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# Providing a model for predicting aggression in juvenile delinquency based on problem-solving strategies and communication skills strategy

**Azita Amir Fakhrai<sup>\*1</sup>, Rasoul Moalem<sup>2</sup>, Monireh Bayati<sup>2</sup>**

1. Assistant Professor, Department of Psychology, Young and Elite Researchers Club, Bandar Abbas Branch, Islamic Azad University, Bandar Abbas, Iran.

2. M.A of Psychology, Faculty of Humanities, Hormozgan University, Bandar Abbas, Iran.

## A B S T R A C T

The purpose of this study is to provide a model for predicting aggression in juvenile delinquency based on problem-solving strategies and communication skills strategies. This research has been used in terms of purpose and terms of nature and method of correlation. The statistical population includes all juvenile delinquents who were kept in Zarrin Dasht Correctional Center in Fars. 131 adolescents who were present in the reform center in the first six months of 2019 were selected. In this study, three questionnaires, including problem solving style, aggression and communication skills questionnaires were used to collect data. Data were analyzed using descriptive statistics and inferential statistics of Pearson correlation and multivariate regression using SPSS software version 23. The results showed that there is a significant inverse relationship between problem solving styles and aggression of delinquent adolescents ( $P < 0.01$ ). There was also a significant inverse relationship between communication skills and aggression of delinquent adolescents ( $P < 0.01$ ). Based on the results of simultaneous regression, it was shown that among the predictor variables, problem-solving strategies inversely predict the aggression of delinquent adolescents ( $p < 0.01$  and  $Beta = 0.249$ ). Communication skills also predict inverse aggression of delinquent adolescents ( $p < 0.01$  and  $Beta = 0.257$ ). So that 55.4% of the explained variance changes explained the aggression of delinquent adolescents by communication skills and problem solving strategies.

**Keywords:** Aggression, Delinquency, Social factors, Problem solving, Communication skills.

## INTRODUCTION

Aggression is one of the fields that in psychology, researchers have paid attention to and conducted appropriate research in this field and the effect of behavioral problems on academic (Franco, Amutio, López-González, Oriol, & Martínez-Taboada, 2016; Risser, 2013; Vuoksima et al., 2020) and social performance (Kaukiainen et al., 1999; Schlund et al., 2021; Van Schie & Wiegman, 1997), as well as the study of factors such as gender (Rambo et al., 2017; Shin, 2017), personality (Hyatt, Zeichner, & Miller, 2019), social and economic characteristics and factors. Cognitive in the occurrence of behavioral disorders such as aggressive behavior during adolescence has been considered by researchers. In socio-cognitive information processing theory, a defect in one or more of these processes is the root cause of aggressive

\*. Corresponding Author: [afakhraei2002@gmail.com](mailto:afakhraei2002@gmail.com)

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behavior(Castelfranchi & Falcone, 2010; D'Errico & Paciello, 2019). According to this theory, aggressive behavior on the one hand is a way of dealing with everyday social problems and on the other hand defects in coding, interpreting situations, selected goals, generating strategies and evaluating responses, which are key components of the cognitive information processing system(Fogli, Maria Aiello, & Quercia, 2020; Holmes, 2002); And are behavioral, can lead to aggressive behavior. The existence of different theories about aggression shows that this issue is of great importance in different societies and recognizing and explaining it has been one of the priorities of theorists.

Recently, research on personality and its relationship to health and psychological damage has attracted the attention of many researchers. There is also a great deal of empirical evidence that personality traits play an important role in creating, reducing, or eliminating the symptoms of behavioral disorders and social maladaptation(Chakhssi, Bernstein, & De Ruiter, 2014; Gardner, Archer, & Jackson, 2012; Nordahl, Holthe, & Haugum, 2005). It can affect mental health. Indirectly, through the effect on the objective health of individuals, for example through the effect of personality traits on the type of physiological responses of individuals to stress. Second, personality traits have a significant impact on people's assessments of their objective health status. Accordingly, various studies have shown that there is a significant relationship between different personality factors and mental health indicators(Moor, Zimprich, Schmitt, & Kliegel, 2006; Terracciano & Costa Jr, 2004). In examining the cognitive factors affecting the occurrence of aggressive behavior, the problem-solving method is examined. Because the defect in this field is one of the important cognitive reasons for the occurrence of aggression.

Problem solving generally refers to the individual's cognitive-behavioral and innovative process by which the individual seeks to determine, discover, or invent effective and adaptive coping strategies for everyday problems. In other words, problem solving is an important coping strategy that increases personal and social ability and progress and reduces stress and psychological semiotics(D'Zurilla & Sheedy, 1992; Van Loan, Garwood, Smith, & Daunic, 2019; Walker, Hirsch, Chang, & Jeglic, 2017). This study investigates the prediction of aggression in juvenile delinquency based on problem solving strategies and communication skills strategy. Aggression has been defined as one of the problems of adolescence by researchers and theorists with different definitions and it appears in different forms in relation to different factors and variables and due to the effect of these factors. In other words, this concept is related to several variables, among which, problem-solving methods and communication skills strategies are examined in this study.

Adolescence usually begins at the age of eleven and is one of the most critical periods in a person's life, which enters the period of life, the person is faced with many problems. One of the most important of them is committing criminal acts and delinquency. Delinquency is defined as a legal phenomenon and delinquent behavior refers to a set of behaviors that are against the law and norms and harm society and others(Cloward & Ohlin, 2013). Juvenile delinquency is a behavior It is unusual and a form of social deviation, and its spread endangers social life(Rahmatullah & Azhar, 2020; Simmons, Steinberg, Frick, & Cauffman, 2018). For this reason, it has attracted the attention of researchers (sociologist, criminologist and psychologist). Juvenile delinquency with negative psychological, economic and social effects is one of the most important social issues in Iran. Because our country has a large population of adolescents and young people in terms of population structure. One of the consequences that delinquency can bring with it is aggression towards those around it. Since adolescence is a period of transition from childhood to adulthood and a change in emotions(Sheykholeslami, Asadolahi, & Mohammadi, 2017), stress, anxiety, depression and aggression are seen in adolescents (Evans et al., 2016). Aggression is a very complex concept that is influenced by situational factors on the

one hand in psychological and on the other hand by genetic factors (Street et al., 2016). Social psychologists consider the act of aggression as a conscious behavior that aims to inflict physical or mental suffering (Alonso, Esteban, Montoro, & Serge, 2019; DeWall & Anderson, 2011; Stefanile, Matera, Nerini, Puddu, & Raffagnino, 2021). Aggression of delinquent adolescents is influenced by various individual and social factors such as problem solving strategies and communication skills. Problem-solving strategies are an important coping strategy that can enable a person to control everyday problematic situations and their emotional impact, thereby reducing, minimizing or preventing psychological stress (Coie, Terry, Zakriski, & Lochman, 1995; Lansford et al., 2020; Martinelli, Ackermann, Bernhard, Freitag, & Schwenck, 2018; Popma et al., 2007). If this pattern is correct, then the ability to solve the problem is significantly related to the degree of psychological stress. Thus, high problem-solving ability predicts low levels of aggression and consequently high mental health. Another factor affecting the aggression of delinquent adolescents is improving communication skills between adolescents. Aggression and aggressive behavior have adverse effects on the inner state of individuals and, consequently, on interpersonal relationships. On the other hand, the ability to establish effective communication skills with others, leads to desirable growth and flourishing of personality (Ashrafi & Monjezi, 2013; Hejazi, Babakhani, & Sadat Ahmadi, 2018).

According to the presented materials, and considering the current situation of juvenile delinquency in the studied city on the one hand and on the other hand the importance of the issue in general, the need for a scientific study seems necessary. Field observations and preliminary statistics in the study area - Zarrin Dasht city in Iran - show an increase in juvenile delinquency. Due to the lack of coherent and integrated study in this city, the current study can be a good platform for future research. Therefore, the forthcoming research seeks to answer the following questions. Given the importance of the research topic, it seems that such studies can be a good way to reduce this important. The general purpose of the current studies in the first part is to identify aggression, problem solving strategies and communication skills to predict juvenile delinquency. In the second step, we will examine the effect of each of the mentioned characteristics in the form of research tools (questionnaires and library studies) on juvenile delinquency. Finally, it can be seen that the final step and the ultimate goal of the current research is to identify and study the factors affecting the spread of delinquency in adolescents, which will be addressed through scientific tools and practical suggestions will be presented. The hypotheses of this research are:

There is a significant relationship between problem solving strategies and aggression in delinquent adolescents.

There is a significant relationship between communication skills and aggression of delinquent adolescents.

Communication skills and problem-solving strategies predict aggression in delinquent adolescents.

## **METHODOLOGY**

The present study is a descriptive-analytical research. Initially, the research problem was formed after field studies and library studies in the study area. According to the research question, the hypotheses will be examined and during it, the tools and methods of data collection will be considered. After field studies and collecting completed questionnaires and entering information and getting output from it, we will perform analysis to reject or accept the hypotheses. Finally, suggestions appropriate to the final output of the pre-defined tests will be provided. According to the type of study and data collection method (questionnaire), the statistical population includes experts and thinkers in this field. Also, university students,

families of juvenile delinquents and a number of adolescents in the study area are included in the statistical community so that together they can approach the desired result from their response. The statistical population includes all juvenile delinquents who were kept in the correctional center of Zarrin Dasht, Fars city in 2019. The sample size, according to the size of the study city and its villages, is 131 people available among adolescents during the first six months of 2019. They were present at the correctional center, selected and examined. According to the type of study, which is a practical foundation, first library studies (such as studies of relevant books and articles and browsing related Internet sites) to express the use of the problem. Has been.

On the other hand, standard questionnaires will be used to test the research hypotheses. The tool used in the current research will be to measure independent and dependent variables of three questionnaires: aggression, problem solving style and communication skills. The scoring of the questionnaire items will be according to the Likert scale and from one to five.

*The Problem Solving Style Questionnaire (PSS):* This scale was developed by Cassidy and Long (1996) in two stages and has 24 questions that measure six factors and each factor consists of four test items. These factors include helplessness in problem solving or orientation (indicates helplessness in problem-solving situations), problem-solving inhibition or control in problem-solving (reflects the external-internal control dimension in problem-solving situations), style Creative problem solving (represents planning and considering a variety of solutions depending on the problematic situation), confidence in problem solving (expresses belief in the ability to solve problems), avoidance style (indicates a tendency to be rejected from Alongside problems instead of dealing with them) and the style of inclination or approach (shows a positive attitude to problems and a desire to face them face to face). Therefore, the styles of helplessness, restraint and avoidance are subscales of non-constructive problem solving and the styles of tendency, creativity and trust are subscales of constructive problem solving.

*Aggression Questionnaire:* One of the latest organized scientific movements to measure aggression has been the efforts of Buss and Perry (1992), to construct a short, dimensional objective tool. The initial Buss and Perry (1992), consisted of six factors. By combining the two factors of hatred and suspicion, under the title of the factor of hostility and eliminating and modifying a number of questions, they achieved four main factors. This questionnaire was translated by psychologists of Shiraz University and translated with the help of an English language teaching specialist in the same translation university. Then, by comparing the two English texts of the questionnaire (the original text and the text obtained from the Persian to English translation), the necessary corrections were made and the final Persian form was prepared. The four factors of aggression are:

Physical aggression: including questions 1, 5, 9, 13, 17, 21, 24, 26 and 28.

Verbal aggression: including questions 2, 6, 10, 14 and 18.

Anger: Includes questions 3, 7, 11, 15, 19, 22 and 29.

Hostility: including questions 4, 8, 12, 16, 20, 23, 25 and 27.

*Communication Skills Questionnaire:* This questionnaire has 19 questions and its purpose is to assess the level of interpersonal communication skills in different people. Its response range is of the Likert type (very low, low, satisfactory, good, and very good) with a score of 1 to 5 for each option.

To get the total score of the questionnaire, add the total scores of all the questions together. This score will range from 19 to 95. Higher scores indicate higher interpersonal communication

skills in the respondent, and vice versa. But for a more accurate result, the following category can be used to gauge the respondent's interpersonal communication skills:

- Score below 45 acute communication problems
- Score 65 - 46 communication problem
- Score 95 - 66 capable people

## RESULTS

The table below shows the values of independent variables including problem solving styles (helplessness, restraint, creativity, trust, avoidance and tendency) and communication skills and aggression (physical, verbal, anger and hostility) as dependent variables in delinquent adolescents.

**Table 1.** Quantitative description of research variables

| Variables              | Factors         | Mean  | Std. deviation |
|------------------------|-----------------|-------|----------------|
| Problem solving styles | Helplessness    | 15.92 | 2.96           |
|                        | Creativity      | 17.06 | 2.44           |
|                        | Confidence      | 36.4  | 5.45           |
|                        | Approach style  | 36.88 | 5.57           |
|                        | Avoidance style | 22.88 | 3.62           |
|                        | Dominance       | 22.7  | 3.32           |
|                        | Total           | 69.98 | 13.13          |
| aggression             | Physical        | 19.7  | 4.21           |
|                        | Verbal          | 15.96 | 3.46           |
|                        | Anger           | 15.22 | 3.51           |
|                        | Hostility       | 15.16 | 3.21           |
|                        | Total           | 79.28 | 15.34          |
| Communication Skills   |                 | 64.74 | 12.4           |

Multiple regression was used to investigate the linear relationship between predictor variables (communication skills and problem solving strategies) and criterion variables (aggression). Before performing regression, the correlation between predictor and criterion variables was obtained by correlation in the previous step to test the significance of regression in the next step. Considering that the statistic value of Watson camera is in the range of 1.5 and 2.5, so it can be said that the errors are incomplete. Also, the results obtained from the analysis of variance table show that the regression model is significant (significance level less than  $\alpha=5\%$ ).

**Table 2.** Results of Kolmogorov-Smirnov test to check the normality of data distribution

| Variables              | Factors         | Z     | p   |
|------------------------|-----------------|-------|-----|
| Problem solving styles | Helplessness    | 0.39  | 0.9 |
|                        | Creativity      | 0.83  | 0.4 |
|                        | Confidence      | 0.89  | 0.3 |
|                        | Approach style  | 0.78  | 0.5 |
|                        | Avoidance style | 0.59  | 0.8 |
|                        | Dominance       | 0.74  | 0.6 |
|                        | Total           | 0.53  | 0.9 |
| aggression             | Physical        | 0.92  | 0.3 |
|                        | Verbal          | 0.94  | 0.9 |
|                        | Anger           | 0.305 | 0.9 |
|                        | Hostility       | 0.85  | 0.4 |
|                        | Total           | 0.56  | 0.9 |
| Communication Skills   |                 | 0.74  | 0.6 |

According to Table 3, the results show that the assumption of normality for the research variables is confirmed ( $P < 0.05$ ). The results of this test are given in Table 4-3. Therefore, parametric tests can be used to analyze research hypotheses.

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**Table 3.** Summary of regression model

| R     | R <sup>2</sup> | R <sup>2</sup> (adj) | Durbin |
|-------|----------------|----------------------|--------|
| 0.572 | 0.56           | 0.554                | 1.95   |

Predictors: Communication skills and problem-solving strategies

According to Table 3, the results of the analysis showed that, based on the R<sup>2</sup> adjusted value, 55.4% of the variance changes explained by the aggression of delinquent adolescents are explained by (communication skills and problem-solving strategies).

**Table 4.** Analysis of variance of regression model

| Model      | Sum of square | df  | Mean square | F       | Sig.  |
|------------|---------------|-----|-------------|---------|-------|
| Regression | 16172.64      | 2   | 5390.88     | 122.411 | 0.001 |
| Residual   | 5108.55       | 128 | 44.039      |         |       |
| Total      | 21281.2       | 130 |             |         |       |

According to Table 4, regression test statistics showed that the amount of variance in this model is significant, ie predictor variables (communication skills and problem-solving strategies) can explain the change in variance of delinquent adolescent aggression ( $F = 122.411$ ,  $p = 0.001$ ).

**Table 5.** Regression coefficients

|                        | Unstandardized coefficient |            | Standardized coefficient | t     | Sig.   |
|------------------------|----------------------------|------------|--------------------------|-------|--------|
|                        | B                          | Std. Error | Beta                     |       |        |
| Constant               | 28.42                      | 3.89       |                          | 7.3   | 0.0001 |
| Problem solving styles | 0.551                      | 0.175      | 0.249                    | 3.148 | 0.002  |
| Communication Skills   | 0.508                      | 0.134      | 0.257                    | 3.795 | 0.001  |

Based on the results of simultaneous regression showed that among the predictor variables, problem solving strategies inversely predict the aggression of juvenile delinquents ( $p < 0.01$  and  $Beta = 0.249$ ). Communication skills also predict inverse aggression in delinquent adolescents ( $p < 0.01$  and  $Beta = 0.257$ ).

## CONCLUSION

Adolescence usually begins at the age of eleven and is one of the most critical periods in a person's life, which enters the period of life, the person is faced with many problems. One of the most important of them is committing criminal acts and delinquency. Delinquency is defined as a legal phenomenon, and delinquent behavior refers to a set of behaviors that are against established laws and norms and harm society and others. Juvenile delinquency is an unusual behavior and a form of social deviance, and its spread endangers social life. For this reason, it

has attracted the attention of researchers (sociologist, criminologist and psychologist). Juvenile delinquency with negative psychological, economic and social effects is one of the most important social issues in Iran. Because our country has a large adolescent and young population in terms of population structure. One of the consequences that delinquency can have is aggression towards those around you. Stress, anxiety, depression, and aggression are seen in adolescents as adolescence is the period from childhood to adulthood and the development of emotions.

Aggression is a very complex concept that is influenced by situational factors in psychology on the one hand and genetic factors on the other. Social psychologists consider aggression to be a conscious behavior that aims to inflict physical or mental pain and suffering. Aggression of delinquent adolescents is influenced by various individual and social factors such as problem solving strategies and communication skills. Problem-solving strategies are an important coping strategy that can enable a person to control everyday problematic situations and their emotional impact, and thus, reduce, minimize or prevent psychological stress. If this pattern is correct, then the ability to solve the problem is significantly related to the degree of psychological stress. Thus, a high problem-solving ability predicts a low level of aggression and, consequently, a high level of mental health.

Another factor affecting the aggression of delinquent adolescents is improving communication skills between adolescents. Aggression and aggressive behavior have adverse effects on the inner state of individuals and, consequently, on interpersonal relationships. On the other hand, the ability to establish effective communication skills with others, leads to the desired growth and prosperity of personality. Aggression is a behavior that has biological, psychological and sociological aspects. Every theorizing has dealt with an aspect of aggression, so that sometimes we see a conflict between theories. According to Freud, many human actions are determined by instincts, especially sexual instincts. When there is an obstacle to the expression of instincts, the driver of aggression arises. According to this theory, the cause of aggression is usually failure and aggression has a driving force.

In social learning theory, aggression is a learned response. According to this theory, aggression is learned through observation or imitation, meaning that people learn to behave aggressively and their behavior can be replaced with adaptive behaviors. In socio-cognitive information processing theory, a defect in one or more of these processes is the root cause of aggressive behavior. According to this theory, aggressive behavior on the one hand is a way of dealing with everyday social problems and on the other hand defects in coding, interpreting situations, selected goals, generating strategies and evaluating responses, which are the main components of cognitive information processing system and Behavioral, can lead to aggressive behavior. The existence of different theories about aggression shows that this issue is of great importance in different societies and recognizing and explaining it has been one of the priorities of theorists.

Regardless of the views and consequently different definitions of aggression, it has been shown that there are several factors in the emergence and persistence of aggression. For example, biological, psychosocial, personality, family and cognitive factors. Personality and cognitive characteristics (such as problem-solving methods) are two important categories in the field of psychology, and today psychologists have realized the importance of the role of these two factors in the occurrence of maladaptive behaviors. Research has shown that adolescents who are more sensitive in terms of personality structure at this point in life, if their natural desires are not answered positively, are more likely to suffer from mental health problems and abnormalities, including aggression.

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