

Correction

Mediating Role of Cognitive Emotion Regulation Strategies on the Relationship Between Attachment Styles and Alexithymia

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Note

The authors want to correct the following errors:

1. In section "Measures" incorrect Cronbach's alpha coefficients and test-retest coefficients for the **Adult Attachment Inventory (AAI)** are reported due to mixing up different versions of the AAI. The correct Cronbach's alpha coefficients are

- total sample ($N = 1480$): .85, .84, and .85 (instead of .91, .89, and .88)
- women ($N = 860$): .86, .83, and .84 (instead of .91, .90, and .87)
- men ($N = 620$): .84, .85, and .86 (instead of .90, .89 and .87)

The correct coefficients for test-retest reliability are

- total sample: .87, .83, and .84 (instead of .87, .83, and .74)
- women: .86, .82, and .85 (instead of .86, .82, and .75)
- men: .88, .83, and .83 (instead of .85, .81, and .73)

2. Incorrect references: All three in-text citations of "Besharat (2011)" are incorrect (see section "Participants and Procedures" and "Measures"). In all three cases the correct in-text citation is "Besharat (2005)". In the Reference section, reference to Besharat (2011) has to be substituted by:

Besharat, M. A. (2005). *Development and validation of the Adult Attachment Inventory* [in Farsi]. Unpublished research report. Tehran, Iran: University of Tehran.

[The authors requested to add this note post-publication on 2014-10-10.]

Research Reports

Mediating Role of Cognitive Emotion Regulation Strategies on the Relationship Between Attachment Styles and Alexithymia

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Abstract

The main objective of the present study was to investigate the mediating role of cognitive emotion regulation strategies on the relationship between attachment styles and alexithymia. Five hundred and thirty six undergraduate students (282 girls, 254 boys) from public universities in Tehran participated in this study. Participants were asked to complete the Adult Attachment Inventory (AAI), the Farsi version of the Toronto Alexithymia Scale (FTAS-20), and Cognitive Emotion Regulation Questionnaire (CERQ). The results illustrated a significant negative correlation between secure attachment style and alexithymia. Moreover, the results revealed a significant positive correlation between avoidant and ambivalent attachment styles with alexithymia. Regression analysis showed that both adaptive and maladaptive cognitive emotion regulation strategies, have a mediating role on the relationship between attachment styles and alexithymia. Secure and insecure attachment styles predicted changes in alexithymia through adaptive and maladaptive cognitive emotion regulation strategies in opposite directions. Based on these findings, it can be concluded that the mediating role of cognitive emotion regulation strategies on the relationship between attachment styles and alexithymia is partial.

Keywords: attachment, alexithymia, emotion regulation, cognition, coping

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Introduction

Attachment styles refer to internal working models that stem from deep emotional bonds among child and mother (caregiver) that shape people's behavioral responses to the separation from the attachment figure and reunion. These styles are consistent over the different stages of life, and can affect social interactions (Bowlby, 1988; Waters, Merrick, Treboux, Crowell, & Albersheim, 2000). Attachment researchers confirmed the effects of early experiences on the development and formation of internal representations. They also examined the effects of attachment internal working models on future relations as well as strategies of affect regulation (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969, 1988; Calkins & Fox, 2002; Dewitte, Houwer, Goubert, & Buysse, 2010).

Maternal availability, sensitivity, and responsiveness provide a secure base for children. This secure base helps to organize experiences and copes with stressful situations. Therefore, availability, sensitivity, and responsiveness of the attachment figure (mother) can be considered as a main source of variation in emotion regulation strategies (e.g., Bowlby, 1969; Roque & Verissimo, 2011; Vallotton & Ayoub, 2011). Studies show that childhood experiences

with caregivers who do not express their emotions, and use insufficient strategies of responding to children's negative emotions, have a strong effect in emotion regulation in adulthood (e.g., Carrère & Bowie, 2012; Roque & Verissimo, 2011). Attachment theory illustrates that processing information of emotional messages are inhibited by emotional defenses associated with insecure attachment. Additionally, it blocks the awareness of feelings and decisions in themselves and others (Bowlby, 1969, 1988). All of these show the interpersonal foundations of affectivity.

Attachment styles determine the emotional and cognitive rules as well as strategies that lead the emotional responses in individuals and interpersonal relations (Ainsworth et al., 1978; Bowlby, 1969, 1988; Vallotton & Ayoub, 2011). Secure, avoidant, and ambivalent attached people use different strategies for emotional regulation and emotional information processing. People with secure attachment style use those emotional regulation strategies that minimize stress and activate positive emotions (Mikulincer & Florian, 2001). On the other hand, people with insecure attachment styles use those emotional regulation strategies that emphasize the negative emotions; repress emotional experiences (avoidant attached people), and experience the situations in a more stressful manner (ambivalent attached people; Morley & Moran, 2011).

Emotion regulation processes may be affected by numerous factors and are impaired in various forms. One of the known symptoms of the failure of emotion regulation is alexithymia (e.g., Kreitler, 2002; Taylor & Bagby, 2000). Alexithymia is an inability to recognize and verbal description of personal feelings. It has some characteristics including

- a. extreme poverty of symbolic thinking that limits detection of attitudes, feelings, desires and drives;
- b. inability to use feelings as symptoms of emotional problems;
- c. decrease in dream recall;
- d. difficulty in distinguishing between emotional states and physical sensations;
- e. rigid and formal appearance;
- f. lack of emotional facial expressions; and
- g. limited capacity for empathy and self-awareness (Bagby & Taylor, 1997; Sifneos, 2000).

People who have been forced to inhibit their emotions in childhood or their emotions are not properly treated will experience difficulty to regulate their emotions later in their life (Bagby & Taylor, 1997; Humphreys, Wood, & Parker, 2009; Meins, Harris-Waller, & Lloyd, 2008). Ability to recognize, describe, and regulate emotions is largely influenced by interactions with primary caregivers (Roque & Verissimo, 2011). Accordingly, it can be assumed that alexithymia may be related to attachment styles. Studies have shown that the characteristics of alexithymia are more between insecure attached people (Besharat, 2010; Fonagy, Gergely, Jurist, & Target, 2002; Montebanocci, Codispoti, Baldaro, & Rossi, 2004). Kraemer and Loader (1995) suggest that insecure attachment may fail to learn how to feel and this may lead to alexithymia. Insecurity in attachment relationships predicts the defection and failure to identify and express emotions (Besharat, 2010; Karukivi et al., 2011).

Although the evidence indicated that attachment styles are associated with alexithymia, study variables that could possibly play role in this regard have been neglected. Therefore, the main objective of the present study was to investigate the mediating role of psychological variables, specifically, cognitive emotion regulation strategies on the relationship between attachment styles and alexithymia. This topic is worth investigating since attachment styles affect the development of children abilities related to the emotion regulation strategies, firstly (Ainsworth et

al., 1978; Bowlby, 1969, 1988; Calkins & Fox, 2002; Karukivi et al., 2011). Secondly, deficits in regulating emotions can be followed by failure to identify and express the emotions (Dewitte et al., 2010; Kreitler, 2002).

Emotion regulation refers to the ability to understand the emotions, to modulate experience and expression of emotions (Feldman-Barrett, Gross, Christensen, & Benvenuto, 2001; Gross, 1998, 2001). Emotion regulation is widely applied in all aspects of life from the early stages of mental development, and disturbance of emotions and their regulations has pathological consequences (Eisenberg, Fabes, Guthrie, & Reiser, 2000; Gross, 1998). Alexithymia is generally considered as a defect in emotion regulation (e.g., Kreitler, 2002). Emotion regulation is a complicated process involving interactions between neurophysiological, motor-expressive and cognitive-experiential systems of emotion. Therefore, alexithymia appears in different forms such as inability to conceptualize emotions, inability to differentiate emotions, inability to consciously experience of emotions, and inability to describe stress which is transformed automatically to physical dysfunctions (Frawley & Smith, 2001).

Management and regulation of emotions are carried out based on multiple processes and techniques that can be used automatically or objectively, and consciously or unconsciously (Gross, 1998). One of the main fields of emotion is regulation of the emotions in response to the stressors. In this field, emotion regulation strategies have been considered as coping strategies (Garnefski & Kraaij, 2006; Garnefski, Kraaij, & Spinhoven, 2001). Lazarus and Folkman (1984) defined coping as cognitive and behavioral efforts to manage specific external or internal demands which are beyond individuals' capabilities. Lazarus (1993) distinguished between problem-focused coping (trying to minimize distress through own modulation or the environment) and emotion-focused coping (use of cognitive coping strategies for changing the meaning of stressful events and decrease the consequence distress). Both forms of copings are adaptive and the most useful coping approach is depending on the nature of the stressful situation (Folkman & Moskowitz, 2004). Accordingly, the emotional responses to stressful events can be regulated through the use of cognitive coping strategies (Folkman & Moskowitz, 2004; Lazarus & Folkman, 1984).

It is predicted that cognitive emotion regulation strategies in terms of their levels of adaptability can affect the relationship between attachment styles and alexithymia. Based on theoretical considerations and research findings in the context of this study, the following hypotheses were tested:

1. There is a negative relationship between secure attachment style and alexithymia;
2. There is a positive relationship between avoidant attachment style and alexithymia;
3. There is a positive relationship between ambivalent attachment style and alexithymia;
4. Cognitive emotion regulation strategies have a mediating role on the relationship between attachment styles and alexithymia.

Method

Participants and Procedure

Five hundred and fifty undergraduate students studying at public universities in Tehran participated in this study. Undergraduate students of the public universities in Tehran, who had not a history of psychiatric disorder or illness requiring medical treatment, participated in the study voluntarily. Three questionnaires including the Adult Attachment Inventory (AAI; Besharat, 2011), the Farsi version of the Toronto Alexithymia Scale-20 (FTAS-20; Bagby, Parker, & Taylor, 1994; Besharat, 2007), and Cognitive Emotion Regulation Questionnaire (CERQ; Garnefski & Kraaij,

2006) were conducted in volunteers individually. In order to control order effects and tiredness in participants, questionnaires were presented in different orders. Due to incomplete responses, 14 students were excluded from the statistical analysis. Therefore, the participants of this study were 536 students, 282 girls ($M_{age} = 22.65$ years, age range: 18-27 years, $SD = 2.45$ years) and 254 boys ($M_{age} = 23.90$ years, age range: 18-30 years, $SD = 2.86$ years).

Measures

Adult Attachment Inventory (AAI) — The AAI is a 15-item inventory validated for the purpose of measuring attachment styles in Iranian populations (Besharat, 2011). The AAI measures three attachment styles (secure, avoidant, and ambivalent) on a 5 point Likert scale (1 = very little, 2 = little, 3 = moderate, 4 = much, 5 = very much). Minimum and maximum subscale scores on the AAI will be 5 and 25, respectively. The Cronbach's alpha coefficients of the subscales for a sample of 1480 (860 females, 620 males) were .91, .89, and .88 for secure, avoidant, and ambivalent subscales, respectively. These coefficients were almost same for women (.91, .90, and .87) and men (.90, .89, and .87) in the sample. These coefficients indicate a good internal consistency. Correlation coefficients between the scores of a sample of 300 subjects that participated in two sessions, with intervals of four weeks, were calculated to assess test-retest reliability. The coefficients of secure, avoidant, and ambivalent attachment styles were .87, .83, and .74, respectively (.86, .82, and .75 for women; .85, .81, and .73 for men), which indicate satisfactory test-retest reliability. Factor analysis identified that secure, avoidant, and ambivalent attachment styles were confirmed by the AAI (Besharat, 2011). In the present study, Cronbach's alpha coefficients were .89, .87, and .83 for secure, avoidant, and ambivalent attachment styles, respectively.

Farsi version of the Toronto Alexithymia Scale (FTAS-20) — Toronto alexithymia scale (TAS-20; Bagby et al., 1994) is a 20-item questionnaire with three subscales including difficulty identifying feelings, difficulty describing feelings, and externally oriented thinking on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). A total score of this scale is calculated by adding the three subscales' final score. Items in the TAS-20 subscales are evident in questions such as "When I am upset, I don't know if I am sad, scared, or angry", "It is difficult for me to describe how I feel about other people", and "I prefer to talk to people about their daily activities rather than their feelings" (Bagby et al., 1994). Several studies investigated and confirmed the psychometric characteristics of the TAS-20 (Parker, Taylor, & Bagby, 2001, 2003; Taylor & Bagby, 2000). Adequate psychometric properties of the FTAS-20 have reported for Iranian populations (Besharat, 2007). In the present study, Cronbach's alpha coefficients were .85, .83, .79 and .75 for alexithymia total score, difficulty identifying feelings, difficulty describing feelings and externally oriented thinking, respectively.

Cognitive Emotion Regulation Questionnaire (CERQ) — The CERQ (Garnefski & Kraaij, 2006) is a 18-item questionnaire that measures cognitive emotion regulation strategies in response to threatening and stressful life events on a five point Likert scale ranging from 1 (never) to five (always). The CERQ has nine subscales including self-blame, other blame, focus on thought/rumination, catastrophizing, putting into perspective, positive refocusing, positive reappraisal, acceptance, and refocus on planning (Garnefski & Kraaij, 2006). Items in the CERQ subscales are evident in questions such as "I think that basically the cause must lie within myself", "I keep thinking about how terrible it is what I have experienced", "I think about a plan of what I can do best", "I think I can learn something from the situation" (Garnefski & Kraaij, 2006)." Psychometric properties of the CERQ have been approved in several studies (Garnefski, Baan, & Kraaij, 2005; Garnefski & Kraaij, 2006). Preliminary evaluation of the psychometric properties of the questionnaire in a sample 368 Iranian (197 women, 171 men) were assessed and alpha

coefficients for subscales were from .67 to .89 (Besharat, 2012). These coefficients confirm the internal consistency of the Farsi version of the CERQ. Test-retest reliability of the CERQ was calculated in a sample of 79 participants (43 women, and 36 men) in two times with an interval of two to four weeks and confirmed with correlation coefficients from .57 to .76 (Besharat, 2012). The content validity was judged on the basis of eight psychologists' agreement and Kendall's coefficient was found from .81 to .92 for subscales. Cronbach's alpha coefficients for subscales of the Farsi version of the CERQ were from .73 to .87 for the present study.

Results

Table 1 presents mean scores, standard deviations, and zero order correlations for all study variables. Results of independent t-test revealed no significant differences between boys and girls in secure attachment ($t(534) = .513, p = .41$), avoidant attachment ($t(534) = -1.89, p = .06$), ambivalent attachment ($t(534) = -1.13, p = .26$), alexithymia ($t(534) = -.82, p = .41$), adaptive emotion regulation strategies ($t(534) = 1.49, p = .14$), and maladaptive emotion regulation strategies ($t(534) = -1.80, p = .07$). Based on this data, a secure attachment style was negatively correlated with alexithymia (confirming the first hypothesis of the study), and both avoidant and ambivalent attachment styles had a significant positive correlation with alexithymia (confirming the second and third research hypotheses).

Table 1

Mean Scores, Standard Deviations, and Zero Order Correlations Between Study Variables

Variable	M (SD)	Girls (n = 282) \ Boys (n = 254) ^a					
		1	2	3	4	5	6
1. Secure Attachment	15.34 (4.53)	1	-.64	-.49	-.47	.67	-.57
2. Avoidant Attachment	12.73 (4.40)	-.54	1	.64	.57	-.63	.52
3. Ambivalent Attachment	11.94 (3.48)	-.43	.49	1	.51	-.47	.44
4. Alexithymia	45.32 (13.15)	-.57	.53	.47	1	-.47	.60
5. AERS	6.83 (1.13)	.48	-.57	-.37	-.61	1	-.72
6. MERS	4.74 (1.19)	-.49	.50	.32	.63	-.78	1

Note. M = Mean; SD = Standard Deviation; AERS = Adaptive Emotion Regulation Strategies; MERS = Maladaptive Emotion Regulation Strategies.

^aTop right of table represents correlations for boys and the bottom left of the table represents the correlations for girls.

All p values < .001.

To measure the mediating role of cognitive emotion regulation strategies on the relationship between attachment styles and alexithymia, the four criteria of mediational model suggested by Baron and Kenny (1986) were tested:

1. attachment styles (independent variables) significantly predicted alexithymia (dependent variable);
2. attachment styles (independent variables) significantly predicted cognitive emotion regulation strategies (mediating variable);
3. cognitive emotion regulation strategies (mediating variable) significantly predicted alexithymia (dependent variable);
4. the relationship between attachment styles (independent variables) and alexithymia (dependent variable) was significantly reduced with the control for cognitive emotion regulation strategies (mediating variable).

The zero order correlations presented in Table 1 provide support for the first three criteria. The results of regression analyses presented in Table 2 and 3 provide support for the fourth criterion. The results of two-step regression

analyses for adaptive and maladaptive cognitive emotion regulation strategies are presented in Tables 2 and 3, respectively. The results showed that when the adaptive strategies of the cognitive emotion regulation entered in the equation as a mediating variable, β regression coefficient for secure attachment style was changed from -.67 to -.47. The Sobel test showed that the rate of change is significant ($t = -7.81, p < .001$), whereas secure attachment remained significant ($t = -11.81, p < .001$). Similar results were repeated for avoidant and ambivalent attachment styles (Table 2). The results show that adaptive cognitive emotion regulation strategies mediate the relationship between avoidant and ambivalent attachment styles with alexithymia. This result confirms the fourth hypothesis.

Table 2

Summary of Regression Analyses for Mediating Role of Adaptive Emotion Regulation Strategies between Attachment Styles and Alexithymia

	R^2	ΔR^2	B	$SE B$	β	t
1. Step 1	.45					
Secure attachment style			-1.94	.093	-.671	-20.91
Step 2	.50	.06				
Secure attachment style			-1.36	.115	-.470	-11.81
Adaptive Emotion Regulation Strategies			-3.60	.460	-.311	-7.81
2. Step 1	.34					
Avoidant attachment style			1.48	1.105	.586	16.70
Step 2	.45	.11				
Avoidant attachment style			1.00	.121	.336	8.29
Adaptive Emotion Regulation Strategies			-4.74	.469	-.410	-10.10
3. Step 1	.29					
Ambivalent attachment style			2.02	.138	.535	14.64
Step 2	.47	.18				
Ambivalent attachment style			1.25	0.133	0.331	9.43
Adaptive Emotion Regulation Strategies			-5.44	.406	-.471	-13.41

Note. All p values < .001.

Table 3

Summary of Regression Analyses for Mediating Role of Maladaptive Emotion Regulation Strategies between Attachment Styles and Alexithymia

	R^2	ΔR^2	B	$SE B$	β	t
1. Step 1	.45					
Secure attachment style			-1.95	.093	-.671	-20.91
Step 2	.59	.14				
Secure attachment style			-1.20	.098	-.414	-12.28
Maladaptive Emotion Regulation Strategies			5.00	.372	-.453	13.45
2. Step 1	.34					
Avoidant attachment style			1.75	.105	.586	16.70
Step 2	.53	.18				
Avoidant attachment style			.841	.109	.282	14.35
Adaptive Emotion Regulation Strategies			5.80	.404	.525	14.35
3. Step 1	.29					
Ambivalent attachment style			2.02	.138	.535	14.64
Step 2	.54	.25				
Ambivalent attachment style			1.09	.123	.290	8.88
Maladaptive Emotion Regulation Strategies			6.20	.361	.561	17.20

Note. All p values < .001.

Two-step regression analyses of maladaptive cognitive emotion regulation strategies is presented in Table 3. The results showed that maladaptive cognitive emotion regulation strategies play a mediating role, and change β regression coefficient from $-.67$ to $-.41$ for secure attachment style. The Sobel test showed that the rate of change is significant ($t = 13.45, p < .001$), while secure attachment style still remained significant ($t = -12.28, p < .001$). Similar results were repeated for avoidant and ambivalent attachment styles (Table 3). The results show that maladaptive cognitive emotion regulation strategies have a mediating role in the relationship between avoidant and ambivalent attachment styles with alexithymia. This result confirms the fourth hypothesis.

Discussion

The present study had two main goals. The first goal was determining the relationship between attachment styles and alexithymia. Secondly, the mediating role of adaptive and maladaptive cognitive emotion regulation strategies on the relationship between attachment styles and alexithymia were tested. The results showed a significant negative correlation between secure attachment style and alexithymia. In addition, there was a positive significant relationship between avoidant and ambivalent attachment styles with alexithymia. Accordingly, the first three research hypotheses are confirmed. The results of this study are consistent with the findings of previous research (Besharat, 2010; Fonagy et al., 2002; Karukivi et al., 2011; Montebanocci et al., 2004) and can be explained by several possible explanations.

First of all, mother-infant interactions influence children's ability to recognize, describe, and regulate emotions (e.g., Bowlby, 1988; Waters et al., 2000). The attachment figure's characteristics such as availability, sensitivity, and responsiveness, provide a main ground for development of emotion regulation strategies (Bowlby, 1969; Calkins & Fox, 2002; Dewitte et al., 2010; Roque & Veríssimo, 2011; Vallotton & Ayoub, 2011). Immune interactions of mother (caregiver)-infant can provide a secure base for children in which they can organize the experiences as well as cope with distresses by using emotion regulation strategies. Insecure interactions between mothers (caregiver)-infant, on the other hand, can unsafe this base and makes the emotion regulation difficult. According to attachment theory, emotional defenses related to insecure attachment inhibit processing of emotional information and block awareness of feelings and decisions in themselves and others (Bowlby, 1969, 1988; Carrère & Bowie, 2012; Roque & Veríssimo, 2011). Maladaptive emotion regulation strategies can be a good example of these emotional defenses and emotional inhibitions. These explanations are consistent with previous findings that confirmed the impact of inadequate interactions of mother (caregiver)-infant in the development of insecure attachment styles (Ainsworth et al., 1978; Bowlby, 1969, 1988; Vallotton & Ayoub, 2011), and alexithymia (Besharat, 2010; Karukivi et al., 2011; Kreitler, 2002).

The results showed that both adaptive and maladaptive cognitive emotion regulation strategies mediated the relationship between attachment styles and alexithymia. Given that this mediating role was partial, it can be concluded that part of the relationship between attachment styles and alexithymia can be applied by cognitive emotion regulation strategies. Managing and regulating emotions are set through the use of cognitive coping strategies (Folkman & Moskowitz, 2004; Lazarus & Folkman, 1984). These strategies may be adaptive (e.g., putting into perspective, positive refocusing, positive reappraisal, acceptance, refocus on planning) or maladaptive (e.g., self-blame, other-blame, focus on thought, catastrophizing; Garnefski & Kraaij, 2006). Secure attachment style as a main influential factor in the development of emotion regulation abilities (Bowlby, 1969; Calkins & Fox, 2002; Carrère & Bowie, 2012; Roque & Veríssimo, 2011), provides recognizing, expressing and exchanging emotions in social and affective relationships through adaptive cognitive emotion regulation strategies. In contrast, insecure

attachment styles destroy the potential developmental opportunities to gain and learning the emotion regulation skills within the relationship of mother-child and child-environment thorough maladaptive cognitive emotion regulation strategies. Also, this situation weakens an ability to identify, express and exchange emotions. Research findings (Besharat, 2007; Mikulincer & Florian, 2001) have shown that people with secure, avoidant and ambivalent attachment styles apply different strategies to regulate emotions and processing emotional information. People with secure attachment style use those emotional regulation strategies that minimize stress and activate positive emotions (Mikulincer & Florian, 2001; Morley & Moran, 2011). While, people with insecure attachment styles tend to follow those emotional regulation strategies that emphasize the negative emotions and repressed emotional experiences (avoidant) and experiencing situations more stressful (ambivalent; Morley & Moran, 2011).

Limitations

The present study have several limitations that must be considered. The cross-sectional design of the study does not allow to draw conclusions about the directions of causality between attachment, alexithymia, and cognitive emotion regulation strategies. Future longitudinal studies need to be conducted in order to clarify this important issue. Although care was taken to use valid instruments for measuring attachment styles and emotion regulation strategies, both measures might have some shortcomings. The former is suffering from a simple approach dividing attachment styles in three categories and the latter has limited emotion regulation strategies to coping strategies with stress. Therefore, it is important that future studies employ different measures in order to get more reliable findings concerning the research variables. The results of the present study were based upon a sample of undergraduate students. One should be cautious in generalizing the results to other populations. Attachment may interact with other variables to produce positive or negative consequences. It would be of value to investigate mediating and moderating effects of variables such as early maladaptive schemas, metacognitive beliefs, and interpersonal problems.

Implications

Nonetheless, findings of the present study may have important implications. First, the findings of this study confirm the assumption of attachment theory in regards to the role of attachment styles and internal working models in regulation of emotions and affects. From this point of view, emotion regulation mechanisms are not considered merely intrapersonal processes. They are developed within the mother-infant interactions then spread to other areas of interpersonal and social relationships.

Furthermore, confirmation of the mediating role of cognitive emotion regulation strategies on the relationship between attachment styles and alexithymia can serve the integrity of assumptions of attachment and personality theories. Findings of the present study provide new ideas and assumptions about the determinants of alexithymia. These determinants (attachment styles and cognitive emotion regulation strategies) not only cause theoretical enrichment of alexithymia, but also strengthen the relationship between theories of attachment and alexithymia. The practical implications of these findings could be developing educational programs within the parent-child relationship. Moreover, managing emotions and interventional programs can be another practical implication. Last but not least, treatment programs based on interpersonal relationships in terms of client-client (like spouses) and client-therapist relations.

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Competing Interests

The authors have declared that no competing interests exist.

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