

Analytical Study of Cognitive Emotion Regulation on Parental Psychological Control and Adolescent Suicidal Behavior

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Abstract. Purpose: To explore the effects of parental psychological control on adolescent suicidal self-injurious behavior and the mediating role of negative cognitive emotion regulation strategies. METHODS: The Parental Psychological Control Scale, the Cognitive Emotion Regulation Questionnaire, and the Adolescent Self-Injurious Behavior Questionnaire were administered to 583 middle school students. Results: (1) Parental psychological control, negative cognitive emotion regulation strategies, and suicidal behavior were positively correlated; (2) Negative cognitive emotion regulation strategies mediated parental psychological control and suicidal behavior; and (3) Negative cognitive emotion regulation strategies mediated parental psychological control and suicidal self-injurious behavior.

Keywords: Parental Psychological Control; Suicidal Self-injurious Behavior; Cognitive Emotion Regulation Strategies.

1. Introduction

Suicide, a major public health problem worldwide, is the second leading cause of human death globally, and as the second leading cause of death among adolescents aged 10-19 years [1], the global prevalence of suicidal behavior has risen by nearly 60% in the past 49 years, despite the adoption of a variety of suicidal intervention strategies to prevent suicidal behaviors, with the highest risk group in one-third of countries being young people. In one third of the world's countries, the group at highest risk of suicide is young people [2].

Suicidal behavior is relatively rare in childhood, but the incidence of suicide among adolescents increases with age. While the childhood suicide rate is only about 0.7/100,000 [3], the incidence of suicide among adolescents aged 15 to 19 years has risen sharply to about 7.4/100,000, and suicide has become the second leading cause of death among adolescents and their adult counterparts globally [4]. Suicidal behavior is the result of family or environmental dysfunction, and the environment in which an individual lives can unintentionally support and reinforce suicidal behavior. Empirical studies have shown that parental psychological control is strongly associated with adolescent suicidal behavior. Parental psychological control (parental psychological control) refers to a negative parenting behavior in which parents use controlling strategies such as emotional neglect, induced guilt, and withdrawal of love to invade their children's psychological world, inhibit their children's psychological autonomy, and force their children to obey their parents". According to the interpersonal/systemic model [5], parental psychological control will bring tremendous internal pressure to individuals (e.g., to obtain a sense of value, avoid guilt, shame, etc.). This leads to the development of many internalized problems called. Individuals are more likely to engage in suicidal behaviors in order to express dissatisfaction or to divert attention from family dysfunction caused by parental psychological control. Adolescents are in the process of "separation-individualization" and desire to maintain a certain distance from their parents and achieve independence. However, psychologically controlling parents impose their own demands and wishes on adolescents, restricting the necessary space for them to explore and express their individuality, and impeding the fulfillment of the need for autonomy, which increases the likelihood of adolescents' non-suicidal self-injurious behavior. . Therefore, this study proposes Hypothesis 1: Parental psychological control positively predicts adolescent suicidal behavior.



Cognitive emotion regulation, which can also be called cognitive coping, i.e., managing emotional information from a cognitive perspective, mainly refers to the cognitive efforts made by individuals when dealing with life events from internal or external sources that exceed the burden of their own resources. A series of studies conducted by Dutch scholars such as N. Garnefski found that cognitive emotion regulation is closely related to depression, and that cognitive emotion regulation is the best cognitive indicator for predicting suicidal behavior in adolescents. In addition, suicidal behavior, negative emotions such as tension and anger, conduct disorder, aggressive behavior, negligent or bipolar behavior, and suicide are all related to the cognitive emotion regulation strategies used by individuals.

Research has shown that when psychologically controlling parents create a coercive, unpredictable, and negative family emotional climate, this family emotional climate results in individuals having difficulty developing effective emotion regulation strategies. According to the affect regulation model (the affect regulation model), suicidal behaviors can help individuals to quickly relieve strong negative emotions or aversive emotional arousal in a short period of time. In a comparative study between self-injurers and non-self-injurers, significant differences were also found in the self-blame and catastrophizing dimensions of negative cognitive emotion regulation strategies. Therefore, the present study proposes Hypothesis 2: Negative cognitive emotion regulation strategies mediate the effects of parental psychological control on adolescent suicidal behavior.

However, there is still a gap in research on the relationship between cognitive emotion regulation on parental psychological control and suicidal behavior at home and abroad. This study will understand the relationship between suicidal behavior of adolescent students and parental psychological control, as well as the characteristics of cognitive emotion regulation of suicidal behavior groups, to further explore the relationship between cognitive emotion regulation of adolescent students and suicidal behavior, in order to provide a reference basis for the prevention and intervention of suicidal behavior of adolescent students.

2. Methodology

2.1. Subjects

In this study, students at all stages of junior high school and senior high school in a district of Tianjin City were the subjects, and the principle of random sampling was used to select the student groups of your four middle schools, two in each of the junior high and senior high schools,, and the questionnaires were strictly controlled for additional variables in the process of distributing them, uniformly distributing them, uniformly instructing them, and uniformly recovering them. Consent was obtained from the school and classroom teachers before administration, and consent was obtained from the students on the basis of explaining the purpose of the questionnaire to them. A total of 647 questionnaires were distributed and 583 valid questionnaires were collected, with an effective recovery rate of 92.2%. The age range was between 11 and 17 years old (300 males and 283 females). All subjects were free from serious mental illnesses The study was approved by the academic ethics committee of the institution where the study was conducted.

2.2. Research Tools

2.2.1. Parental Psychological Control Scale

The Chinese version of the Parental Control Questionnaire (PCQ) developed by Yang et al.[6] (2007) was used, and the psychological control subscale of the PCQ was used with a total of 18 questions, 10 questions measuring guilt steering (e.g., "When I don't do things the way my parents expect me to do them, they tell me that I should be ashamed of myself."), five questions measuring love withdrawal (e.g. "If I don't see things the way my parents see them, they don't treat me very kindly"), and 3 questions measuring power arbitrariness (e.g., "Telling me that what they want me to do is what's best for me and that I shouldn't have to be suspicious about it"). Each question was evaluated

individually by the student in light of the parent's actual situation, using a 5-point scale, with "very much not in line" scoring 1 and "very much in line" scoring 5, with higher scores representing higher levels of parental psychological control. The internal consistency coefficient of the scale in this study was 0.84.

2.2.2. Cognitive Emotion Regulation Questionnaire (CERQ)

The scale was modified from the Cognitive Emotion Regulation Scale developed by Dutch scholar N Garnefski[7] , which is a self-report scale specifically designed to measure an individual's feelings and thoughts after experiencing a negative event. The scale is based on a 5-point scale, with scores ranging from 1-5, from "never" to "always", respectively. Higher scores on the subscale indicate that the individual utilizes this cognitive emotion regulation strategy more often. The scale was administered in the Netherlands, and most of the Cronbach's alpha coefficients exceeded 0.70, and some subscales even exceeded 0.80, with good construct validity. The revised Chinese version of the CERQ consists of 32 items divided into 8 dimensions: self-blame, tolerance, contemplation, positive adjustment, positive thinking, self-soothing, catastrophizing, and blaming others. In this study, the Cronbach's alpha coefficients of the total CERQ scale and its 8 subscales were 0.87, 0.72, 0.66, 0.67, 0.67, 0.87, 0.62, 0.81, and 0.72, respectively, which were in the range of 0.62-0.87, with good reliability.

2.2.3. Suicidal Behavior Scale

The Adolescent Self-Injury Questionnaire (ASIQ), which was adapted from Zheng Ying's questionnaire at[8] , has 19 items. Except for question 19, which is an open-ended question asking about the type of self-injury and the severity of the self-injury, the remaining 18 items cover the types of behaviors that individuals intentionally injure themselves with suicidal intent that are common among adolescents (including college students). This questionnaire examined the frequency of each type of suicidal behavior in the past and the severity of physical injury caused by the behavior, respectively. The frequency of each type of self-injury was scored on a 4-point scale, i.e., 0 times, 1 time, 2-4 times, and 5 times and more (coded as 0~3) The severity of physical injury was scored on a 5-point scale, i.e., none, mild, moderate, severe, and very severe (coded as 0~4). In this study, the cumulative total score of self-injurious behaviors of college students was obtained by calculating the sum of the products of frequency and severity scores of self-injurious behaviors, and the higher total score indicated the more severe self-injurious behaviors of the subjects. It has been shown that this questionnaire is applicable to the Chinese college student population and has good reliability and validity (Chen Hong et al., 2020; Lin Lin et al., 2020). In this study, the internal consistency coefficient of the scale was 0.94.

2.3. Statistical Methods

Data were analyzed using SPSS 25.0 statistical software. Descriptive statistics and correlation analysis were first performed on the study data. Based on this, the mediating effects of negative cognitive emotion regulation strategies were further analyzed using Model 4 of PROCESS.

3. Results

3.1. Control and Testing of Common Method Deviations

In order to reduce the common methodological bias associated with the self-reported questionnaire method, this study firstly, procedurally controlled the data collection process by emphasizing anonymity and confidentiality; secondly, the effect of procedural control was examined using the Harman's one-way method.³ Exploratory factor analyses were conducted to examine the three variables together. The results showed that. There were 9 factors with eigenroots greater than 1 and the first factor explained 27.06% of the variance, which was lower than the 40% criterion, indicating that the data of this study did not suffer from serious common method bias.

3.2. Descriptive Statistics and Correlation Analysis

In the present study sample, 45.28% (n=264) of the secondary school students had committed at least one suicidal behavior in the past year, which is within the range of detection rate of suicidal behavior in general adolescents, including 105 (39.77%) boys and 159 (60.23%) girls. The results of mean, standard deviation and correlation analysis of the variables are presented in Table 1. The correlation coefficients between the main study variables ranged from 0.196 to 0.335 (p<0.001). There was a significant positive correlation between parental psychological control, negative cognitive emotion regulation strategies, and homicidal behavior both two.

Table 1. Descriptive statistics and correlation matrix for each variable (n=583)

	M	SD	1	2	3
1 Parental psychological control	2.86	0.89			
2 Cognitive emotion regulation	2.54	0.92	0.335***		
3 Suicidal behavior	1.69	1.82	0.196***	0.321***	

3.3. Moderated Mediation Model Test

3.3.1. Multifactorial Binary Logistic Regression Analysis of Suicidal Behavior and Emotional Regulation Difficulties

Binary logistic regression was conducted with suicidal behavior as the dependent variable and the DERS factors as the independent variables, while gender, age, suicidal behavior, parental heart control, as the control variables, and stepwise analysis was used to select the best model based on the model fit index and the number of variables. The results showed that the DERS factors of emotional perception difficulty (OR=1.167, P<0.01) and suicidal behavior (OR= 1.082, P<0.05) were independent risk factors for suicidal behavior, and gender (OR=2.992, P<0.05) and suicidal behavior emotion (OR=1.075, P<0.05) were also independent risk factors, as shown in Table 2.

Table 2. Multifactorial binary logistic regression analysis of suicidal behavior and emotional regulation difficulties

considerations	B-value	SE value	Wald value	P-value	OR value	95% CI
distinguishing between the sexes	1.096	0.444	6.088	<0.05	2.992	1.253-7.146
(a person's) age	-0.137	0.090	2.329	>0.05	0.872	0.732~1.040
Parental mind control	0.121	0.295	0.169	>0.05	1.129	0.633-2.013
Emotional response acceptance difficulties	0.054	0.037	2.157	>0.05	1.055	0.982~1.133
suicidal behavior	0.079	0.036	4.925	<0.05	1.082	1.009~1.160
Difficulty in emotional perception	0.155	0.041	14.039	<0.01	1.167	1.077 to 1.265
Difficulty with emotional understanding	-0.059	0.056	1.121	>0.05	0.943	0.846~1.051
constant	-7.485	2.001	13.992	<0.01	0.001	"one" radical in Chinese characters (Kangxi radical 1)

The results of the Boot-strap test corrected for bias showed that the mediating effect of negative cognitive emotion regulation strategies was significant, with a mediating effect value of 0.09, a 95% confidence interval of [0.05, 0.16] (excluding 0), and a mediating effect of 27.27% of the total effect. This suggests that parental psychological control can have both a direct effect on adolescent suicidal behavior and a mediating effect through negative cognitive emotion regulation strategies.

4. Discussion

This study explores the analysis of cognitive emotion regulation on parental psychological control and adolescent suicidal behavior in secondary school adolescents, controlling for common influencing factors such as gender and negative emotions. Using stratified whole group sampling method, 583 middle school students were selected in four middle schools for the survey, and the results of the study showed that: when emotion regulation skills are more perfect, even if there is a high level of negative emotions, they will not use poor emotion regulation means such as suicidal behavior; while most of the adolescents have emotion regulation deficiencies, such as high emotional impulsivity, limited regulation strategies, etc., and in the absence of adaptive emotion regulation skills, suicidal behavior may be used as a compensatory strategy to cope with overwhelming emotions. It is manifested in the use of suicidal behavior to distract oneself from pain and to regain a sense of control and self-efficacy. Specifically:

(1) There was a two-by-two significant positive correlation between parental psychological control, negative cognitive emotion regulation strategies, and suicidal behavior;

The correlation analysis between parental psychological control and adolescents' cognitive emotion regulation strategies showed that paternal psychological control was significantly positively correlated with negative cognitive emotion strategies, and insignificantly correlated with positive reappraisal strategies: paternal psychological control was significantly positively correlated with suicidal behaviors, negative cognitive emotion strategies were significantly positively correlated with suicidal behaviors, and insignificantly correlated with positive reappraisal strategies. The above results suggest that the higher the degree of parental psychological control, the more likely adolescents are to adopt catastrophizing negatively perceived emotion regulation strategies when facing negative situations. The results of this study are consistent with the findings of Lin Pingping^[9] et al. This study concluded that the higher the degree of parental psychological control, the more negative emotion regulation strategies adolescents use, and that negative cognitive emotion regulation strategies mediate the relationship between parental psychological control and depression. High parental psychological control makes it difficult for adolescents to actually feel parental care, and when they are faced with negative events, they tend to feel isolated and think that it is difficult for them to get through them, and thus use negative cognitive emotion regulation strategies, while positive cognitive emotion regulation strategies are more related to the caring dimension of parenting styles.

(2) Negative Cognitive Emotion Regulation Strategies Mediate Significantly Between Parental Psychological Control and Suicidal Behavior

The analysis of the relationship between parental psychological control, high school students' cognitive emotion regulation strategies and suicidal behavior, we learned that parental psychological control affects high school students' suicidal behavior paths are divided into two, i.e., the direct path and the indirect path. The direct path is that parental psychological control directly affects the level of suicidal behavior of high school students: the indirect path is that parental psychological control indirectly affects the level of suicidal behavior of high school students through high school students' cognitive emotion regulation strategies.

As tested by data analysis, cognitive clarity strategy plays a partial mediating role between parental psychological control and suicidal behavior, with a mediating effect value of 2.001. Parental psychological control has an indirect positive effect on the level of suicidal behavior through

catastrophizing strategy, i.e., the higher the level of parental psychological control, the more the high school students tend to use negative cognitive emotion regulation strategy, and this negative cognitive emotion regulation strategy affects the high school students' suicidal behavior level and make high school students' suicidal behavior level increase.

Therefore, it can be concluded that negative cognitive emotion regulation strategies mediate the effect of parental psychological control on suicidal self-injurious behavior in adolescents.

Nonetheless, this study has a number of shortcomings, firstly the sample size may be insufficient. Secondly, this study involved one of the parents in the study, if both parents were involved it may have improved the limitations of the results. In future work, relevant research will continue to be conducted on adolescent behaviors with suicidal behaviors to compensate for the inadequacies of this study.

5. Recommendation

In recent years, the State has paid more and more attention to the development of psychological education, especially to the mental health of adolescents, which has been increasing year by year. Suicidal behavior, as one of the most common emotional problems among adolescents, affects their learning and life. Suicidal behavior is affected by many factors, the most important of which include external growth environment and internal cognitive factors.

Individuals with different home environments and parenting styles will use different cognitive methods to regulate their emotions when facing negative events. In a family environment with low parental psychological control, high school students are more likely to form well-adapted positive reappraisal strategies, and when faced with negative events, they tend to take the initiative to think about the positive significance of the event, positively assign meaning to it, and try hard to try to solve the problem and overcome the difficulties. Some related studies have shown^[10-12] that warm and caring parenting style can act as a protective factor, which can reduce the use of catastrophizing strategies and thus reduce the experience of suicidal behavior when individuals face negative events. High school students with high parental psychological control usually lack self-confidence, have low self-efficacy, and poor independence, and tend to use maladaptive catastrophizing strategies when facing negative events, in which the individual will pay too much attention to and exaggerate the severity and negative influence of the negative events, and indulge in bad emotions that are difficult to get out of, and over time tend to have a low self-assessment of their own abilities, and believe that they can do nothing well, increasing the level of suicidal behavior. The level of suicidal behavior increases.

Understanding the direct relationship between the three is instructive and thought provoking for real life. Parents in parenting adolescents should try to avoid the use of psychological control to reduce the frequency of its occurrence, without the use of love withdrawal, guilt guidance and other means, more warm, supportive, encouraging and reasonable parenting style. This is conducive to the cultivation of adolescents in the face of negative events can use well-adapted positive cognitive emotion regulation strategies, maintain a positive and healthy state of mind, reduce suicidal behavior emotional processing ability, the emergence of emotions, to help high school students better growth and development.

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