, the Spielberger (1983) Anxiety Trait-State questionnaire was used. This questionnaire has been formulated in the shape of two separate forms where 20 items are about anxiety trait and 20 about anxiety state and respondents are given the possibility to rank their emotions with scores of 1 for no anxiety to 4 for high anxiety and in total scores of 20 to 80 for each individual is recorded. Retest reliability of this instrument was reported at 0/86 by Spielberger and colleagues (1983) for students. In recent years, this scale has been used as a popular test for evaluating anxiety inside and outside of the country (Abidizadegan & Moradi, 2009).

**Revised Emotional Schemas Scale.** This scale has been formulated by Leahy (2002). This scale has been revised in Iran (Shahvarani, 2014) and its dimensions have been reduced to 6 and it includes 22 items. The revised Emotional Schemas Scale in factor analysis has explained 57/91 of the variance and a Cronbach's alpha of 0/79 has been reported for it. The dimensions of this scale include understanding and control, rumination, general agreement, intellectualization, acceptance and simplification of emotions and it has appropriate criterion validity.

### Results

The data obtained in this research was analyzed using methods of descriptive statistics (mean, standard deviation and domain of changes) and the method of path analysis using the AMOS software. Descriptive statistics related to each of the research variables have been summarized in Table 1. Additionally, in Table 2, correlation coefficients between the research variables have been shown.

**Table 1:** Descriptive information for variables

Variable	Mean	Standard deviation	Change domain
Understanding and control	28/72	7/10	33
Rumination	12/81	3/36	15
General agreement	14/77	5/24	57
Intellectualization	13/99	2/92	15
Acceptance	4/88	2/25	10
Emotional simplification	14/34	2/55	11
Secure	20/88	4/06	22
Avoidant	14/93	3/97	24
Ambivalent	17/27	4/81	26
Anxiety	45/38	4/89	28

**Table 2:** Correlation coefficients between the variables

	1	2	3	4	5	6	7	8	9	10
1-Ambivalent	1	0/18*	-0/05	-0/48**	-0/20**	-0/21**	0/08	-0/08	0/12	0/23**
2- Avoidant		1	-0/59**	-0/05	-0/02	-0/20**	0/23**	-0/11	0/04	0/03
3- Secure			1	-0/01	0/06	0/25**	0/02	0/02	0/08	0/17*
4- Understanding and control				1	0/14	0/28**	0/02	0/16*	0/01	0/33**
5- Rumination					1	0/17*	0/15*	-0/05	0/15*	-0/18**
6- General agreement						1	0/05	0/06	0/08	-0/06
7- Intellectualization							1	-0/23**	0/29**	0/06
8- Acceptance								1	-0/23**	-0/01
9- Emotional simplification									1	-0/02
10- Anxiety										1

From Table 2, it is noted that the ambivalent style of attachment has a negative and meaningful correlation with schemas of understanding and control, rumination and general agreement and positive and meaningful correlation with anxiety. Avoidant attachment style has negative and meaningful correlation with schemas of general agreement and secure attachment style has a positive and meaningful correlation with this schema. Additionally, positive and meaningful correlation was found between avoidant attachment style and intellectualizing schema. Furthermore, secure attachment style had positive and meaningful correlation with anxiety and avoidant attachment style had a negative and meaningful correlation with secure attachment style. On the one hand, the two schemas of understanding and control and rumination had meaningful correlation with anxiety and the schema of understanding and control showed meaningful correlation with general agreement and acceptance. Emotional schema of rumination also had meaningful correlation with general agreement, intellectualization and simplification of emotions. The schema of simplification of emotions and intellectualization had negative and meaningful correlation and the schema of intellectualization and simplification of emotions had positive and meaningful correlation.

In the first modeling stage and path analysis, all variables were entered into the model and after drawing the paths, indices of fit for the overall model were evaluated in Table 3.

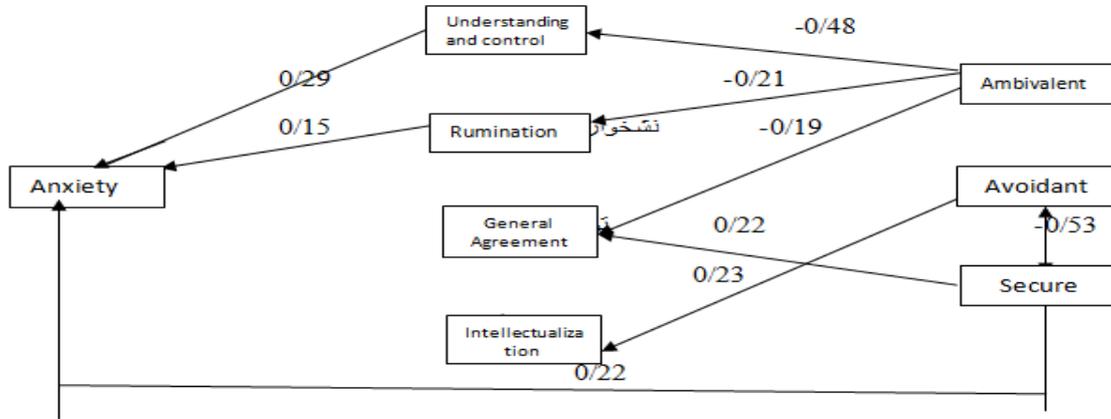
**Table 3:** Indices of fit for the overall research model

Relative Chi-square	GFI	IFI	TLI	CFI	RMSEA
3/37	0/94	0/85	0/55	0/84	0/11

From Table 3, it was shown that even though some of the indices of fit of the initial and overall model were appropriate, in total this model needs changes for reaching completely desirable fit. In

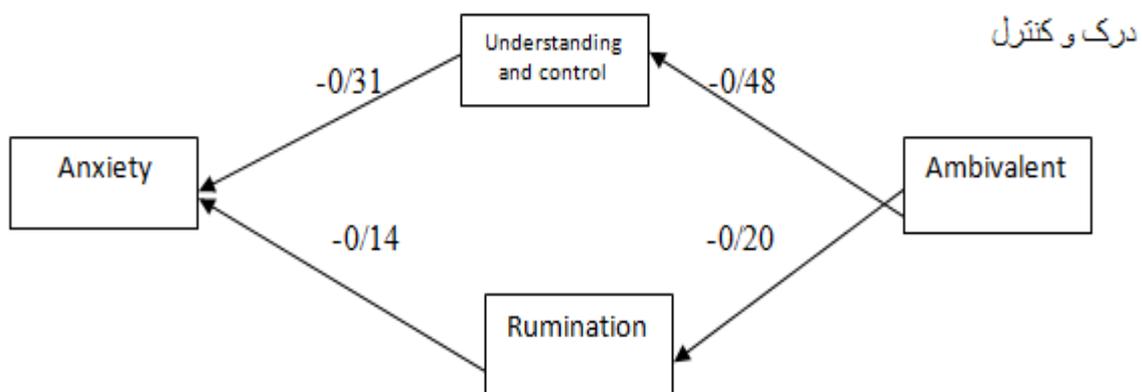
the second stage, non meaningful paths were omitted from the model and meaningful paths were left behind which are shown in Figure 1 and a revised index related to correlation between secure and avoidant attachment styles was implemented.

**Figure 1:** Meaningful paths in the overall research model



Based on the paths in Figure 1, ambivalent attachment style meaningfully predicts the three emotional schemas of understanding and control, rumination and general agreement and the two emotional schemas of understanding and control and rumination also meaningfully predict anxiety. Avoidant attachment style meaningfully predicts the emotional schema of intellectualization and secure attachment style meaningfully predicts the emotional schema of general agreement. Additionally, secure attachment style positively and meaningfully predicts anxiety.

On the one hand, one of the objectives of this research was modeling based on the intermediary role of the emotional schemas and evaluation of indirect effects of predicting variables. Since one of the conditions for remaining an intermediary variable in the model is meaningfulness of its path to the criterion variable, therefore, emotional schemas of general agreement and intellectualization and naturally ambivalent and secure attachment styles due to not having an intermediary variable with the said conditions are omitted from the model. At this stage, ambivalent attachment style as a predicting variable and emotional schemas of understanding and control and rumination as intermediary variables and anxiety as criterion variable were entered into the model and structural coefficients of the paths were evaluated which have been shown in Figure 2.



**Figure 2:** Final research model

As shown in Figure 2, ambivalent attachment style was able to meaningfully predict emotional schemas of understanding and control and rumination and these two schemas meaningfully predicted anxiety. Yet, as observed in Figure 1, the direct path of ambivalence to anxiety was not meaningful. In Tables 4, 5 and 6 in order total, direct and indirect effects of the final model have been mentioned.

**Table 4:** Overall standard effects of final model variables

	Ambivalent	Understanding and control	Rumination
<b>Understanding and control</b>	-0/48	0/00	0/00
<b>Rumination</b>	-0/20	0/00	0/00
<b>Anxiety</b>	0/18	-0/31	-0/14

**Table 5:** Direct standard effects of final model variables

	Ambivalent	Understanding and control	Rumination
<b>Understanding and control</b>	-0/48	0/00	0/00
<b>Rumination</b>	-0/20	0/00	0/00
<b>Anxiety</b>	0/00	-0/31	-0/14

**Table 6:** Indirect standard effects of final model variables

	Ambivalent	Understanding and control	Rumination
<b>Understanding and control</b>	0/00	0/00	0/00
<b>Rumination</b>	0/00	0/00	0/00
<b>Anxiety</b>	0/18	0/00	0/00

As evident from the above tables, ambivalent attachment style has total and indirect effects that are equivalent (0/18) and its direct influence was zero and its indirect effect was significant at a 0/0001 level. This shows that the two emotional schemas of understanding and control and rumination have complete intermediary effect on ambivalent style in predicting anxiety. In Table 7, indices of fit of the final model have been reported which show an appropriate fit of the model.

**Table 7:** Some indices of fit for the final model

Index	Chi-square	Relative Chi-square	GFI	CFI	TLI	IFI	RMSEA
Value	0/52	0/63	0/99	1	1	1	0/0001

## DISCUSSION AND CONCLUSION

From the results of data analysis, it was observed that the two attachment styles of ambivalent and secure were able to predict anxiety. The notable point was that secure attachment style with a positive Beta coefficient predicted anxiety and this is apparently contradictory with theoretical principles of attachment (Carlson and Srouf, 1995; Kobak et al, 1993; Pereg & Mikulincer, 2004). On the other hand, prediction of anxiety by ambivalent attachment style appears completely logical based on theoretical principles (Bowlby, 1973; Pereg & Mikulincer, 2004; Pietromonaco & Barrette, 2000).

Additionally, in explanation of prediction of anxiety based on emotional schemas, it can be

stated that the method that an individual responds to experienced emotion (emotional schemas) shows his or her perception of emotion and provides necessary information for guiding his or her next reactions. For example, an individual who achieves a low score in the understanding and control scale, it means that his or her emotions are incoherent to him or her and this ambiguity explains being on the edge and fearful of threat (Leahy, 2008). In a research, emotional schemas were able to meaningfully predict lateralization of attention towards threatening figures in a dot-probe test (Shahvarani, 2014). In the present research, results showed that two emotional schemas of understanding and control and rumination in order have predicting power for anxiety which agrees with finding from prior

research (Leahy, 2002 & 2009). Based on the definition by Leahy (2008), feeling of lack of control on emotions and understanding of it leads to anxiety in individuals.

The other point was that the Beta coefficient for the schema of rumination predicting anxiety was negative and this shows that the higher rumination is, less anxiety is encountered. This issue is explainable with consideration of the items of rumination. As evident from items of this subscale, individuals with higher score in rumination, in fact, possess problem-oriented thinking when resolving negative emotions. For example, they change their method of looking at and outlook towards the topic. The reason that secure attachment has positive and meaningful correlation with anxiety is similar. In fact, the nature of anxiety predicted by secure attachment is completely different from the nature of anxiety predicted by ambivalent attachment. Negative correlation between these two styles at high anxieties also supports the latter. Correlation of these two attachment styles at high anxiety (score of 52 and above) was  $-0/77$  and at high anxiety, secure attachment was a weak predictor for anxiety.

Avoidant attachment style also had meaningful correlation with emotional schema of intellectualization. Avoidant individuals abhor closeness and reject any sign of closeness with reasoning and try to appear as a logical person without particular emotions. Therefore, this attachment style was also correlated with emotional schemas involving thinking and particularly intellectualization. Additionally, this attachment style was not able to predict anxiety. In avoidant individuals, a prominent sense of threat is not observed at the present time, because these individuals due to history of lack of responsiveness in close relationships have a kind of learned disability with respect to closeness and threat to closeness (Bowlby, 1969). This point pertains to the issue that probably anxiety and fear of avoidant individuals is not in a form to be evaluated

using self-evaluating instruments that are completely vigilance oriented. Additionally, secure attachment style had positive and meaningful correlation with schema of general agreement which shows that individuals that are secure with respect to quality of attachment do not place a specific difference between themselves and others in their perception of emotions. In fact, those who do not see a point of commonality between their own and other's emotions are afflicted with a kind of thought of uniqueness and as a result negative emotions. Based on studies by Kobak and colleagues (1993), positive correlation exists between secure attachment with problem solving, use of problem-oriented coping style and experience of less anger and also positive correlation exists between insecure attachment with less ability to solve problems and experience of more anger. Pereg and Mikulincer (2004) showed that secure individuals for decreasing negative emotions use the model of cognition opposed to emotions (the best way of remembering positive information) and insecure anxious individuals use the model of cognition in agreement with emotions (worst way of remembering positive information).

Finally, the main model of this research showed that ambivalent attachment style was the only style that was able to predict anxiety with intermediation by emotional schemas. Evaluation of internal active models and attachment styles lead to increase in our understanding of the evolutionary trend that leads to signs of depression, anxiety and cognitive vulnerability relative to negative events. Insecure individuals probably experience more negative events and emotions compared to secure individuals (Carlson & Srouf, 1995). Based on what has been mentioned so far, people afflicted with ambivalence due to having an insecure style, in their day to day life, experience more negative emotions compared to other individuals. In this kind of attachment, the individual is anxious and attaches to parents

in childhood and is angry with them and suffers from an ambivalence and doubt in adulthood (Bowlby, 1973). Additionally, based on agreeing research mentioned above, ambivalent attachment style has more correlation with emotion oriented and non intellectual processes. Emotional schema of understanding and control has a less intellectual nature. This issue is evident by evaluating the items related to this subscale. Such that items for this schema are related to fear of emotions, ambiguity in awareness of emotions, fear of revealing emotions and ... (Leahy, 2002). This schema goes beyond a cognitive dimension and includes a broad emotional dimension and this issue explains its correlation with the ambivalent-anxious attachment style. On the one hand, schema of rumination also with a negative beta coefficient was an intermediary for ambivalence in predicting anxiety and this issue is also explainable when rumination is considered as a problem-oriented thinking. Ultimately, it can be suggested that at the level of psychotherapy a combination approach of attachment oriented therapy and the model of schema therapy are used. Additionally, considering the results of this research, it can be expected that emotional schemas possess great power for explaining many problems; therefore, more expansive research for discovery of new emotional schemas compatible with endemic culture appears useful.

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