

Impact of Parent-Child Relationship on Adolescent Risk-Taking Behavior: The Mediating Role of School Connectedness

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Abstract. 785 middle and high school students were polled using the Parent-Child Relationship Scale, the Adolescent Risk-taking Behavior Questionnaire, and the School Connectedness Scale in order to examine the mechanisms underlying the parent-child relationship's influence on adolescent risk-taking action. The findings revealed that (1) parent-child relationship had a considerably negative effect on adolescent risk-taking behavior; (2) School connectedness was a significant mediating variable of parent-child relationship influencing adolescent risk-taking behavior. The findings revealed that both parent-child relationship and school connectedness are significant predictors of adolescent risk-taking behavior, and parent-child relationship can influence adolescent risk-taking behavior by affecting school connectedness. This study has certain guiding significance for the intervention of adolescent risk-taking behavior.

Keywords: Parent-child relationship; Risk-taking behavior; School connectedness; Adolescents.

1. Introduction

Adolescence is an important and special stage in life and a period of a high incidence of risk-taking behavior. Boyer [1] defines risk-taking behavior as engaging in behaviors that may have adverse consequences, with bungee jumping and skydiving being positive and socially acceptable risk-taking behaviors, while problematic behaviors such as smoking, alcohol abuse, and unsafe sex are not. According to the 2015 China Drug Situation Report, by the end of 2015, 43,000, or 1.8%, of the cumulative number of drug users found in the country were under the age of 18. In China, the youth's own barriers to growth and social insecurity caused by risk-taking behavior have become a concern for the whole society. Furthermore, young people between the ages of 11 and 20 are more inclined than kids and adults to take risks because they are experiencing rapid physical and psychological growth with a dramatic transformation. Significant physical changes may lead to negative emotions in adolescents, making them inclined to eliminate their physical discomfort through risk-taking behavior. Psychological characteristics such as the desire for independence, impulsiveness, emotional ups and downs, and instability are also important factors in the increase of adolescent risk-taking behavior [2]. Thus, it is important to investigate the factors influencing adolescent risk-taking behaviors and their influencing mechanisms.

In addition to the physical and mental development of adolescents themselves, factors such as family, peers, and school all play a role in adolescent risk-taking behavior as their sociality continues to develop. Bronfenbrenner's ecosystem theory suggests that microsystems, the innermost environmental systems to which people live and are most often exposed, are constantly changing [3]. The primary microsystems to which adolescents are directly engaged at home and school play a considerable role in their adaptation and development. Of particular concern is the role of the family as the environment to which adolescents are more frequently exposed. The term "parent-child connection" refers to the interpersonal bond developed during interaction between the two parties and is one of the most significant expressions of the quality of interaction between significant family

members (typically parents and their children). In line with attachment theory [4], parent-child relationships have a foundational impact on individuals as the most effective predictors of their adjustment and development. Parent-child relationships affect the psychological health of adolescents through social support and psychological quality [5]. Specifically, adolescent growth is largely influenced by the quality of parent-child connections, [6], while poor parent-child relationships may lead to difficulties in adolescents' adjustment and result in the emergence of negative influences [7]. Previous studies have revealed a positive relationship between poor parent-child relationships and adolescents' substance abuse and aggressive behavior [8]. Thus, parent-child relationship is one of the crucial elements for teenagers to engage in risk-taking behaviors.

One of the characteristics of the growth environment during adolescence is having more school life than family life. Therefore, school connectedness is another important factor that influences adolescent development [9]. The term "school connection" describes the emotional bonds that people form with their schools and their fellow students, which is reflected in the sense of attachment and identity that students feel in school, where they feel cared for, affirmed and supported [10]. Some studies have found that adolescents who have stronger relationships with their parents are better able to participate in school activities [11]. The caring, trustfulness, and open conversation received from parents can facilitate teacher and peer interactions that promote the formation of good self-esteem and help promote positive school behavior patterns [12], therefore leading adolescents to have a sense of belonging when they are at school [13]. School connectedness can help adolescents consciously internalize social norms and promote good qualities and good behavior [14], which in turn discourages risk-taking activities like violence and drug abuse [15]. An important preventive factor for teenage problem behaviors is school connectedness. [16]. Accordingly, the present study proposes the hypothesis that school connectedness mediates the role of parent-child relationships on adolescent risk-taking behaviors. Therefore, the present study hypothesizes that (1) parent-child relationship may predict children's risk-taking behavior, and (2) school connectedness plays a mediating role between them.

2. Method

2.1 Participants

Data were gathered from three middle schools, including junior high and senior high schools, in Xi'an, Shaanxi Province, China, using a random sample method. A total of 1043 questionnaires were distributed. Following the removal of the invalid questions, 985 valid questionnaires were gathered, yielding an effective rate of 94.44%. There were 511 girls (51.88%) and 474 boys (48.12%). The age range for all individuals was 11 to 10 years, with a mean age of 13.82 (SD = 0.54).

2.2 Procedure and Materials

2.2.1 Parent-child relationship

The parent-child relationship scale was created by Buchanan et al. [17] and modified by Zhang et al. [18]. The scale is divided into two subscales: father-child relationships and mother-child relationships, each with nine questions, such as "How open are you when you talk to your father/mother?" The scales were graded on a 5-point Likert scale, with 1 being "not at all" and 5 being "completely." The higher the score, the better the father/mother-child relationship. In the present study, the Cronbach's alpha for this scale were 0.74 (father-child relationship) and 0.70 (mother-child relationship).

2.2.2 Risk-taking behavior

The Adolescent Risk-taking Behavior Questionnaire, developed by Gullone et al. [19] and revised by Zhang et al. [20], was used to evaluate risk-taking behavior. A 5-point Likert scale is used for the 17-item scale (0 for "never" and 4 for "always") and includes four dimensions: recklessness, rebellion, antisocial, and stimulus seeking. Since stimulus seeking involves more positive risk-taking (e.g.,

skiing), this study adopted a similar approach to previous studies [21], using only the three negative dimensions as indicators of risk-taking behavior, and the scores of all items in the three dimensions were the scores of risk-taking behaviors, with higher scores indicating more risk-taking behavior. In the present study, the Cronbach's alpha for negative risk-taking behavior was 0.79.

2.2.3 School Connectedness

In this research, the School Connectedness Scale (SCS) was used, which was developed by Yu et al. [22] and was more appropriate for measuring school connectedness in a Chinese cultural context. The scale includes ten items that assess three dimensions: peer support (4 items), school belongingness, and teacher support. Items are scored on a 5-point Likert scale, with 1 indicating "not at all" and 5 indicating "completely," with higher scores indicating greater school connectedness. In this sample, the Cronbach's alpha was 0.84.

2.3 Data Analysis

The data was analyzed using SPSS 22.0 and AMOS 21.0. To be more specific, SPSS was used to gain descriptive results, which include their variables' average, standard deviation, and correlation coefficient among them. Besides, Amos was used to calculating mediating effect of school connectedness between parent-child relationship and risk-taking behavior, as well as the common method biases of the whole study.

3. Results

3.1 Common Method Biases

Influenced by objective conditions, this study requires subjects to self-report their feelings or performances on various scales, which may lead to a common method biases effect. As a result, the Harman One-way Test was used to test the data for common method bias. According to the results, there are 40 factors with eigenvalues greater than one, and the first factor explains 19.9% of the total variance, which is less than the critical value of 40%, indicating that the common method bias is not significant.

3.2 Descriptive Statistics and Correlation Analysis of Variables

Table 1 shows the descriptive statistics and correlation analysis results for each variable. It is clear from Table 1 that the parent-child relationship is significantly and negatively related to adolescent risk-taking behavior. For instance, the better the parent-child relationship of adolescents, the less risk-taking behavior. At the same time, all three components of school connectedness were also significantly and negatively related to adolescent risk-taking behavior. For example, the higher the degree of school connectedness, the lower the risk-taking behavior of adolescents. This provides support for further testing of the series mediation effect. In addition, parent-child relationships were significantly and positively associated with all three dimensions of school connectedness: peer support, teacher support, and sense of belonging. For example, the better the parent-child relationship, the higher the level of school connectedness among adolescents.

Table 1. Mean, SD and correlation coefficient among main variables

	M	SD	1	2	3
1 Parent-child relationship	3.32	0.67	-		
2 School connectedness	4.08	0.79	0.32**	-	
3 Risk-taking behavior	1.15	0.22	-0.13**	-0.22**	-

Notes: ** $p < 0.01$

3.3 A Test of Mediating Effects of School Connectedness

The mediating function of school connectedness in the association between parent-child relationships and risk-taking behavior was investigated using latent structural equation modeling. The three dimensions of teacher support, peer support, and school belonging were the indicators of school connectedness. And risk-taking behavior was the dependent variable, with three dimensions of recklessness, rebellion, and antisociality as indicators. The mother-child relationship and father-child relationship dimensions were utilized as indicators, while the parent-child relationship served as the independent variable. The model fit results were good, and each fit index was within a reasonable range, $\chi^2/df = 2.87$, GFI = 0.98, CFI = 0.98, NFI = 0.97, IFI = 0.98, TLI = 0.97, and RMSEA = 0.06. The coefficients of each path are shown in Fig. 1. The parent-child relationship did not predict the pro-adolescent risk-taking behavior significantly. A significant predictor of school connectedness was the parent-child relationship, which had a significant positive predictive effect. The effect of school connectedness on risk-taking behavior was also significant, indicating that school connectedness fully mediates the relationship between parent-child and risk-taking behavior. To be more specific, direct effect between parent-child relationship and school connectedness was 0.34, and indirect effect was 0.03, which occupied 44.39% of the total effect.

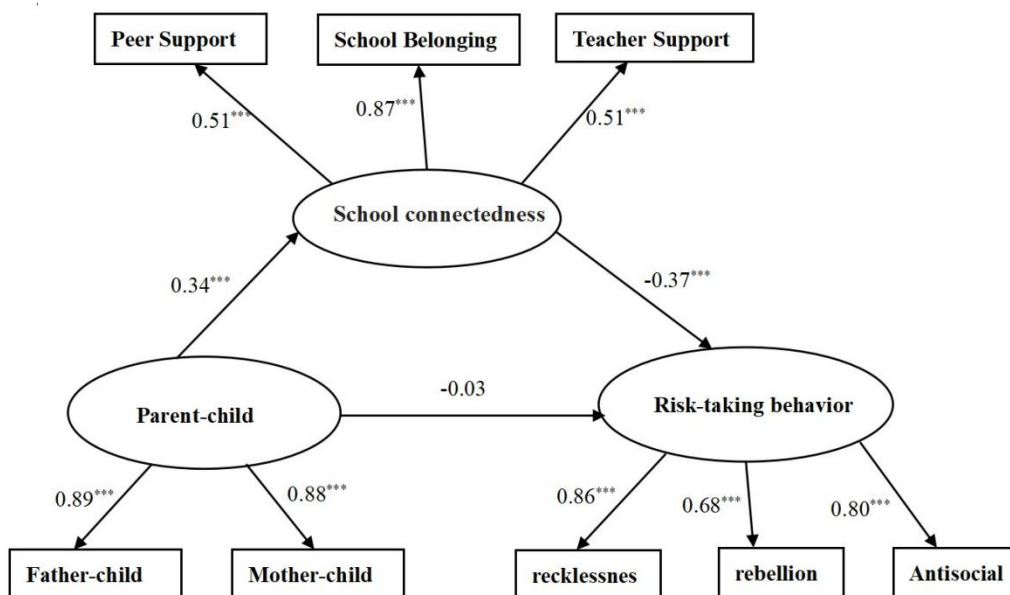


Fig 1. Mediating Role of School Connection between Parent-child Relationship and Risk-taking behavior

4. Discussion

4.1 Influence of Parent-Child Relationships on Risk-Taking Behavior

According to the study, it was found that parent-child relationships do not directly predict risk-taking behavior in adolescents, which is inconsistent with previous research findings. In previous studies, according to the perspective of ecosystem theory, it is believed that family is the microsystem that each individual is most frequently exposed to and has an important effect on the survival and development of individuals and parent-child relationship, a healthy parent-child relationship, which is a key component of the family survival environment, can facilitate the operation of the family microsystem and support individual survival and growth. [3, 6], thus reducing the emergence of risk-taking behaviors. In contrast, according to the results of this study, parent-child relationships do not directly predict adolescents' risk-taking behaviors. The reasons for this analysis are as follows: with the development of our education system, adolescents spend more time with their peers and teachers, such as the boarding school system, which may have shifted the microsystem where adolescents have

the most frequent daily contact from family to school. This means that the impact of the parent-child relationship on individual survival and development is weakened by the influence of the school. In addition, the influence of school is emphasized by the characteristics of the psychological development of the adolescent stage and the educational and disciplinary role that school itself carries.

4.2 Mediating Role of School Connectedness

This study constructs a mediation model, and the results support the existence of a mediating role of the school connection on “parent-child relationships predict risk-taking behavior”, which is consistent with previous research findings. As mentioned above, based on the foundational role of the parent-child relationship in adolescent survival and development [23], school, as the micro-environment that adolescents are more frequently exposed to on a daily basis, has a more direct role in guiding adolescent behavior [10].

Good school connectedness is demonstrated by positive peer support, a high level of school belonging, and mentoring teacher support.

Firstly, peer interaction is an important issue for individuals at this stage of development. Adolescents' psychological development and pro-social behavior are significantly influenced by their ability to form positive relationships with peers and to receive positive support during interaction. When adolescents receive positive information and feedback from their peers in their daily life, this can lead to the development of positive attitudes toward peer interaction, which can, to a certain extent, alleviate and compensate for the lack of other relationships and reduce the development of negative psychology, thus inhibiting the emergence of risk-taking behavior.

Secondly, a high level of school belonging is the factor in this study that best reflects young people's school connectedness and satisfies their need to belong. According to Maslow's hierarchy of needs, the need for belonging and love is at the top of the list of individual needs. When adolescents are faced with the reality of leaving home for school, if schools can provide a high level of belonging, it can to a certain extent alleviate the anxiety and anxiety of leaving the familiar environment of home, increase adolescents' psychological capital, improve their risk resilience in the face of peer interaction and academic influences [24], thus reducing negative emotions and psychology, and reducing the emergence of risk-taking behavior.

Finally, teacher support guides young people's behavior and has an educational role in guiding them toward positive rather than risk-taking behavior. In addition to the subtle role, teachers play in teaching young people, they also play a direct and positive role in teaching and guiding young people's behavior. Both in terms of the identity of the teacher in relation to the young person and in terms of the teacher's own teaching role, teachers play a strong role in regulating and guiding the support of young people's behavior. As a result, guided teacher support can have an avoiding effect on the emergence of risk-taking behavior in adolescents.

4.3 Limitations and Prospects

This study also has the following flaws. For starters, this is a cross-sectional investigation. and lacks continuity. It cannot monitor the long-term changes in adolescents' risk-taking behavior at different stages of development, nor can it predict the trend of their behavior in the future. Secondly, this study is a questionnaire survey rather than an experimental study, so the control of the variables is not rigorous and standardized enough to draw cause-effect relationships, but only a correlation. In addition, this questionnaire is self-reported by adolescents, and the results may have some discrepancies from the real situation.

Furthermore, we originally had a hypothetical variable of “peer influence resistance” at the beginning of this study but eventually dropped it as the study progressed for the following reasons: (1) peer influence resistance is not easy to quantify, based on the current research it is uncertain whether it is a state or an ability, domestic researchers rarely use this variable, and the relevant explanatory literature that can be found is limited; (2) the original English version of the scale was found, but some adjustments were made to the way the questionnaire was used, and the final data

recall was not satisfactory. Peer influence and other variables associated with it could be explored further in the future, as well as focusing on variables in school control and management.

Nevertheless, this study presents a mediating model to investigate the relationship between parent-child relationships, adolescent risk-taking behavior, and its mechanisms of action in a broader context. It serves as a baseline for prevention and positive guidance to reduce adolescent risk-taking behavior.

5. Conclusion

Parent-child relationships have a direct effect on the development of risk-taking behaviors in adolescents, which means parent-child relationships positively predict the emergence of adolescent risk-taking behaviors.

Parent-child relationships influence adolescent risk-taking behavior via the apparent mediating function of school connectedness, and good parent-child relationships increase adolescents' emotional connectedness to school, which leads to a decrease in adolescent risk-taking behavior.

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