

Causal model of attachment impact on academic achievement, emphasizing the mediatory of opennessAbas Marzban¹, Nafise Eslamian², Omid Isanejad³¹ Department of Counseling, University of Tehran, Tehran, Iran.² Department of Psychology, Branch of Karaj, Islamic Azad University, Karaj, Iran.³ Department of Psychology and Counseling, University of Kurdistan, Kurdistan, Iran.farhangmad@gmail.com

Abstract: Causal pathway model of attachment impact on academic achievement emphasizing on the mediatory openness has been fitted. Four hundred fifty students from schools of Iran were selected using multi-stage cluster sampling. They answered the following questionnaires: Attachment scale (Armsden Greenberg, 1987), Cognitive openness (Kashdan, 2004); and their academic performance were measured at the end of the academic year 2010-2011. Pierson's correlation coefficient, regression coefficient and pathway analysis were used to analyze the results. The results revealed that the father and friend attachment had a positive and significant relation with cognitive openness and academic progress, but mother attachment did not. On the other hand, cognitive openness had a positive and significant relation with academic progress. The attachment way had a positive and significant effect on academic progress due to cognitive openness.

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1. Introduction

Attachment provides the main pivot of Bowlby's theory (Bowlby, 1973, 1980). The attachment concept shows the child's inclination to have a close relationship with especial people and to have a more secure feeling in their presence. Insource, Blehar, Waters, and Wall (1978) divided the attachment into two main categories of secure and insecure; the insecure attachment into three categories of avoidance-fearful or same as avoidance-agitation, agitation-ambivalent (resistant) and disorganized (Hauzen & shaver, 1987).

The persons who have agitation attachment make a positive model for others and a negative one for themselves. They greatly fear of being abandoned and need a lot to other's acceptance; but those persons who make a positive model of themselves and negative one of others make an avoidance attachment which is the result of their non-responsiveness and avoidance. They fear of sincerity and need much of independence (Park, Crocker & Mickelson, 2004). While the children who have a suitable relationship with their parents and their peers, will have a secure attachment in their adulthood which is related to specifications like sincerity, trust, love and kindness and sincere relationship; but those children with unsuitable attachment show specifications including the fear of sincerity, distrust and infirmity to have a friendly and sincere relationship (Hauzan & Shaver, 1987). Armsden and Greenberg (1987) have also recommended the following effective factors which

form the quality of parent-child attachment: trust, communication and alienation (Armsden & Greenberg, 1987).

Trust is a kind of perception that refers to being well and to perceive goodness. It also increases the assurance in relationship and is a security feeling which originated from all kinds of attachment in adolescents (Armsden & Greenberg, 1987). Relationship is a path in which people communicate through. It is active, no repressible and stable. An effective relationship between children and their parents is vital to a healthy attachment growth. Insource's believes that the persons with safety style of attachment are tranquil in communication and in being in dangerous situations. They do not fear of dangers, because they don't feel themselves alone in dangerous conditions (Milikin, 2000). Since avoidant people are trying to achieve more independence and fear greatly of close relationship with others. Because of fear or being excluded, they avoid sincerity.

Insource et al. also found a firm relationship between the children's attachment quality and the next competence improvement in social relations. For example, continuous studying on adolescents, in the age of 18, showed that those persons with insecure style comparing with secure style were encouraged more frequently with agitation disturbances. The common opinion is that attachment quality has a prolonged impact on many dimensions of child's life including academic achievement (Johnson & Veifan, 2009). Hustinger, Grik, luechen, and linda (2004) in a survey on 973 students showed that a person with

secure attachment, comparing with persons with insecure attachment, show a higher self-confidence and self-esteem, better academic achievement and more healthy functions.

Curiosity emphasizes on people's concentration and motives to explore the new challenging environment (Kashdan & Silvia, 2009). Curiosity makes people seek out personally meaningful interests and desires and thereby that is intrinsically motivating (Deci, 1975). Using 5 independent samples, Kashdan, Rose and Fincham (2004) developed the Curiosity and Exploration Inventory (CEI) comprising 2 dimensions: exploration (appetitive strivings for novelty and challenge) and absorption (full engagement in specific activities). The openness factor and its subscale refer to the experiences aspects or domains to which the person responds in an open and with little resistance manner. Sometime this factor is introduced as a flexible or exploratory-curious factor. The persons with high score in openness are inclining towards vulgar and non-traditional behavior. They are always eager to ask questions and are ready to accept new social, moral and political opinions. It shouldn't conceive that they are abnormal. A flexible person may responsively respond to the values just as traditionalists. In psychologists' view, a flexible person may seem healthier or more matured. But the value of flexibility or inflexibility is depended on situations in which the person is. Each group acts effectively in the society (GarousiFarshi, 2001).

Kashdan emphasizes that those with higher trait curiosity will be more likely actively pursue and take advantage of these varied opportunities that can make for a good day and overtime, a meaningful life (Kashdan et al., 2004). Silvia (2006) also believes that when people are curious, they'll have special attention on functions, will process more deeply the information and persist in their duties till achieving the targets. Curious people show too much interest to learn and explore new subjects and achieve more academic achievement. Attachment theorists consider exploring and learning about the world and developing skills in infants as intrinsic as the attachment motive. On the other hand, secure attachment makes a safety base for a child to identify and explore the environment. It means that it is to increase the openness curiosity. The child's secure base originates from exploration with confidence to observer availability and being respondent (Bowlby, 1973).

According to what mentioned above, this study's hypotheses are as follow:

- 1) Attachment quality affects the openness curiosity.
- 2) Attachment quality affects the academic achievement.

3) Openness affects the academic achievement.

4) Attachment quality, which emphasizes the mediatory role of openness, affects the academic achievement.

2. Methods and Materials

2.1. Procedure

The method for the survey is descriptive and the survey plan is correlation of the path analytic kind. The relationship between variables through casual model has been investigated.

2.2. Participants

The participants were high school students from Sardasht (Iran) during the academic year 2010-2011. They included 3155 boys and 2304 girls. They were selected using multi-stage cluster sampling. Out of all Sardasht schools, 10 schools were selected randomly (5 schools per sex division), and out of each school two classrooms were selected randomly. These students filled in the questionnaires. Using the Cochran formula for sample size determination, the sample was estimated 400 people but 450 questionnaires were distributed in case of any possible problems. At the end 393 questionnaires remained (187 girls and 206 boys).

2.3. Measures

2.3.1. Parent Attachment Inventory

This inventory is to assess the adolescences; perception of positive or negative aspects of affection relationship with parents was created by Armsden and Greenburg (1987) with 50 forms in the form of 5 degrees Likert spectrum. Armsden and Greenburg reported that the 0.93 score of the test validity for attachment to parents in re-test method. The reliability and correlation are verified by calculating the correlation using the tools like conflict, support and adhesion of the family, convergent; life satisfaction; depression; agitation and life events.

2.3.2. Curiosity and Exploration Inventory (CEI)

This scale is based on the seven-question Likert spectrum and seven choices were created by Kashdan (2004) from score 1 (never agrees) to score 7 (always agrees) in two subscales of exploration and absorption. Kashdan reported that the scale's alpha coefficient Cronbach was 0.70. CEI was created to measure the curiosity which had two subscales (exploration and absorption) and the scale includes seven items (Kashdan, 2004).

2.3.3. Academic achievement

Academic achievement was measured using the students' final score average in their school year 2010-2011.

Results

The Pearson correlation coefficient was used to consider the correlation between variables and saturated regression model to consider the

significance. To enter data, Variance-covariance Matrix was used and to assess the direct and indirect affects of attachment's variables and openness on academic achievement, an imagined model based on given background was drawn. Table 1 shows the result of correlation matrix, mean and standard deviation.

Table.1. Correlation matrix, mean and standard deviation

Variable	1	2	3	4	Mean	SD
1) attachment to parents	1				173.27	25.19
2) attachment to friends	.46**	1			87.28	14.94
3) openness curiosity	.51**	.46**	1		32.17	5.34
4) academic achievement	.54**	.45**	.75**	1	16.06	2.16

**p<0.01

As it is clear in table 1, out of those variables correlated with academic achievement, the openness has the highest correlation with academic achievement. Generally, all variables of the survey have positive and significant correlation on the level of 0.01. Attachment to parents has more correlation comparing attachment to friends on academic achievement. Also the attachment to parents and friends' correlation with openness is significant on the level of 0.01.

Table.2. Standard coefficient, t and the significance level of direct coefficient

Path	Standard coefficient	t	p
1)direct effect of attachment to parents on openness curiosity	.373	7.87	.01
2) direct effect of attachment to friends on openness curiosity	.292	6.08	.01
3) direct effect of attachment to parents on academic achievement	.173	4.33	.01
4) direct effect of attachment to friends on academic achievement	.077	1.99	.05
5) direct effect of openness (curiosity) to parents on academic achievement	.630	15.41	.01

Table 2 shows that the effects of attachment to parents and friends on openness and also the attachment to parents and openness on academic achievement on the level of 0.01 are significant and the effect of attachment to friends on academic achievement in the level of 0.05 is significant.

Table 3: Indirect coefficient of attachment on academic achievement

Path	coefficient
the effect of attachment to parents on academic achievement with mediatory of cognitive openness	.021*
the effect of attachment to friends on academic achievement with mediatory of cognitive openness	.027*

*p<.05

Table 3 shows that indirect effect of attachment to parents and friends on academic achievement through openness is significant on the level of p<0.05 and regarding to indirect effect of attachment to parents on academic achievement forming through openness, it can be said that openness plays the mediatory role. Because the model is of saturated regression model and df is zero (0), it doesn't need to mention the model's fit index.

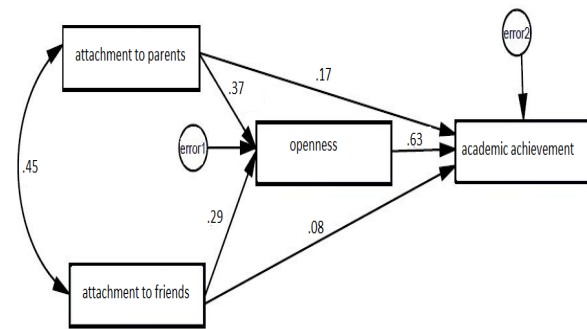


Fig. 1. The regression coefficients of attachment on academic achievement regarding to mediatory role of openness with direct path coefficient

5) Discussion and conclusion

Survey's results (table 1 & 2) showed that attachment quality has positive effect on cognitive openness. Basically, it can be expected that the openness level will increase when attachment level increases. Our results are in line with Man, Wang and Jong's (2003) findings that got into a result in a survey that student's emotion specifications and attachment quality can affect their tendency towards functional or avoidance purposes. They believe in the curious, brave, daring and risk-taker persons who try more to experience learning conditions. The students who escape from negative experiences in learning challenges are less engaged in difficult assignments. These results are the same as Davis's (2011) opinion who says in child's upcoming growth step, especially after the age of one, attachment relation is a base for exploration.

The survey's findings also showed a positive and significant correlation between attachment and

academic achievement. Based on these findings, the increase in academic achievement is expected from increasing in attachment level. This is same and equal to the findings of several researches. Tobman and Fass (2002) say that lower levels of attachment to parents can cause to increase the weakness of academic function in students and higher levels of attachment to parents can cause to more academic achievement. Sharpe (2004) says that motives' growth and providing childhood with other needs, usually by the family, often show themselves by academic achievement.

The findings showed that openness has a positive effect on academic achievement. It means that more openness gets to more academic achievement. This result is same as Seavel's (2002) findings that found a significant and positive relation between openness with selection attention and academic achievement. Hanley, Newsted and White (2002) found a positive and significant relation between openness and academic achievement and attention degree. Wafman, Bowman and Kolhman (2008) found that there is a positive and significant relation among openness and seeking achievement in the work, more stimulation to achieve to the targets and academic achievement.

The findings showed that openness has a mediatory role in relationship between attachment and academic achievement. This is the same as other researchers' findings: Fonagi and Target (1997) say that secure attachment causes to raise the needed self-confidence to take risks, learning and accommodating to upgrade own, other's and the world's samples, so that simplifies the compatibility with new circumstances. Secure attachment causes to boost one's abilities to think deeply about his own functions/behaviors and mental moods. Secure attachment increases to turn back, respond to a cognitive openness and every other mental mood. Mikulincer (1997) says that secure attachment makes the secure base ready for the people and with its mediatory role people can explore their world and respond more compatibly to their environments. The existence of secure base encourages people to explore and have openness to new information. Grossman, Grossman, Kindler and Zimmerman (2008) quote that attachment and exploration-behavioral system operates continuously. If a toddler child had a secure base in his attachment relation, he feels freedom in exploring his around environment with implicit awareness about the availability of his parents in need. Based on the researchers' results and the findings of the current survey in the field of attachment impact on academic achievement, it could get to a conclusion that attachment quality could be used to predict the academic achievement by

educational experts. Regarding to desired impact of attachment quality to predict the academic achievement, it is necessary for the authorities to try to encourage the improvement of the attachment quality and to optimize openness level in family-training plans thus helping to improve the students' mental health.

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