



The relationship between parent–child communication and English academic engagement among middle school students: a moderated mediation model

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Abstract

This study constructed a moderated mediation model to explore the impact of parent–child communication on English academic engagement. We conducted a questionnaire survey among 21,270 middle school students using various measurements: English Academic Engagement Scale, Adolescent Parent–Child Communication Scale, learning adaptability questionnaire, and English Learning Self-Efficacy Scale. The results showed that learning adaptability played a mediating role between parent–child communication and English academic engagement. Moreover, the relationships between parent–child communication and English academic engagement as well as between parent–child communication and learning adaptability were all moderated by English learning self-efficacy. These findings revealed the importance of parent–child communication in middle school students’ foreign language learning and suggested that more attention should be paid to improving middle school students’ English learning self-efficacy and learning adaptability and, therefore, English academic engagement.

Keywords Parent–child communication · Learning adaptability · English learning self-efficacy · English academic engagement · Middle school students

Introduction

Because the complexity of their kids’ school work has increased sharply since they entered middle school, most parents find it challenging to provide academic support for their children, especially in the foreign language, which is a compulsory course with English as course content. However, China is now promoting the educational ideas of home-school

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co-education. Since the promulgation of The Family Education Promotion Law of the People's Republic of China, the government has encouraged parents to participate in their children's education and help them grow (China, 2021). So, given that parents' educational level, educational resources, and family economic status are all predetermined, what other methods can parents use to promote their children's performance in learning, especially foreign language learning? This is an issue worth paying attention to.

Studies have found that parent–child communication, as the core mechanism for parents to influence children in family factors, promotes students to develop positively and healthily (Liu et al., 2012) and affects students' psychological state and behavioral engagement in learning activities (Zhou & Zhang, 2018). Thus, parent–child communication can be an effective way for parents to promote their children's foreign language learning. To this end, this study will explore the relationship between parent–child communication and English academic engagement and the mechanism underlying it, with middle school students.

Parent–child communication and English academic engagement

Academic engagement refers to the degree of behavioral effort or engagement that students pay in the process of learning (Fredricks et al., 2004). It is a positive and fulfilling mental state associated with learning, characterized by vigor, dedication, and absorption (Schaufeli et al., 2002a, b), and also a good indicator for predicting and evaluating the quality of school education and students' academic performance (Boulton et al., 2019; Fredricks & McColskey, 2012). And English academic engagement is the embodiment of academic engagement in the field of English learning. For a long time, academic engagement has been brought into sharp focus by educators. However, few studies focused on academic engagement in specific fields. For example, most domestic studies in China focused on mathematics, and previous studies have not dealt with the exploration of students' academic English engagement. Furthermore, studies showed that the English academic engagement of Chinese middle school students was not enough (Xu, 2014). Therefore, how to increase student's engagement in English learning is a necessary topic that needs attention in English subject education.

According to the self-processes model proposed by Appleton et al. (2008), the interaction of individuals' learning backgrounds and self-system will affect academic engagement and produce different academic results. Among the learning background, parent–child communication specifically impacts students' academic engagement. Parent–child communication is a process of exchanging information, views, emotions, and attitudes to enhance emotional contact or solve problems, which takes place between parents and children (Galvin et al., 2004). Studies have found that both the way and content of parent–child communication can affect children's learning engagement. For example, supportive communication between parents and children can greatly enhance children's learning (Markkula et al., 2021), and parents communicating with children about their studies can improve children's academic engagement effectively (Steinberg et al., 1992). Further research by Zhou and Zhang (2018) discovered that students who communicated frequently with their parents about their studies were 1.343 times more engaged in their studies than those who had little parent–child communication. Besides, parents and children communicate the importance of English learning, discuss English learning strategies, and convey their expectations for English learning. This kind of parental involvement and support can promote children's learning performance in English (Yin & Zou, 2016; Wang et al., 2022). Therefore, this study speculates that parents can influence their children's English academic engagement

through parent–child communication. However, there are few studies on how parent–child communication affects students' English academic engagement, and the mechanism of parent–child communication affecting English academic engagement stays unclear. Hence, this study aims to explore the relationship between parent–child communication and English academic engagement, as well as internal psychological factors that influence this relationship.

The mediating effect of learning adaptability

Furthermore, in the self-system, individual factors such as achievement goal orientation, adaptability, and emotion (Xie et al., 2022; Zhang et al., 2021) impact middle school students' English academic engagement. For instance, learning adaptability reflects students' attitudes, engagement, and effort toward learning (Credé & Niehorster, 2012), directly impacting learning results (Zhang et al., 2021). Learning adaptability refers to the individual's ability to maintain a positive attitude toward learning, establish clear learning goals, and take actions to meet academic requirements and adapt to the academic environment (Baker & Siryk, 1984). Studies showed that learning adaptability could positively predict students' academic engagement (Wang, 2020). The research results of Rooij et al. (2017) also showed that students with better learning adaptability might concentrate on their studies more diligently and without distractions. Therefore, students with strong adaptability can always overcome difficulties and devote themselves to English learning with enthusiasm. In addition, social learning theory (Bandura & Walters, 1963) pointed out that parents were the direct model for children to imitate. When interacting with parents, children imitate and learn parents' beliefs, attitudes, and expectations about learning activities (Grolnick & Slowiaczek, 1994) and acquire parents' learning experiences. Frequent parent–child communication enables children to assimilate and internalize learning experiences learned from their parents, thereby developing better learning adaptability (Spera, 2005). Studies confirmed that good parent–child communication could promote student adaptability (Jackson et al., 1998; Li-Ning Huang, 1999; Tong & Miao, 2022). Additionally, it is a good predictor of student's learning adaptability (Sohr-Preston et al., 2013). Based on the above findings, this study infers that learning adaptability may directly affect middle school students' English academic engagement as a self-system factor and play a mediating role between parent–child communication and English academic engagement.

The moderating effect of English learning self-efficacy

As a learning background factor in the self-processes model, parent–child communication may be moderated by individual variables. Research has shown that learning self-efficacy plays an important role in the relationship between parent–child interaction and students' learning performance (Anderson & Minke, 2007). English learning self-efficacy is an extended concept of learning self-efficacy in the field of English learning. It refers to students' judgment on whether they can complete English learning tasks when they carry out English learning activities (Huang, 2008). Research showed that learning self-efficacy could improve students' academic performance by cultivating students' positive mental characteristics in learning and good learning habits (Liu, 2017). Its moderate effect has been confirmed by many studies (Liu, 2017; Wang et al., 2008; Xing & Dou, 2021). Firstly, learning self-efficacy realizes its role by affecting students' state in the learning process (Meece et al., 1990). In the face of adverse situations (such as a lack of learning resources

and insufficient social support caused by poor parent–child communication), individuals with high learning self-efficacy tend to maintain a good attitude and believe that they can solve difficulties in learning. They are also less likely to experience pressure, anxiety, or intense stress (Bandura, 1993; Hong et al., 2021). Hence, it is easier for them to fit the learning environment, form correct learning attitudes, and master appropriate learning methods. However, individuals with low learning self-efficacy are easily affected by negative situations and find it difficult to adapt to learning life. Thus, it is obvious that individuals with different levels of learning self-efficacy are affected differently by external events. Therefore, this study speculates that English learning self-efficacy may play a moderating role in parent–child communication and learning adaptability.

Secondly, as a moderating variable, learning self-efficacy can alleviate the negative impact of poor learning values acquired by students from parent–child interaction on academic engagement (Liao, 2011). In this study, compared to students with low learning self-efficacy, students with high learning self-efficacy have lower negative academic emotions (Fang & Yu, 2015). They also have better learning strategies (Jia & Lu, 2014), higher learning enthusiasm, more decisive planning and persistence in learning activities, and are willing to invest more (Nian & Liu, 2012), even when they have poor communication with their parents. Therefore, we assume that English learning self-efficacy moderates the relationship between parent–child communication and English academic engagement. Based on previous studies, our study suggests that English learning self-efficacy plays a moderating role between parent–child communication and learning adaptability. In addition, English learning self-efficacy moderates the relationship between parent–child communication and English academic engagement (Fig. 1 illustrates the hypothetical model).

To sum up, based on the self-processes model, this paper aims to explore the impact of parent–child communication on middle school students' English academic engagement and the role of learning adaptability and English learning self-efficacy. Thus, our research can provide a relevant empirical basis for improving middle school students' English academic engagement.

Present study

The current study aimed to explore the impact of family background factors and individual factors on students' academic engagement from an interaction perspective, for example, the

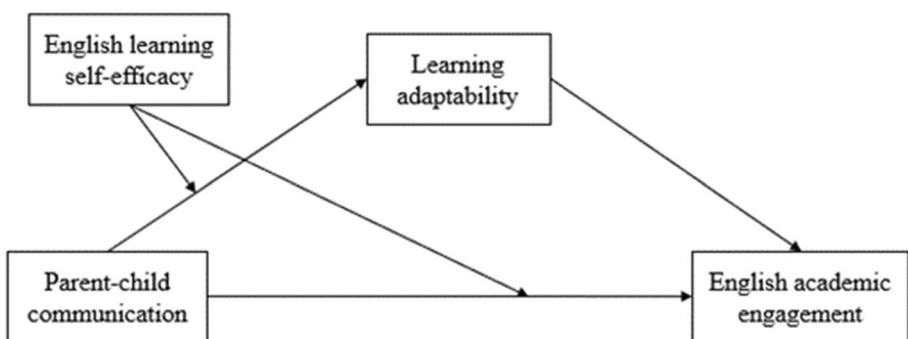


Fig. 1 A hypothetical model of the mediating role of learning adaptability and the moderate role of English learning efficacy

relationship between parent–child communication and learning adaptability, and the relationship between learning adaptability and English academic engagement. We also paid attention to the moderating role of English learning self-efficacy in these relations. Two main research questions (RQ) were investigated in the current study:

RQ1. Does learning adaptability play a mediating role between parent–child communication and English academic engagement?

RQ2. Does students' English learning self-efficacy moderate the described relations?

The study investigated whether high and low English learning self-efficacy moderated the relationship between parent–child communication and English academic engagement, and the relationship between parent–child communication and learning adaptability.

Methods

Participants and procedure

We used a cluster sampling method and conducted a questionnaire survey among middle school students in 18 regions including Chongqing, Zhejiang, Jiangxi, Shandong, and Yunnan in China. The Ethics Committee of the author's organization approved the study. A total of 21,370 junior one to senior three students participated in the survey, and we collected 21,243 valid questionnaires (the effective rate was 99.4%). The average age of the subjects was 15.42 ± 1.59 years old. See Table 1 for other details.

Table 1 Sample characteristics

		<i>n</i>	Proportion
Gender	Male	9540	44.90%
	Female	11,703	55.10%
Grade	Seven	3367	15.80%
	Eight	2925	13.80%
	Nine	1913	9.00%
	Ten	6452	30.40%
	Eleven	5290	24.90%
	Twelve	1296	6.10%
Family residence	Countryside	5554	26.10%
	Town	5235	24.60%
	Urban	10,454	49.20%
One child	Yes	5528	26.00%
	No	15,715	74.00%
Monthly family income (CNY)	Less than 1000	677	3.20%
	1001–3000	3757	17.70%
	3001–5000	6233	29.30%
	5001–10,000	6849	32.20%
	10,001–20,000	2786	13.10%
	More than 20,000	941	4.40%

Measurements

English Academic Engagement Scale

We adopted the Academic Engagement Scale compiled by Schaufeli et al., (2002a, b) and translated by Fang et al. (2008). In this study, we revised the content of the scale into English learning situations, such as “I am enthusiasm for English learning.” The scale consists of 17 items with responses made on a 7-point Likert scale (ranging from 1 = “never” to 7 = “always”), including three dimensions: vigor, dedication, and absorption. The higher the score of each dimension and total score, the higher the students’ engagement in English learning. Results of CFA showed that the questionnaire has satisfactory construct validity ($\chi^2/df = 53.93$, RMSEA = 0.05, CFI = 0.99, IFI = 0.99). In this study, Cronbach’s alpha was 0.97.

Parent-Adolescent Communication Scale

The study adopted the Parent-Adolescent Communication Scale compiled by Barnes and Olson (1982). The scale consists of 20 items with responses made on a 5-point Likert scale (1 for “strongly disagree” and 5 for “strongly agree”), which includes two subscales of “openness” and “existing problems.” The “existing problems” subscale was scored reversely. The higher the total score, the better the parent–child communication. Results of CFA showed that the questionnaire has satisfactory construct validity ($\chi^2/df = 55.28$, RMSEA = 0.05, CFI = 0.97, IFI = 0.97). In this study, Cronbach’s alpha was 0.90.

Learning Adaptability Scale

We applied the Learning Adaptation Subscale as the social adaptability scale of middle school students, compiled by Linbin Jia (2008). This scale consists of 13 items with responses made on a 4-point Likert scale (1 = “completely inconsistent”; 4 = “fully consistent”). The higher the total score, the higher the students’ learning adaptability level. Results of CFA showed that the questionnaire has satisfactory construct validity ($\chi^2/df = 19.63$, RMSEA = 0.03, CFI = 0.99, IFI = 0.99). In this study, Cronbach’s alpha was 0.89.

English Learning Self-Efficacy Scale

We used the English Learning Self-Efficacy Scale by Zhang (2010). The scale contains 22 items with responses made on 5-point Likert scale (1 = “very inconsistent”; 5 = “very consistent”). The higher the total score, the higher the students’ level of English learning self-efficacy. Results of CFA showed that the questionnaire has satisfactory construct validity ($\chi^2/df = 172.63$, RMSEA = 0.09, CFI = 0.89, IFI = 0.89). In this study, Cronbach’s alpha was 0.92.

Data analysis and common method biases test

Data were analyzed by SPSS 22.0. First, we performed a Harman single factor test to examine common method bias. Our study found nine eigenvalues greater than 1 in all

factors, and the first-factor variance was 30.84%, less than the critical value of 40% (Ashford & Tsui, 1991). Therefore, there was no significant common method bias in this paper. Then, correlation analysis and ANOVA were used to analyze the main variables and demographic variables. Next, we used the PROCESS macro (Hayes, 2012) to test the mediation and moderating effects.

Results

Preliminary analyses

As shown in Table 2, Pearson's analysis showed that parent–child communication, learning adaptability, English learning self-efficacy, and English academic engagement were significantly positively correlated. In terms of demographic variables, grades, only child, family residence, monthly family income, and parent–child communication, learning adaptability, English learning self-efficacy, English academic engagement were significantly correlated. Therefore, demographic variables would be analyzed as control variables.

Mediating role of learning adaptability

We used the SPSS PROCESS macro program compiled by Hayes (2012) to test the mediating effect of learning adaptability on the relationship between parent–child communication and English academic engagement under the condition of controlling demographic variables. Table 3 shows that parent–child communication had a significant direct effect on English academic engagement ($\beta = 0.32$, $t = 49.76$, $p < 0.001$). In addition, parent–child communication played a significant positive role in predicting learning adaptability ($\beta = 0.39$, $t = 62.02$, $p < 0.001$). Learning adaptability also significantly positively predicted English academic engagement ($\beta = 0.39$, $t = 59.49$, $p < 0.001$). We also found that after adding learning adaptability into the model as mediating variable, the predictive effect of parent–child communication on English academic engagement was still significant. This finding indicates that parent–child communication directly predicts middle school students' English academic engagement and indirectly affects English academic engagement through learning adaptability's mediating effect. As shown in Table 4, the direct effect value is 0.17, accounting

Table 2 Descriptive statistics and correlations for all variables

	<i>M</i>	<i>SD</i>	1	2	3	4
1. Parent–child communication	3.17	0.66	1			
2. Learning adaptability	2.77	0.56	0.40**	1		
3. English self-learning efficacy	3.20	0.63	0.36**	0.57**	1	
4. English academic engagement	3.95	1.16	0.34**	0.47**	0.72**	1

$N = 21,243$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Table 3 Test of the mediation effect

Outcome variables	Independent variables	<i>R</i>	<i>R</i> ²	<i>F</i>	β	<i>t</i>
Learning adaptability		0.43	0.18	791.71***		
	Gender				0.04	3.15**
	Grade				−0.06	−14.38***
	One child				−0.08	−5.72***
	Family residence				0.08	9.23***
	Monthly family income				0.03	5.98***
	Parent–child communication				0.39	62.02***
English academic engagement		0.36	0.13	525.21***		
	Gender				0.16	12.54***
	Grade				−0.04	−9.82***
	One child				−0.07	−4.39***
	Family residence				0.04	5.01***
	Monthly family income				0.05	7.82***
	Parent–child communication				0.32	49.76***
English academic engagement		0.50	0.25	1030.83***		
	Gender				0.15	12.25***
	Grade				−0.02	−4.71***
	One child				−0.03	−2.41*
	Family residence				0.01	1.64
	Monthly family income				0.03	6.00***
	Parent–child communication				0.17	26.16***
	Learning adaptability				0.39	59.49***

N = 21,243. Bootstrap sample size = 5000. **p* < 0.05; ***p* < 0.01; ****p* < 0.001

Table 4 Total effect, direct effect, and mediation effect of mediating models

	Effect size	BootSE	BootLLCI	BootULCI	Proportion
Total effect	0.32	0.03	0.31	0.34	
Direct effect	0.17	0.01	0.15	0.18	53.13%
Mediating effect	0.15	0.01	0.14	0.16	46.87%

LL, low limit; *CI*, confidence interval; *UL*, upper limit

for 53.13% of the total effect, and the indirect effect value is 0.15, accounting for 46.87% of the total effect.

Testing for the proposed model

We tested the moderated mediation model under the control of demographic variables. Table 5 shows that after putting English learning self-efficacy into the model, the product term of parent–child communication and English learning self-efficacy had

Table 5 Analysis of moderated mediating effect

Outcome variables	Independent variables	<i>R</i>	<i>R</i> ²	<i>F</i>	β	<i>t</i>
Learning adaptability		0.61	0.38	1613.61***		
	Gender				0.01	−0.16
	Grade				−0.03	−8.02***
	One child				−0.02	−1.62
	Family residence				0.04	4.91***
	Monthly family income				−0.01	−1.24
	Parent–child communication				0.21	35.88***
	English learning self-efficacy				0.48	80.47***
	Parent–child communication × English learning self-efficacy				0.04	9.24***
English academic engagement		0.73	0.53	2635.70***		
	Gender				0.10	10.82***
	Grade				0.01	0.71
	One child				0.02	2.01*
	Family residence				−0.02	−2.77**
	Monthly family income				−0.01	−2.64**
	Parent–child communication				0.06	12.21***
	Learning adaptability				0.07	11.12***
	English learning self-efficacy				0.66	110.66***
	Parent–child communication × English learning self-efficacy				0.03	6.51***

N = 21,243. Bootstrap sample size = 5000. **p* < 0.05; ***p* < 0.01; ****p* < 0.001

a significant predictive effect on learning adaptability ($\beta = 0.04$, $t = 9.24$, $p < 0.001$) and a significant predictive effect on English academic engagement ($\beta = 0.03$, $t = 6.51$, $p < 0.001$). This finding indicates that English learning self-efficacy moderates the impact of parent–child communication on learning adaptability. We also found a moderating effect on the direct effects of parent–child communication on English academic engagement.

We performed a simple slope analysis (Figs. 2 and 3). As shown in Fig. 2, for middle school students with a high level of English learning self-efficacy ($M + 1SD$), with the improvement of parent–child communication quality, their learning adaptability improved significantly: simple slope = 0.25, $t = 37.86$, $p < 0.001$. For middle school students with low English learning self-efficacy ($M - 1SD$), with improved parent–child communication quality, learning adaptability also increased. However, the increase was relatively flat: simple slope = 0.17, $t = 20.84$, $p < 0.001$.

Figure 3 shows that for middle school students with a high level of English learning self-efficacy ($M + 1SD$), their English academic engagement increased significantly with improved parent–child communication quality: simple slope = 0.09, $t = 14.99$, $p < 0.001$. For middle school students with low English learning self-efficacy ($M - 1SD$), with improved quality of parent–child communication, their level of English academic engagement also increased. Still, the increase was relatively flat: simple slope = 0.04, $t = 5.41$, $p < 0.001$.

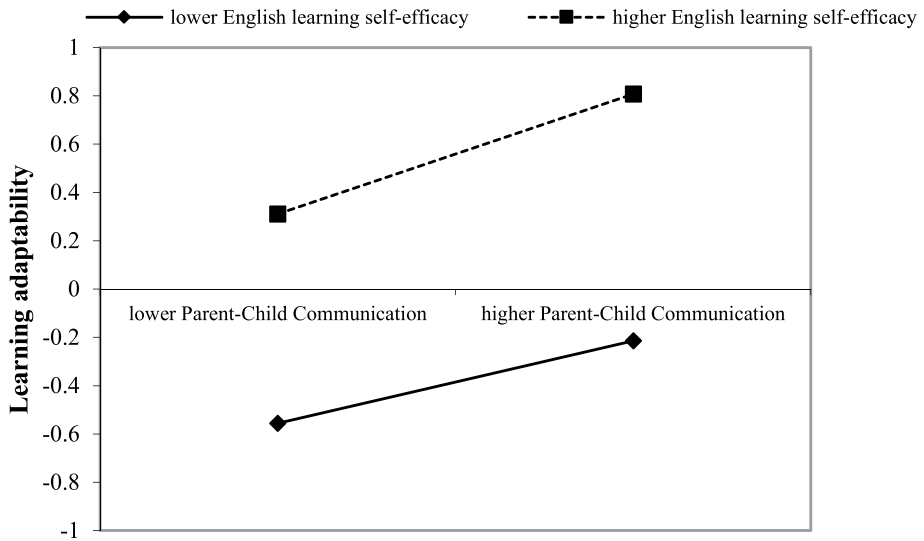


Fig. 2 The moderating effect of English learning self-efficacy between parent–child communication and learning adaptability

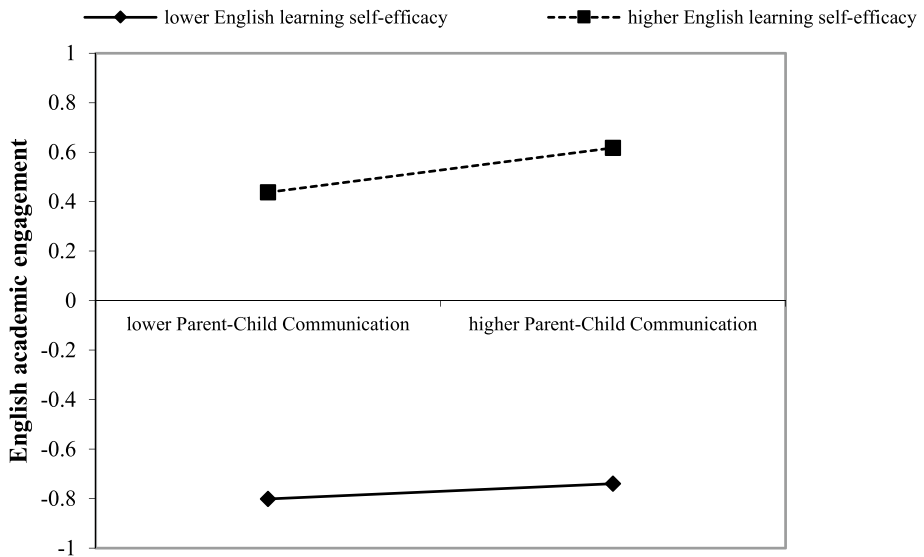


Fig. 3 The moderating effect of English learning self-efficacy between parent–child communication and English academic engagement

In addition, even in low parent–child communication, students with high English learning self-efficacy have higher learning adaptability and English academic engagement than students with low English learning self-efficacy.

Discussion

The relationship between parent–child communication and English academic engagement of middle school students

This study found that parent–child communication was positively associated with the English academic engagement of middle school students; that is, with the improvement of parent–child communication quality, the English academic engagement of middle school students will increase significantly. This result is consistent with previous studies (Sohr-Preston et al., 2013; Liu et al., 2022). In other words, students with more frequent parent–child communication can invest more emotion and action in English learning.

Communication is a bridge between parents and children. Through open and equal communication, parents can convey their expectations to their children for English learning and urge their children to make more effort in learning English. In addition, parents could learn about their children's learning challenges in time and give them much-needed support to improve children's engagement in middle school English. However, if there is less communication and more problems between parents and children, it will be difficult for students to deal with the pressure of English learning. In addition, their mobility will decline; they are more likely to burn out in English learning and unwilling to devote themselves to it.

To sum up, parent–child communication can affect middle school students' English academic engagement in two ways: supportive and instrumental. Supportive means that high-quality parent–child communication can provide children with a sense of security and positive emotional experiences; instrumental refers to the ability of parent–child communication to provide problem-solving strategies when children encounter difficulties in learning English. Parent–child communication enables middle school students to invest more time and effort in their English learning through these two approaches. Thus, we can conclude that parent–child communication can positively predict the level of English academic engagement.

Mediating role of learning adaptability

With the first research question, we investigated whether learning adaptability played a mediating role between parent–child communication and English academic engagement. The study demonstrated that learning adaptability played a partial mediating role in the relationship between parent–child communication and English academic engagement. The finding suggests that parent–child communication can directly affect middle school students' English academic engagement by affecting their learning adaptability. First, parent–child communication includes the interaction of information, emotions, and values between parents and children. In adolescence, middle school students need support and help from their parents during this sensitive and fluctuating period of growth and develop strong adaptability. Equal, appropriate, and open communication will help middle school students form correct learning attitudes and values, promoting harmonious relationships between them and their classmates and teachers in the learning environment, therefore obtaining good learning adaptability (Deng & Tang, 2010).

Second, the stronger the learning adaptability of students, the more they can calmly face difficulties and setbacks in English learning. They can also master learning English quickly, make appropriate use of learning resources to improve their learning effect, and make more effort in English learning (Author et al., 2021). In other words, if the parent–child

relationship is strained, and the communication between parents and children is poor, therefore, without the help from parents, students cannot smoothly solve the puzzles and problems encountered in their studies and in their daily lives. They will lose confidence in learning, thereby developing poor learning adaptability (Li et al., 2022). Then, middle school students who lack learning adaptability are often tired of dealing with challenges and risks in their studies and life, resulting in their reduced interest in English and boredom with English learning.

In summary, the supportive and instrumental parent–child communication is also conducive to the development of middle school students in learning adaptability. Through parent–child communication, parents can urge their children to develop good learning habits and the ability to overcome difficulties, to help them achieve a balance between themselves and the learning environment. Additionally, the improvement of learning adaptability enables students to put more enthusiasm and energy into English learning. It can be concluded that learning adaptability plays a partial mediating role between parent–child communication and English academic engagement. Parent–child communication can improve middle school students' engagement in English learning by enhancing their learning adaptability.

The moderating effect of English learning efficacy

With the second research question, we explored whether English learning self-efficacy moderated the relationship between parent–child communication and English academic engagement, and the relationship between parent–child communication and learning adaptability. The current study indicated that English learning self-efficacy moderates the relationship between parent–child communication and English academic engagement and moderates the first half of the mediation pathway of parent–child communication → learning adaptability → English academic engagement.

First, in the direct path, compared with middle school students with low English learning self-efficacy, middle school students with high English learning self-efficacy can significantly alleviate the negative impact of poor parent–child communication on English learning. They can also maintain higher engagement in English learning and have better academic performance. Previous studies found that individuals with high self-efficacy had a stronger emotional regulation ability (Liu et al., 2011) and mental toughness (Ramolale et al., 2021; Weng, 2020). These findings mean that individuals with high self-efficacy tend to face problems when confronted with negative situations and take positive actions to eliminate stressors and alleviate their adverse effects. In the field of learning, students with high learning self-efficacy have more passion for learning. These students are also more confident, more persistent in learning, and not afraid of learning challenges (Yang et al., 2022). Therefore, even in adverse situations due to poor parent–child communication, these students put more effort into English learning due to their self-efficacy. With perseverance to cope with English learning difficulties, these students achieve excellent academic performance.

Second, in the first half of the mediation path, the results showed that compared with middle school students with low English learning self-efficacy, middle school students with high English learning self-efficacy can have higher learning adaptability even in the context of poor parent–child communication. Previous studies pointed out that low-quality parent–child communication cannot satisfy students' basic emotional needs. As a result, these students are prone to have various emotional and behavioral problems (Yang & Zou, 2005), making it difficult to adapt to school life (Sun et al., 2013). English learning

self-efficacy can play a self-regulation function in the following ways: Firstly, it can make students affirm their English learning ability and regulate their learning state; secondly, it improves students' self-evaluation and makes them face up to their self-value; finally, it can alleviate the negative emotional experience brought by poor parent–child communication and improve their learning adaptability (Yang, 2018; Yang & Pu, 2022). Because of this, students can quickly keep up with the teaching progress, better adapt to the class learning environment, and improve their English engagement.

To summarize, the important role of English learning efficacy in the model constructed in this study is to serve as a buffer for negative contexts. It can change students' attitudes toward English learning difficulties and enable students to have better learning adaptability and academic engagement even with poor parent–child communication. Therefore, we concluded that English learning self-efficacy moderated not only the relationship between parent–child communication and English academic engagement but also the relationship between parent–child communication and learning adaptability.

Implications

The results of this study inspired us to improve students' English learning from the following three aspects.

First, improve the quality of parent–child communication. Improving parent–child communication to give their children emotional support may be another approach for parents to encourage their children's academic engagement in English if they are unable to provide tutoring for their children's English learning. On the one hand, improving parent–child communication can be very demanding in the attitude of equality and respect. Parents should treat adolescents with respect, listen to them, encourage them to speak up, and create a relaxed, open family environment, for example, involving kids in family decisions. On the other hand, parents should limit their own cell phone use, spend more time with their kids, get involved in their children's school life, and provide emotional support. For schools, teachers can provide diversified communication skills for parents and students by inviting parents to engage in specific educational activities, such as class meetings, micro-parents forums, and open classes, to strengthen home–school cooperation.

Second, attach importance to the cultivation of learning adaptability. Encouraging students to develop independent study abilities can improve their learning adaptability (Zhang et al., 2022). For instance, help children restrain the urge to play and to complete their learning tasks consciously and attentively, through appropriate rewards and punishments. In addition, teachers can mobilize students' learning initiatives by increasing their classroom participation. For example, guide students to prepare before class, and increase teacher–student and student–student interaction in class.

Finally, students with low English learning self-efficacy should be concerned. Because English learning self-efficacy was found to be a buffer factor for students to cope with negative situations in this study. For students with low English learning efficacy, parents should change the concept of score-based education, focus more on their children's efforts in English learning rather than on their test scores, and encourage them to form a positive self-image. Teachers, on the other hand, should be committed to eliminating the mystery of English learning and students' fear of difficulties, and improve students' English learning confidence. For example, teachers can adopt reasonable language or material incentives to guide students to set appropriate learning objectives and select learning tasks with

appropriate difficulty, so that students can gain a sense of accomplishment from English learning.

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Data availability The data that support the findings of this study are available from the corresponding author upon reasonable request. The data are not publicly available due to privacy or ethical restrictions.

Declarations

Conflict of interest The authors declare no competing interests.

References

- Anderson, K. J., & Minke, K. M. (2007). Parent involvement in education: Toward an understanding of parents' decision making. *The Journal of Educational Research*, 100(5), 311–323.
- Appleton, J. J., Christenson, S. L., & Furlong, M. J. (2008). Student engagement with school: Critical conceptual and methodological issues of the construct. *Psychology in the Schools*, 45(5), 369–386.
- Ashford, S. J., & Tsui, A. S. (1991). Self-regulation for managerial effectiveness: The role of active feedback seeking. *Academy of Management Journal*, 34(2), 251–280.
- Wang, X., Liu, Y. L., Ying, B., & Lin, J. (2021). The effect of learning adaptability on Chinese middle school students' English academic engagement: the chain mediating roles of foreign language anxiety and English learning self-efficacy. *Current Psychology*, 1–11. <https://doi.org/10.1007/s12144-021-02008-8>.
- Bandura, A., & Walters, R. H. (1963). *Social learning and personality development*. Holt Rinehart and Winston.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28(2), 117–148.
- Baker, R. W., & Siryk, B. (1984). Measuring adjustment to college. *Journal of Counseling Psychology*, 31(2), 179–189. <https://doi.org/10.1037/0022-0167.31.2.179>
- Barnes, H. L., & Olson, D. H. (1982). Parent-adolescent communication scale. In D. H. Olson et al. (Eds.), *Family inventories: Inventories used in a national survey of families across the family life cycle* (pp. 33–48). St. Paul: Family Social Science, University of Minnesota.
- Boulton, C. A., Hughes, E., Kent, C., Smith, J. R., & Williams, H. T. P. (2019). Student engagement and wellbeing over time at a higher education institution. *PLoS ONE*, 14(11), e0225770. <https://doi.org/10.1371/journal.pone.0225770>.
- China, M. o. e. o. t. P. s. R. o. (2021). The family education promotion law of the People's Republic of China. http://www.moe.gov.cn/jyb_sjzl/sjzl_zcfg/zcfg_qtxgfl/202110/t20211025_574749.html. Accessed 23 Oct 2021.
- Credé, M., & Niehorster, S. (2012). Adjustment to college as measured by the student adaptation to college questionnaire: A quantitative review of its structure and relationships with correlates and consequences. *Educational Psychology Review*, 24(1), 133–165.
- Deng, Y., & Tang, S. (2010). The family environment influence of the floating population on their children's learning adaptability. *Journal of Southwest Jiaotong University (Social Sciences Edition)*, 011(005), 128–131.
- Fang, K., & Yu, Q. (2015). The relationship between college students' academic self-efficacy, professional commitment and academic emotion. *Journal of Lanzhou Vocational Technical College*, 31(05), 144–146.
- Fang, L., Shi, K., & Zhang, F. (2008). Research on reliability and validity of Utrecht Work Engagement Scale-student. *Chinese Journal of Clinical Psychology*, 16(06), 618–620.
- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 74(1), 59–109.

- Fredricks, J. A., & McColskey, W. (2012). The measurement of student engagement: A comparative analysis of various methods and student self-report instruments. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of Research on Student Engagement* (pp. 763–782). Springer, US.
- Galvin, K. M., Brommel, B. J., & Bylund, C. L. (2004). *Family communication: Cohesion and change*. Pearson Education.
- Grolnick, W. S., & Slowiaczek, M. L. (1994). Parents' involvement in children's schooling: A multidimensional conceptualization and motivational model. *Child Development*, 65(1), 237–252.
- Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling. Retrieved from <http://www.afhayes.com/public/process2012.pdf>. Accessed 23 Oct 2021
- Hong, J.-C., Cao, W., Liu, X., Tai, K.-H., & Zhao, L. (2021). Personality traits predict the effects of Internet and academic self-efficacy on practical performance anxiety in online learning under the COVID-19 lockdown. *Journal of Research on Technology in Education*, 1–15. <https://doi.org/10.1080/15391523.2021.1967818>
- Huang, L.-N. (1999). Family communication patterns and personality characteristics. *Communication Quarterly*, 47(2), 230–243.
- Huang, Z. (2008). On college students' self-efficacy in English learning. *Journal of Inner Mongolia Agricultural University (Social Science Edition)*, 03, 48–49.
- Jackson, S., Bijstra, J., Oostra, L., & Bosma, H. (1998). Adolescents' perceptions of communication with parents relative to specific aspects of relationships with parents and personal development. *Journal of Adolescence*, 21(3), 305–322.
- Jia, K., & Lu, H., (2014). Learning self-efficacy and its cultivation. *Modern Primary and Secondary Education*, 30(06), 66–69.
- Jia, L. (2008). *The development and initial application in the social adeptation scale of Middle School Students*. Shandong University.
- Li, P.-L., Xu, P.-P., Zhang, L.-L., Gao, T., & Deng, L.-Y. (2022). The relationship between parent-child relationship before the pandemic and learning adjustment at home during the pandemic among middle school students: The mediating effects of emotional resilience and the moderating effects of teacher-student relations. *Journal of Educational Studies*, 18(04), 126–138.
- Liao, Y. (2011). College students' academic self-efficacy effects on their learning value and engagement. *Journal of Ningbo University (Educational Science Edition)*, 33(05), 50–54.
- Liu, Q., Fang, X., Deng, L., & Zhang, J. (2012). Parent–adolescent communication, parental internet use and internet-specific norms and pathological internet use among Chinese adolescents. *Computers in Human Behavior*, 28(4), 1269–1275.
- Liu, W.-C., Wang, M.-W., & Tang, M.-Y. (2022). Relationship between parent-child communication and learning engagement of migrant children: The mediating role of family cohesion and peer relationship. *China Journal of Health Psychology*, 30(08), 1261–1265.
- Liu, Z. (2017). Migrant Children's Academic Values and School Well-Being: The Mediating Effect of Academic Self-Efficacy. *Chinese Journal of Special Education*, 08, 67–73.
- Liu, Q., Zhou, L., & Mei, S. (2011). The impact of self-efficacy on adolescents' emotion regulation. *Chinese Journal of Special Education*, 12, 82–86.
- Markkula, P., Rantanen, A., Koivisto, A. M., & Joronen, K. (2021). Associations between perceived child-parent relationships and school engagement among 9–11 aged children. *Children*, 8(7), 595.
- Meece, J. L., Wigfield, A., & Eccles, J. S. (1990). Predictors of math anxiety and its influence on young adolescents' course enrollment intentions and performance in mathematics. *Journal of Educational Psychology*, 82(1), 60–70.
- Nian, Q., & Liu, Y.-H. (2012). Influence of time management disposition and academic self-efficacy on learning engagement among baccalaureate degree students. *Chinese Journal of Practical Nursing*, 28(26), 1–4.
- Ramolale, M., Maletle, L., & Ju, U. (2021). Mediational role of mental toughness on the relationship between self-efficacy and prosocial/antisocial behavior in elite youth sport. *Frontiers in Psychology*, 12, 745323.
- Roosj, E. V., Jansen, E., & van de Grift, W. J. C. M. (2017). Secondary school students' engagement profiles and their relationship with academic adjustment and achievement in university. *Learning and Individual Differences*, 54, 9–19.
- Schaufeli, W. B., Martinez, I. M., Pinto, A. M., Salanova, M., & Bakker, A. B. (2002a). Burnout and engagement in university students: A cross-national study. *Journal of Cross-Cultural Psychology*, 33(5), 464–481.

- Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002b). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, 3(1), 71–92.
- Sohr-Preston, S. L., Scaramella, L. V., Martin, M. J., Neppel, T. K., Ontai, L., & Conger, R. (2013). Parental socioeconomic status, communication, and children's vocabulary development: A third-generation test of the family investment model. *Child Development*, 84(3), 1046–1062.
- Spera, C. (2005). A review of the relationship among parenting practices, parenting styles, and adolescent school achievement. *Educational Psychology Review*, 17(2), 125–146.
- Steinberg, L., Lamborn, S. D., Dornbusch, S. M., & Darling, N. (1992). Impact of parenting practices on adolescent achievement: Authoritative parenting, school involvement, and encouragement to succeed. *Child Development*, 63, 1266–1281.
- Sun, X., Shi, X., & Du, B. (2013). The influence of parent-child communication on learning burnout of senior high school students. *Journal of Hubei Open Vocational College*, 26(03), 120–121.
- Tong, X., & Miao, J.-D. (2022). The influence of parents' participation on school adjustment of migrant children—The mediation effect of teachers' concern. *Education Research Monthly*, 01, 12–17.
- Wang, H., Chen, Y., Yang, X., Yu, X., Zheng, K., Lin, Q., Cheng, X., & He, T. (2022). Different associations of parental involvement with children's learning of Chinese, English, and math: A three-wave longitudinal study. *European Journal of Psychology of Education*. <https://doi.org/10.1007/s10212-022-00605-0>.
- Wang, X.-L., Wang, L., Yao, G., & Wang, Q. (2008). The moderating effect of self-efficacy between received social support and depression in college students. *Chinese Journal of Behavioral Medical Science*, 17(3), 258–259.
- Wang, X.-P. (2020). *The influence of learning adaptability and classroom academic emotion on learning engagement of middle school students in online learning: The intermediary role of self-determination motive*. Tianjin Normal University.
- Weng, Z. (2020). The relationship between general self-efficacy and resilience of high school boarding students in Southern Xinjiang. *Journal of Bingtuan Education Institute*, 30(02), 13–18.
- Xie, J., Zhang, B., Yao, Z., Peng, B., Chen, H., & Gao, J. (2022). The relationship between social mobility belief and learning engagement in adolescents: The role of achievement goal orientation and psychological capital. *Frontiers in Psychology*, 13, 792108.
- Xing, J.-L., & Dou, C.-J. (2021). The influence of Tibetan middle school students' achievement goals on mathematics performance: The mediating role of self-efficacy. *Journal of Research on Education for Ethnic Minorities*, 32(04), 129–134.
- Xu, X. (2014). The countermeasures of English learning burnout of senior high school students. *Basic Foreign Language Education*, 16(01), 11–16.
- Yang, S. (2018). *Study on the relationship between academic self-efficacy and learning adaptability of high-level graders in primary school*. Yanbian University.
- Yang, S. S., Noughabi, M. A., & Jahedizadeh, S. (2022). Modelling the contribution of English language learners' academic buoyancy and self-efficacy to L2 grit: evidence from Iran and China. *Journal of Multilingual and Multicultural Development*, 1–17. <https://doi.org/10.1080/01434632.2022.2062368>
- Yang, S., & Pu, R. (2022). The effects of contextual factors, self-efficacy and motivation on learners' adaptability to blended learning in college English: A structural equation modeling approach. *Frontiers in Psychology*, 13, 847342.
- Yang, X., & Zou, H. (2005). Research on adolescent parent-child communication. *Studies of Psychology and Behavior*, 3(1), 39–43.
- Yin, J., & Zou, W. (2016). A case study on the influence of parents' education on senior high school students' English learning. *Journal of Basic English Education*, 18(06), 35–42.
- Zhang, K., Wu, S., Xu, Y., Cao, W., Goetz, T., & Parks-Stamm, E. J. (2021). Adaptability promotes student engagement under COVID-19: The multiple mediating effects of academic emotion. *Frontiers in Psychology*, 11, 633265. <https://doi.org/10.3389/fpsyg.2020.633265>
- Zhang, S. (2010). An investigation on art students' English self-efficacy. *Journal of Lanzhou Vocational Technical College*, 26(04), 77–79.
- Zhang, Y.-H., Sun, H.-X., Tian, H.-D., Wang, D.-R., & Zhao, H. (2022). The relationship between autonomous learning ability and learning adaptation of normal university students majoring in special education: The moderating role of willingness for teaching and grade. *Chinese Journal of Special Education*, 09, 88–96.
- Zhou, H., & Zhang, M. -H., (2018). The influence of parental education involvement on learning engagement of secondary vocational students. *Chinese Vocational and Technical Education*, 05, 75–83.

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Current themes of research:

Parent–child relationship. Parent influences on academic engagement. Mental health and social adaptability of adolescents.

Most relevant publications in the field of Psychology of Education:

Geng, Y. B., Liu, Y. L., Yan, L., Lin, J., Ran, F., & Jiang, Y. (2021). The influence of family cohesion on social adaptation of left-behind children: a moderated mediating effect. *Journal of Southwest University (Natural Science Edition)*, 43(08), 10–19.

Ying, B., Geng, Y. B., Lin, J., Li, Q. (2021). A large-sample survey of English learning anxiety in middle school students during class resumption in COVID-19 pandemic. *Journal of Southwest University (Natural Science Edition)*, 43(01), 22–30.

Wang, X., Geng, Y. B., Lin, J., Yi, Z. S., & Liu, Y. L. (2022). Effect of family cohesion on aggression among Chinese middle school students: the mediating role of psychological suzhi. *Current Psychology*, 1–9.

Bin Ying.

Current themes of research: <https://doi.org/10.1007/s12144-022-02903-8>.

Parent influences on academic engagement. EFL teaching and learning.

Most relevant publications in the field of Psychology of Education:

Ying, B., Geng, Y. B., Lin, J., Li, Q. (2021). A large-sample survey of English learning anxiety in middle school students during class resumption in COVID-19 pandemic. *Journal of Southwest University (Natural Science Edition)*, 43(01), 22–30.

Wang, X., Liu, Y. L., Ying, B., & Lin, J. (2021). The effect of learning adaptability on Chinese middle school students' English academic engagement: the chain mediating roles of foreign language anxiety and English learning self-efficacy. *Current Psychology*, 1–11. <https://doi.org/10.1007/s12144-021-02008-8>.

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Current themes of research:

Parent–child relationship. Mental health and social adaptability of adolescents. Aggression.

Most relevant publications in the field of Psychology of Education:

Wang, X., Liu, Y. L., Ying, B., & Lin, J. (2021). The effect of learning adaptability on Chinese middle school students' English academic engagement: the chain mediating roles of foreign language anxiety and English learning self-efficacy. *Current Psychology*, 1–11. <https://doi.org/10.1007/s12144-021-02008-8>.

Wang, X., Geng, Y. B., Lin, J., Yi, Z. S., & Liu, Y. L. (2022). Effect of family cohesion on aggression among Chinese middle school students: the mediating role of psychological suzhi. *Current Psychology*, 1–9. <https://doi.org/10.1007/s12144-022-02903-8>.

Wang, X., Liu, Y. L., Lin, J., Liu C. X., Wei, L. Z., & Qiu, H. Y. (2022). The effect of parent–child relationship on mental health of middle school students: the chain mediating role of social support and psychological sushi. *Psychological Development and Education*, 38 (02), 263–271.

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Current themes of research:

Mental health and social adaptability of adolescents. Academic engagement.

Most relevant publications in the field of Psychology of Education:

- Lin, J., Liu, Y. L., & Peng, W. B. (2020). The relationship between college students' academic emotion and learning engagement: The mediating role of academic self-efficacy. *Chinese Journal of Special Education*, 04, 89–96.
- Ying, B., Geng, Y. B., Lin, J., Li, Q. (2021). A large-sample survey of English learning anxiety in middle school students during class resumption in COVID-19 pandemic. *Journal of Southwest University (Natural Science Edition)*, 43(01), 22–30.
- Wang, X., Liu, Y. L., Ying, B., & Lin, J. (2021). The effect of learning adaptability on Chinese middle school students' English academic engagement: the chain mediating roles of foreign language anxiety and English learning self-efficacy. *Current Psychology*, 1–11. <https://doi.org/10.1007/s12144-021-02008-8>.
- Geng, Y. B., Liu, Y. L., Yan, L., Lin, J., Ran, F., & Jiang, Y. (2021). The influence of family cohesion on social adaptation of left-behind children: a moderated mediating effect. *Journal of Southwest University (Natural Science Edition)*, 43(08), 10–19.
- Wang, X., Geng, Y. B., Lin, J., Yi, Z. S., & Liu, Y. L. (2022). Effect of family cohesion on aggression among Chinese middle school students: the mediating role of psychological suzhi. *Current Psychology*, 1–9. <https://doi.org/10.1007/s12144-022-02903-8>.
- Wang, X., Liu, Y. L., Lin, J., Liu C. X., Wei, L. Z., & Qiu, H. Y. (2022). The effect of parent–child relationship on mental health of middle school students: the chain mediating role of social support and psychological sushi. *Psychological Development and Education*, 38(02), 263–271.

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Most relevant publications in the field of Psychology of Education:

No previous publications.

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Current themes of research:

Mental health and social adaptability of adolescents.

Most relevant publications in the field of Psychology of Education:

- Wang, X., Liu, Y. L., Ying, B., & Lin, J. (2021). The effect of learning adaptability on Chinese middle school students' English academic engagement: the chain mediating roles of foreign language anxiety and English learning self-efficacy. *Current Psychology*, 1–11. <https://doi.org/10.1007/s12144-021-02008-8>.
- Geng, Y. B., Liu, Y. L., Yan, L., Lin, J., Ran, F., & Jiang, Y. (2021). The influence of family cohesion on social adaptation of left-behind children: a moderated mediating effect. *Journal of Southwest University (Natural Science Edition)*, 43(08), 10–19.
- Wang, X., Geng, Y. B., Lin, J., Yi, Z. S., & Liu, Y. L. (2022). Effect of family cohesion on aggression among Chinese middle school students: the mediating role of psychological suzhi. *Current Psychology*, 1–9. <https://doi.org/10.1007/s12144-022-02903-8>.
- Wang, X., Liu, Y. L., Lin, J., Liu C. X., Wei, L. Z., & Qiu, H. Y. (2022). The effect of parent–child relationship on mental health of middle school students: the chain mediating role of social support and psychological sushi. *Psychological Development and Education*, 38(02), 263–271.

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