

The Relationship Between Middle School Students' Parent-Child Relationship and Academic Achievement: The Mediating Role of Gratitude

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Abstract: *To examine the association between parent-child relationship and academic achievement and to explore the mediating role of gratitude in this association, this research selected 424 middle school students in China to complete psychometric scales. The results showed positive correlations among parent-child relationship, gratitude and academic achievement; gratitude partially mediated the relationship between parent-child relationship and academic achievement. The results indicated that a good parent-child relationship could help middle school students improve their academic achievement not only directly but also indirectly by improving their gratitude.*

Key words: *parent-child relationship; academic achievement; gratitude*

1. Introduction

1.1 Academic Achievement

Academic achievement refers to achievements in school studies. In early adolescence, middle school students not only experience dramatic physical and psychological changes (Hou, 2016; Li, Zou, & Zhao, 2003; Ma, Zou, & Zuo, 2007) but also face a significant turning point in school (Chen, 2010), which is likely a stressful part of their lives. Furthermore, middle school students experience increasing pressure in their studies and interpersonal relationship, which may trigger difficulties with school adjustment to some extent. Studying occupies a major part of students' lives, and academic achievement can be considered one of the most important criteria of school adjustment (Huang, Cai, Liu, Zhang, & Gong, 2015). School adjustment refers to the smooth and successful participation in school activities (Ladd, Kochenderfer, & Coleman, 1997). Middle school students who easily adapt to school life are more likely to complete their studies successfully, which is vital for their future development (Zhang, Liang, Deng, & Lu, 2014).

1.2 Influence of the Parent-child Relationship on Academic Achievement

Many domestic and foreign studies have found that during early adolescence, parent-child relationship and the family environment strongly influence academic achievement. Good parent-child relationship and a positive family environment could lead to better achievement in school (Wu, Tseng, Wu, & Chen, 2016). Communication between parents and children is more effective in families with good parent-child relationship and a positive family environment. Consequently, children in these families can receive timely help from their parents to address academic challenges (Chi & Yu, 2012; Wen, Zhang, Li, Yu, & Dai, 2010). In contrast, bad parent-child relationship and a negative family environment can lead to academic challenges. For example, parent-child intimacy tends to decrease as a result of frequent parent-child conflicts, which can affect children's behaviors, emotions and goal achievement. Thus, bad parent-child relationship and a negative family environment are likely to influence children's academic achievement (Ye & Bai, 2002).

1.3 Influence of Gratitude on Academic Achievement

Gratitude is defined as a type of positive emotion that occurs after individuals receive help or obtain positive experiences and outcomes as a result of others' actions, followed by grateful emotions to this benevolence (McCullough, Emmons, & Tsang, 2002; Yu, Zhang, Li, & Xiao, 2010; Wood, Froh, & Geraghty, 2010). According to previous studies, gratitude, which is considered as a positive personality trait, is positively correlated with academic achievement; thus, middle school students who have higher levels of gratitude than their peers tend to demonstrate more academic success (Froh, Bono, & Emmons, 2010; Wang, D., Wang, Y. C. & Tudge, 2015; Wen et al., 2010; Ye, Yang, & Hu, 2013). However, while academic achievement was included as one of several dependent variables, the above-mentioned studies did not mainly focus on academic achievement, and the lack of more objective achievement data further limits these studies (King & Datu, 2018). In the current study, student's academic achievement was obtained through strict examinations, resulting in a higher validity.

When adolescents are introduced to a new school environment or have to address academic problems, the personal resources that they have built and broadened through

gratitude can improve their ability to adapt to school life, endure pressure during their studies and excel academically (Fredrickson & Joiner, 2002; McCullough et al., 2002; Sun, Jiang, Chu, & Qian, 2014). This process is compatible with coping theory, which suggests that grateful people are more likely to seek and use both instrumental and emotional social support that can serve as personal resources (Wood, Froh, & Geraghty, 2010). Additionally, coping theory posits that people with a high tendency toward gratitude are more likely to use a more positive coping style when they are at risk. Hence, middle school students with high levels of gratitude tend to adopt more positive coping strategies to cope with learning difficulties, solve learning problems and achieve academic success (Yu, Wu, & Liu, 2011; Yu et al., 2010).

1.4 Associations Among Parent-child relationship, Gratitude and Academic Achievement

Ecological systems theory suggests that individuals are embedded within a series of environmental systems in which individuals and environmental factors interact; thus, in addition to environmental factors, intrinsic individual factors can have an impact on individuals' development (Liu & Meng, 2009; Shaffer & Kipp, 2013). Middle school students with good parent-child relationship tend to show higher levels of gratitude (Wang, Yu, Zeng, Ye, & Zhang, 2011). More specifically, families with good parent-child relationship often employ good family educational methods and have a harmonious family atmosphere, both of which could contribute to the development of adolescents' perceptual skills; in turn, these enhanced perceptual skills might make it easier for adolescents to perceive the benefits and help given by others, which benefits their positive psychological tendencies and may encourage them to show more gratitude (Wang et al., 2011).

1.5 Purpose

Early adolescence is a vital stage during which individuals start to form and develop their sense of gratitude, and during this significant period, individuals begin to recognize the benefits of others' friendly behaviors and experience grateful emotions (Bono & Froh, 2009; Froh et al., 2010; Yu et al., 2010). Previous studies have found pairwise correlations among academic achievement, parent-child relationship and gratitude. More specifically, a good parent-child relationship can promote the development of gratitude and academic achievement, and gratitude can promote academic achievement. Furthermore, gratitude as a personality trait is likely to be considered a proximal factor affecting the academic achievement of middle school students. Thus, this study explores the current condition of gratitude in Chinese adolescents and then tests the hypothesis that gratitude might play a mediating role in the relationship between parent-child relationship and academic achievement.

2. Methods

2.1 Participants

In total, 424 Chinese middle school students participated in our questionnaire survey study.

The sample consisted of 232 boys (54.7%) and 192 girls (45.3%). Almost 28.8% of the students were in the first grade, 22.4% of the students were in the second grade, 21.7% of the students were in the third grade and 27.1% of the students were in the fourth grade of middle school. Participants ranged in age from 11 to 16 years old ($M=12.93$, $SD=1.42$).

2.2 Measures

The *parent-child relationship* was measured with twenty-six items (seven reverse coded) from the Middle School Students' Parent-Child Relationship Scale (Wu, Guo, Huang, & Li, 2011). The items reflect the following four major dimensions of the relationship between parents and children: understanding communication, excoriation and interference, affection and respect, and forgiveness. The participants indicated their responses using a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree); the total scores could range from 0 to 130, and higher scores indicate a more harmonious relationship. In the current sample, the overall Cronbach's α was 0.902. The CFA results indicated that the data generally supported the four-factor structure of the parent-child relationship ($\chi^2/df= 2.034$ ($p<0.001$), CFI=0.911, TLI=0.901 and RMSEA=0.049 with 90% CI [0.044,0.055]).

Gratitude was assessed using the Gratitude Questionnaire 6 (GQ-6; McCullough et al., 2002). The GQ-6 was designed mainly to measure gratitude in adolescents. The GQ-6 includes six items (two reverse coded), such as "I have so much in life to be thankful for" and "I am grateful to a wide variety of people". Each item is rated on a seven-point scale ranging from 1 (strongly disagree) to 7 (strongly agree); the scores are computed to produce a single score ranging from 0 to 6, and higher scores represent greater levels of gratitude. The scale has been back-translated by researchers from the Chinese University of Hong Kong and repeatedly used in studies involving participants with a Chinese cultural background (Wang et al., 2011). The Cronbach's α of this scale in the current study was 0.734. The construct validity of this scale was acceptable ($\chi^2/df= 2.473$ ($p<0.001$), CFI=0.983, TLI=0.964 and RMSEA=0.059 with 90% CI [0.024,0.095]).

Academic achievement All Chinese middle school students take final examinations at the end of each semester. These examinations may be given in Chinese, math, English, history and other courses that the student took that semester, and the grades on these examinations provide a unique measure for assessing students' academic achievement. The participants' final examination grades were obtained from their teachers and transformed into Z-scores within the participant's grade to reflect their academic achievement.

2.3 Procedure and Analysis Plan

The participants completed the psychometric scales in their classrooms with the consent of the school leaders and their parents. Carefully trained psychology undergraduates explained the purpose, risks and benefits of the study to the participants, who were then asked to carefully read the instructions and sign the consent form before independently completing the scales. The participants were also informed that they could choose to not continue the research at any time. The entire process took approximately fifteen minutes, and all scales were returned.

SPSS 19.0 and AMOS 20.0 software were used to enter, manage and analyze the data; the statistical analyses performed included a correlation analysis and structural equation model analysis.

3. Results

Parent-Child relationship, Gratitude and Academic Achievement

A correlation analysis was conducted to examine the associations among each measure of parent-child relationship, gratitude and academic achievement. Table 1 reports

the correlations among the major variables. Parent-child relationship and gratitude were significantly and positively correlated with academic achievement. Parent-child relationship was also positively correlated with gratitude.

Table 1. Correlation coefficients, means and standard deviations of the main variables.

	<i>M</i>	<i>SD</i>	1	2	3
1 Gratitude	5.66	0.91	1		
2 Parent-child relationship	3.52	0.61	0.484 **	1	
3 Academic achievement	-0.00	0.97	0.203 **	0.180 **	1

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

First, the current study examined the ability of parent-child relationship to predict adolescents' academic achievement. The results showed that parent-child relationship can positively predict academic achievement ($\beta=0.18$, $p<0.001$).

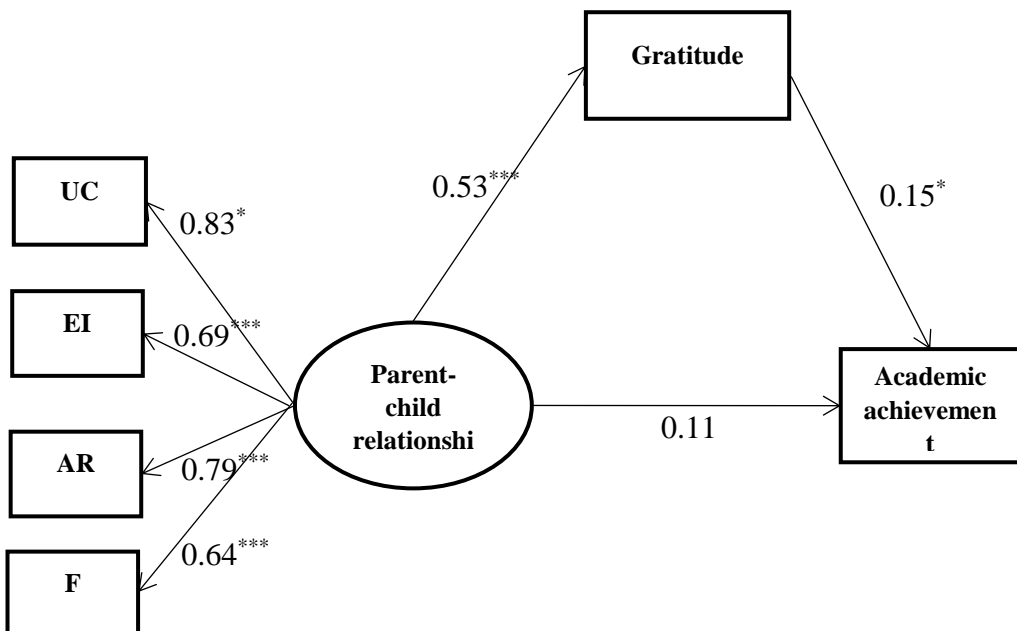


Figure 1. Influence of parent-child relationship and gratitude on academic achievement. Note. UC= understanding communication, EI=excoriation and interference, AR=affection and respect, F=forgiveness.

Then, based on the previous assumptions, the following mediation effect model was established (see Figure 1). The fit indices of the model were as follows: $\chi^2/df=0.991$ ($p<0.001$), CFI=1.000, TLI=1.000, GFI=0.994, NFI=0.989 and RMSEA=0.000. According to the results, parent-child relationship had a significant influence on gratitude

($\beta=0.53$, $p<0.001$). In addition, gratitude significantly predicted academic achievement ($\beta=0.15$, $p<0.05$). However, the predictive effect of parent-child relationship on academic achievement in middle school students became insignificant ($\beta=0.11$, $p>0.05$).

In addition, we used bias-corrected bootstrap tests to examine whether the path parent-child relationship-gratitude-academic achievement was significant. The bootstrap results showed that the 90% confidence intervals [0.008, 0.267] of the path did not include 0, indicating that the intermediary effect was significant. Thus, gratitude acted as a partial mediator (12.6% mediation) of the relationship between parent-child relationship and academic achievement.

4. Discussion

4.1 Effect of Parent-Child relationship on Middle School Students' Academic Achievement

The parent-child relationship is the first interpersonal relationship encountered in an individual's life; in this relationship, children can communicate with their parents intimately and smoothly, while parents show a full understanding and support their children (Wu et al., 2011). Such high-quality communication, which is based on a harmonious parent-child relationship, is positively associated with students' academic performance (Chi et al., 2012; Lei, Wang, Liu, & Zhang, 2002). However, students experience a transition from childhood to adolescence during middle school in which they undergo numerous radical changes both physically and psychologically. This transition can cause students to perform differently than they have in the past. Parents who are willing to recognize and accept these changes may experience less conflict with their children, which may indirectly help improve academic achievement by influencing their children's emotions and behaviors (Ye et al., 2002).

4.2 Gratitude as a Mediator of the Relationship Between Parent-Child Relationship and Academic Achievement

This study indicated that middle school students' parent-child relationship positively predicted academic achievement and further explored the role of gratitude in the relationship between parent-child relationship and academic achievement and the specific role of gratitude in this relationship. The results indicated that gratitude partially mediated the relationship between parent-child relationship and academic achievement. Specifically, a good parent-child relationship could help middle school students improve their academic achievement not only directly but also indirectly by improving their gratitude.

In the present study, positive correlations were observed among parent-child relationship, gratitude and academic achievement, which is consistent with previous research (Yu et al., 2011; Huang et al., 2015; Lin, 2015; Ye et al., 2013). Families with good parent-child relationship also generally have a harmonious family atmosphere, appropriate parenting styles (such as warmer care and less over-protection), harmonious parent-child communication, and fewer parent-child conflicts (Deng, Fang, Wu, Zhang, & Liu, 2013; Wang et al., 2011). Additionally, gratitude is considered as an affective emotion that people develop after experiencing others' benevolence. A positive family environment promotes the development of students' perceptual abilities; importantly, middle school students with greater perceptual abilities tend to be more sensitive, enabling

them to more easily perceive help and support provided by others, experience positive moods and feel gratitude. In addition, these middle school students tend to have greater empathy, which is a powerful catalytic agent evoking and maintaining a sense of gratitude (McCullough et al., 2001; Yu et al., 2011).

The broaden-and-build theory (Fredrickson, 2001) addresses how gratitude is potentially associated with academic achievements (King & Datu, 2018) and suggests that gratitude is a type of positive emotion (McCullough, Kilpatrick, & Emmons, 2001) that expand the range of an individual's mindsets and action sequences, thus further leading to the accumulation and consolidation of key psychological resources (Kok & Fredrickson, 2015) that are a significant part of the learning activities of middle school students (Wen et al., 2011). Furthermore, this type of positive emotion may help individuals develop their cognitive abilities, expand the scope of their cognition, and build their physical and mental resources, such as positive coping styles, a better sense of well-being and a healthier physical condition (Fredrickson et al., 2002; Lin, 2015; McCullough et al., 2002; Sun et al., 2014; Wood et al., 2007). Better cognitive abilities and rich individual resources can, in turn, help students adapt to school life, further promoting their academic success. According to coping theory, individuals with a high level of gratitude tend to employ more positive coping strategies. For example, these individuals often seek social support, adopt positive coping and problem-solving approaches, choose to persist after failure, show resilience (Lijo & Annalaskshmi, 2017) and avoid the problematic use of substances (Yu et al., 2011). Thus, middle school students who have a high level of gratitude tend to use positive coping strategies to address academic pressure, solve difficulties encountered in learning, and improve their abilities to resist frustration, all of which likely enable these students to improve academically and achieve academic success compared with other students (Ye et al, 2013).

As discussed above, a good parent-child relationship may help middle school students develop their sense of gratitude. Additionally, gratitude, as a positive emotion, can help students in the following areas: improving their cognitive ability; enriching their individual resources, including intelligence; prompting them to adopt positive coping strategies when facing difficulties and challenges in learning; developing their academic and social adaptability; strengthening their positive traits, such as everyday academic resilience; and encouraging them to establish personal motivation to achieve, thereby increasing their academic achievement.

In addition, adolescents and parents who have a good parent-child relationship tend to be closer to one another, and these adolescents can easily detect their parents' support and recognition, which can promote the formation and development of gratitude. Students who feel gratitude towards their parents are likely to want to do something in return for their parents. In Chinese culture, the most satisfying gift for parents is for their children to excel academically and devote more time and energy to achieving academic success. Additionally, students who have a high level of gratitude tend to have peace of mind and a positive attitude. Therefore, these students are willing to study diligently to meet their parents' expectations, contribute to society and try their best to support the motherland (Yu, Zhang, Ceng, Ye, Hu, & Li, 2012). These goals can inspire students to be actively involved in their learning and excel academically. Thus, gratitude is a vital and substantial factor influencing the relationship between middle school students' parent-child relationship and academic achievement, and a "parent-child relationship → gratitude → academic achievement" mechanism of influence exists. Given the positive role of

gratitude, the implementation of gratitude interventions in schools should gain attention (Froh, Miller, & Snyder, 2007; King & Datu, 2018).

4.3 Study Limitations and Future Directions

This study explored the factors that influence middle school students with a Chinese cultural background and used final examination scores as the primary criterion for rating and appraising the students. However, in European cultures, students may be assessed using a combination of class performance, daily grades and examination scores. Thus, future studies should conduct a cross-culture comparison to explore the differences in the various factors influencing academic achievement. Additionally, longitudinal research could be used to conduct crossed-lagged analysis to explore the bidirectional effect of parent-child relationship and gratitude and the casual effects.

4.4 Implications

This study supported the hypothesis that gratitude could play a mediating role in the association between parent-child relationship and academic achievement, indicating that a good parent-child relationship benefits the formation and development of gratitude, which, in turn, can encourage middle school students to study diligently and achieve academic success. Therefore, in daily life, parents should try their best to communicate with their children patiently and easily, respect the many changes that their children undergo during early adolescence, and create a harmonious family atmosphere. These factors can help foster a good parent-child relationship and encourage a sense of gratitude in children, which, in turn, can encourage students to spend more time on their studies and optimize the possibility that they will achieve academic success.

5. Conclusions

The conclusions of this study are as follows:

First, positive correlations were observed among parent-child relationship, gratitude and academic achievement.

Second, gratitude partially mediated the relationship between parent-child relationship and academic achievement.

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