

## Mother-infant Attachment Styles as a Predictor of Aggression

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### ABSTRACT

**Background & aim:** Aggression is a phenomenon that causes irreversible damage to a community. Psychodynamic theory suggests that aggression is rooted in early relationships with family members, especially mother. According to this theory, infant-mother relationship is a major predictor of an individual's behavior from childhood to adulthood. This study aimed to investigate the correlation between mother-infant attachment styles and aggression.

**Methods:** This study was conducted on 150 university students (75 female, 75 male) randomly selected from Bu-Ali Sina University in Hamadan, Iran. Data were collected via demographic questionnaires, Persian version of Adult Attachment Inventory (AAS) (Hazan and Shaver) and Ahvaz Aggression Inventory (AAI). Data analysis was performed using Pearson correlation and regression analysis.

**Results:** According to our findings, secure mother-infant attachment had a significant negative correlation with aggression. In addition, ambivalent mother-infant attachment had a significant positive correlation with aggression, while avoidant attachment style had no significant correlation with aggression.

**Conclusion:** According to the results of this study, secure attachment of mother with infant could reduce aggression during adulthood. On the other hand, ambivalent attachment between mother and infant could clearly increase the risk of aggression. Therefore, it is recommended to train different attachment styles to pregnant women through related workshops during pregnancy in order to prevent ambivalent mother-infant attachment.

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## Introduction

Aggression is a term applied to a wide range of behaviors that may appear to be interrelated, while in close analysis, they are proven to be entirely different. In previous research focusing on aggression, there has been substantial controversy around the alternative definitions of this behavior; however, a consensus has been reached on two aspects of the definition. On one hand, aggressive behavior is defined as the infliction of harm or injury on another individual or organism. On the other hand, another definition is needed as to consider the intent of an aggressive individual to exclude accidental harm or aversive stimulation administered for beneficial reasons (1).

The definition proposed by Baron covers both these aspects (2); accordingly, aggression is defined as any form of behavior seeking to harm or injure another living being who is

motivated to avoid such treatment. The operational definition used in the current study describes aggression as a behavior consisting of three dimensions: anger-temper, inroad-insult and obstinacy-malice. These dimensions were resulted from the analysis of test scores.

The classic attachment theory was first proposed by Bowlby, which presents a comprehensive definition for aggression in adult relationships (3). This theory has been widely used in recent years to explain the nature of relationships during adulthood (4). According to this theory, attachment is defined as the emotional bond between infant and caregiver, who is typically the mother (5). In this regard, Bowlby's seminal work on attachment, separation and childhood loss has resulted in a theoretical basis for the accurate evaluation of

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adult attachment patterns (3). Furthermore, descriptions by Ainsworth, Blehar, Waters and Wall are classified into three basic attachment patterns of secure, ambivalent and avoidant, which were used to develop other measures for equivalent attachment patterns in the adult population (6).

In general, children with secure attachment tend to become visibly upset when their caregivers leave and are happy when they return. When frightened, these children seek comfort from the parent or caregiver. Contact initiated by a parent is readily accepted by securely attached children, and they cherish the presence of a parent with positive behavior (7).

Children with ambivalent attachment tend to be extremely suspicious of strangers. These children display considerable distress when separated from their parents or caregivers and may not be reassured or comforted by their return. In some cases, the child might passively reject the parent by refusing comfort or may openly exhibit aggression towards the parent or caregiver (8).

Children with avoidant attachment tend to ignore their parents and caregivers. This avoidance often becomes especially pronounced after a period of absence. These children might not reject attention from parents; however, they neither seek comfort nor contact from their caregivers. Moreover, children with avoidant attachment may show no preference between contact with their parents and a complete stranger (8).

In this regard, Bowlby emphasized the quality of mother-infant relationship since it laid the foundation for later working models and a set of internalized beliefs to form future relationships and social interactions (3). Attachment theorists have postulated that experiences from early attachments in life largely influence social cognitions in children in their social and physical perception of the world, as well as their interactions with other people during adulthood (5, 9).

Children with secure attachment are believed to form a working model that perceives oneself as valuable and the caregiver as supportive and responsive. In this style of attachment, consistent responsiveness of the caregiver to the emotional needs of the child

helps build a positive model of the world and people as safe and approachable.

On the other hand, early parent-child relationships marked by anger, hostility, mistrust and insecurity (i.e., insecure attachment) may foster an internal working model based on which future relationships seem untrustworthy as well (10). Consequently, the child is likely to have maladaptive views of self and others and may attribute the behavior of other people to negative intentions. Insecure attachment leads to unfavorable outcomes in children, including aggression, delinquency, substance abuse and emotional disturbances (11).

Several authors have attempted to expand their research on attachment to different stages of life, while the classic attachment theory has not been investigated equally at different ages. Moreover, developmental research has highlighted the pivotal role of mother-infant attachment in psychological and behavioral outcomes. According to the literature, insecure attachment styles are positively linked to indices of psychological distress, such as negative affectivity, depressive symptoms, eating pathology, dysfunctional sexual beliefs, emotional distress, anxiety and general distress symptoms (12-17). Also, insecure attachment is associated with interpersonal difficulties and greater hostility towards other people (18).

Existing body of literature is indicative of a significant correlation between the quality of parent-child attachment and outcomes such as aggression (19, 20). Few studies have evaluated the relationship between attachment styles and aggression in Iran. Findings of the current paper could be used to investigate the efficacy of attachment theory in social and cultural structure of the Iranian community and collect empirical evidence on this theory.

In the present study, we extended the attachment theory to explain the occurrence of aggression in adult relationships. To do so, adult attachment patterns and related interpersonal problems were compared and evaluated among individuals with distinctive experiences of aggression. This study mainly aimed to investigate the role of mother-infant attachment in the severity of aggression.

## Materials and Methods

This descriptive correlational study was conducted on 750 master's students of Bu-Ali Sina University in Hamadan, Iran in 2013. Participants were selected by cluster random sampling, and sample size of the study was determined to be 159 students using Morgan's table. After eliminating distorted questionnaires, 150 participants remained in the study (21). Participants included 75 male students aged 23-29 years (mean: 23.3±6.6) and 75 female students aged 22-26 years (mean: 22.8±1.5). Selected students were educated during September 2012-May 2013. Out of faculties including chemistry, arts and architecture, engineering, and economics and social sciences, three were selected randomly. In addition, three classes were selected randomly from each faculty, and the students were enrolled in this study.

#### **Adult Attachment Styles (AAS)**

In this study, we used the Persian version of AAS designed by Ainsworth et al. This measure is widely used to evaluate the level of attachment based on the classification of parent-child attachment styles into three types of secure, ambivalent and avoidant (5, 6). It is noteworthy that Mayseless added another category to this definition in order to cover disorganized or disoriented types of mother-infant attachment (22). In the current study, we used the Persian translation of AAS, which has been normalized by Besharat (23). Internal consistency of secure, ambivalent and avoidant subscales of attachment was estimated at 0.74, 0.69 and 0.71 for female participants, and 0.73, 0.72 and 0.71 for male participants, respectively. Regarding the reliability of AAS, coefficient alpha was calculated to be 0.70. Moreover, test-retest correlation was estimated at 0.72 after one week, which was indicative of adequate validity (23).

#### **Ahvaz Aggression Inventory (AAI)**

AAI was first developed by Zahedi Far, Najarian and Shokrkon using factor analysis in order to evaluate aggression on single samples of college students (24). This measure is a pen and paper self-report questionnaire consisting of 30 items scored on a four-point scale (never, rarely, sometimes and always). Questionnaires had three subsets, and high scores were indicative of high levels of aggression. In their study, Zahedi Far et al.

used Eysenck Personality Questionnaire, Minnesota Multiphasic Personality Inventory and Buss-Durkee Validity Inventory to evaluate the reliability coefficient of AAI and reported all the obtained coefficients to be significant ( $P<0.001$ ) (24). Reliability coefficient of this scale is estimated at the acceptable level of 0.84.

Written informed consent was obtained from all participants, and the study protocol was officially approved by the university. Afterwards, we initiated the tests, and students were fully instructed about questionnaires and rating scales. During the study, participants were encouraged to enquire about the research project and their possible concerns. Moreover, participants were asked to select the scale which could best describe their emotions. All participants received the same instructions about completing the questionnaires. Also, objectives of the study were explained to the selected students who met the inclusion criteria and had consent to participate in the investigation.

Inclusion criteria of this study were as follows: 1) consent for participation; 2) lack of trauma or pregnancy within the past six months; 3) no history of mental disorders and use of psychiatric drugs and 4) no experience of divorce within the past year. Participants were assured of confidentiality terms, and provided data were only used for research purposes. All participants completed AAS, AAI and demographic questionnaires. Data were analyzed using Pearson correlation and regression analysis. Data analysis was performed using SPSS statistical package.

## **Results**

Mean of aggression scores and their correlation with different attachment styles are shown in Table 1.

**Table 1.** Descriptive Statistics for Aggression and Attachment Styles

	Variables	Mean±SD
Attachment Styles	Secure	13.6±4.69
	Avoidant	16.83±6.32
	Ambivalent	17.93±6.92
Aggression	Anger-Temper	21.9±6.8
	Obstinacy-Malice	7.6±5.1
	Inroad-Insult	6.6±4.7
	Total Aggression	36.1±12.6

**Table 2.** Correlation Matrix of Attachment Styles and Aggression Variables

		Attachment Style		
		Secure	Avoidant	Ambivalent
Aggression	Anger-Temper	-0.33*	0.25*	0.22*
	Inroad-Insult	-0.42*	0.13	0.15
	Obstinacy-Malice	-0.22*	0.23*	0.16*
	Total Aggression	-0.43*	0.28*	0.24*

\*P&lt;0.05, n=15

As can be seen in Table 2, Pearson coefficients were indicative of a negative correlation between secure attachment and aggression scores ( $P<0.05$ ,  $r=-0.43$ ). Accordingly, secure mother-infant attachment was observed to have a significant negative correlation with all subscales of aggression.

On the other hand, avoidant attachment style had a significant positive correlation with total score of aggression ( $P<0.05$ ,  $r=0.24$ ), and ambivalent mother-infant attachment had a significant positive correlation with all subscales of aggression, with the exception of inroad-insult subscale.

Results of regression analysis indicated that aggression scores were significantly different between the three attachment styles (secure, avoidant and ambivalent) ( $P<0.05$ ,  $\beta=0.29$ ). Considering  $R^2$ , it was observed that attachment styles could predict a 0.27 variance of aggression among the students ( $R^2=0.27$ ). Moreover, regression coefficients could determine the effects of different attachment styles on the level of aggression. These findings are presented in Table 3.

As can be seen in Table 3, secure attachment had a significant negative effect on aggression ( $P<0.001$ ,  $\beta=-0.44$ ), so that with a one-unit increase in the standard deviation of the predicting variable (secure attachment style),

standard deviation of the dependent variable (aggression) decreased by 0.44 units.

According to our findings, ambivalent attachment had a significant positive effect on aggression ( $P<0.001$ ,  $\beta=0.29$ ), so that with a one-unit increase in the standard deviation of the predicting variable (ambivalent attachment style), standard deviation of aggression increased by 0.29 units. However, avoidant attachment style was found to have no significant effect on the overall score of aggression ( $P<0.05$ ,  $\beta=0.09$ ).

According to the information in Table 3, there is no significant correlation between sexuality and level of aggression. In other words, mean scores of aggression were not significantly different between male and female students.

## Discussion

The results obtained in the present study are consistent with previous findings in the literature. Accordingly, there is a negative correlation between secure attachment and aggression scores. In addition, secure attachment was observed to have a significant negative correlation with all subscales of aggression. Also, there was a significant positive correlation between avoidant attachment style and total scores of aggression, while ambivalent attachment had a significant positive correlation with all subscales of aggression, with the exception of inroad-insult subscale.

Attachment styles could be significant predictors for aggression variance. In the present study, we used regression coefficients to determine the effect of attachment styles on the score of aggression. According to our findings, secure attachment has a significant negative effect on the level of aggression, whereas ambivalent attachment has a significant positive effect on aggression. However, avoidant attachment style has no significant effect on the total score of aggression. These findings are in

**Table 3.** Regression Coefficients of Aggression and Attachment Styles

Independent Variable	B	Standard Error	$\beta$	t	P-value
	49.641	4.086	-	12.138	<0.001
Secure	-1.61	0.23	-0.44	-6.615	<0.001
Ambivalent	0.855	0.20	0.29	4.164	<0.001
Avoidant	0.22	0.21	0.09	1.01	0.31
Male/Female	0.19	0.11	0.63	0.95	0.37

\*Predicting variable: attachment styles (secure, avoidant and ambivalent)

\*\*Dependent variable: aggression

line with the results obtained by previous studies.

In one study, Talebi and Verma stated that secure attachment has a significant negative correlation with aggression in Iranian and Indian women and men (25). In another research, Diamond and Hicks observed that anxious attachment was associated with higher level of self-reported anger, as well as lower vagal tone, during and after different tasks. Therefore, they concluded that intense anger could be rather difficult to subdue (26).

In another study in this regard, Mikulincer and Shaver claimed that increased sense of secure attachment could effectively reduce actual aggression among individuals of contending or warring social groups (27). In their research, Phaik Ooi, Ang, Fung, Wong and Cai reported that high-quality parent-child attachment was associated with lower levels of parent-rated aggression and social distress, as well as higher self-esteem (28).

To interpret these findings, Bowlby argues that infants are born with a repertoire of behaviors (i.e., attachment behaviors), which are aimed at seeking and maintaining proximity to supportive others (i.e., attachment figures) (5). In his viewpoint, proximity seeking is an inborn affect-regulation device, also known as a primary attachment strategy, designed to protect an individual against physical and psychological threats and alleviate distress.

On the other hand, Bowlby declares that success in affect-regulation functions could result in a sense of secure attachment in individuals; in other words, the individual would be able to perceive the world as a safe place in which one can rely on other people for protection, and therefore, confidently explore the environment and interact with others (5). Furthermore, Bowlby believes that proximity-seeking behaviors are part of an adaptive behavioral system, which is referred to as the attachment behavioral system (29). This system has emerged over the course of evolution to increase the chance of survival for humans who are born with immature capacities for locomotion, feeding and self-defense. Since infants require a long period of care and protection, they are born with a repertoire of behaviors in order to maintain proximity to

others who are able to regulate their distress. Although the attachment system is in the most critical state during early years of life, Bowlby considered this system as the entire life span of an individual actively manifested in their thoughts and behaviors related to seeking support (5).

Therefore, positive expectations about the availability of others, as well as positive views towards oneself as competent and valued, are formed, and major affect-regulation strategies are organized around these positive beliefs. By contrast, if significant others are unavailable or unresponsive to the needs and expectations of the individual, proximity seeking fails to relieve distress, and no sense of secure attachment could be attained. As a result, negative representations of self and others are shaped (e.g., worries about other people's good will and doubts about self-worth), and strategies of affect regulation, other than proximity seeking, are developed in an individual.

According to the theory proposed by Bowlby, attachment insecurities are significant risk factors that could reduce resilience in times of stress and ignite emotional issues and poor adjustment in individuals (5). Correspondingly, anxious or ambivalent attachment intensifies distress, as well as an uncontrollable stream of negative memories, thoughts and emotions, which interfere with cognitive organization of the individual and in some cases, precipitate serious psychopathology (30).

Although avoidant individuals maintain a defensive facade of security and imperturbability, they are likely to ignore, misinterpret or misunderstand their own emotions and have difficulty dealing with prolonged, demanding stressors that require active problem confrontation and exploration of external sources of support (30). Although these individuals are able to suppress or ignore distress consciously, their distress could still be indirectly manifested through somatic symptoms, sleep disorders and other physical problems. Moreover, avoidant individuals may transform unresolved distress into feelings of hostility, loneliness and estrangement from others (31).

In the viewpoint of Bowlby, perceived unavailability or inconsistent availability of the

attachment figure during early childhood becomes the basis for the inner working model, which lays the foundation for relative stabilization of future characteristic in an individual (5). In other words, if the early attachment figure of an individual is often unavailable or unpredictable in their availability, chronic fear of abandonment may become part of the working model, which may be manifested in future relationships during adulthood.

In summary, early disruption of attachment activates the attachment behavioral system, a systemic alarm reaction assuaged only by contact with attachment figures. Later in life, failure to reduce attachment-related issues and find a "safe haven" in times of external threat could produce a spiraling arousal reaction that lowers impulse control and increases the likelihood of aggression (32).

One of the limitations of the current study was collecting data through self-assessment. In addition, our study population consisted of university students only, which restricted the generalization of our findings.

## Conclusion

According to the results of this study, level of aggression was comparatively lower in secure individuals, whereas it was extremely higher in individuals with ambivalent attachment. Owing to the fact that aggression could be predicted based on the style of mother-infant attachment, the importance of early relationship between mother and infant is highlighted. Therefore, it is recommended that appropriate longitudinal studies be conducted in this regard. Furthermore, pregnant women need to be informed about the effects of different attachment styles on the psychological characteristics of children during adulthood. In the process, new data will be added to the main body of literature, and practical training could be performed as to promote the mental health of community.

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## Conflicts of Interest

The authors declare no conflicts of interest.

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