Article

A Study on Junior High School Students' Cooperation Willingness Towards Parental Mediation: An FsQCA Analysis Based on Samples from Two Cities in Anhui Province

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Abstract: In the digital era, it is significant to study how parents implement parental mediation for junior high school students during their formative years to enhance their cooperation willingness. Based on survey data from 348 junior high school students in two cities in Anhui Province and employing the fuzzy-set Qualitative Comparative Analysis (fsQCA), this study identifies four configurational pathways associated with higher levels of cooperation willingness towards parental mediation. The findings suggest that: (1) The combined use of different restrictive mediation strategies may potentially exert a negative impact on adolescents' cooperation willingness; (2) Active mediation may not only hold practical application value but could also contribute to the effectiveness of restrictive mediation; (3) Parents need to flexibly adjust their parental mediation strategies according to their children's individual characteristics.

Keywords: parental mediation; restrictive mediation; active mediation; fsQCA

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1. Introduction

With the rapid development of the digital era and continuous advancements in information technology, digital media have become deeply embedded in the daily lives of the public. Adolescents are gaining increasingly greater access to digital media. For young people, mobile electronic devices such as smartphones and tablets — characterized by their portability, vast and boundary-free content, and real-time interactivity — serve as primary tools for acquiring information, social interaction, and entertainment, fully satisfying their curiosity and desire for exploration. However, simultaneously, these digital technologies may expose adolescents to a range of risks, such as internet addiction: China is experiencing a year-on-year increase in the proportion of minors exhibiting problematic smartphone use. This trend is reflected in the significant number of students across schools who display smartphone dependence or emerging symptoms [1]. Additionally, children may encounter inappropriate images and content [2]. For instance, the abundance of attention-grabbing short videos on platforms like tiktok and Kuaishou. Beyond this, risks include oversharing personal information [3-4]. China's Internet is still developing at breakneck speed [5]. Within an increasingly complex digital environment, appropriately intervening in and guiding adolescents' digital media usage behaviors, and implementing parental mediation, have become of paramount importance in Chinese family education.

Parental mediation, defined as proactive measures taken by parents to maximize the positive effects of media while mitigating its negative impacts on children and adolescents, encompasses all strategies employed by parents to control, supervise, and interpret the media and content accessed by children and youth [6]. In related research, the academic

community commonly uses the term "parental mediation" to describe parent-child interactions concerning media use [7].

It is noteworthy that compared to traditional media such as television, the boundless nature and private usage patterns of new media pose significant challenges to parental mediation. Furthermore, some parents may possess lower digital literacy than their "digital native" children, rendering the mediation process more difficult, potentially escalating parent-child conflicts and deepening communication barriers. This is particularly true for junior high school students in the midst of adolescence, who are more inclined to question parental authority and the perceived legitimacy of control [8]. As social media and devices become new battlegrounds for conflict and negotiation between adolescents and their parents, a crucial question arises: How should Chinese parents implement parental mediation for junior high school students during their formative years to foster greater willingness to cooperate? Based on survey data from 348 junior high school students in two cities in Anhui Province, this paper employs the fuzzy-set Qualitative Comparative Analysis (fsQCA) method. Adopting a configurational perspective, it aims to explore the combinations of parental mediation pathways associated with high levels of adolescent cooperation willingness and further analyze the underlying logic of these combinations.

2. Literature Review

Overall, research on parental mediation within academia revolves around its typologies, effectiveness, and the factors influencing its effectiveness.

2.1. Typologies of Parental Mediation

Parental mediation theory originated in the early era of television media. In the context of children watching films at that time, scholars identified three primary mediation strategies: (1) Restrictive Mediation: Parents set rules to limit children's media content and usage time. (2) Active Mediation: Parents actively engage with children, discussing and explaining media content, and conversing with or guiding them on appropriate media use. (3) Co-use: Parents and children use media together, such as watching television or movies [9-11].

Although the media environment then differed vastly from today's digital age, subsequent scholars have largely retained this basic framework, while making certain modifications, expanding, and supplementing the traditional models. For example, Livingstone and Helsper merged active mediation and co-use into active co-use, signifying joint parent-child participation in online activities like browsing the web or gaming, during which parents can provide explanatory or evaluative guidance on content [12]. They also subdivided restrictive mediation into two dimensions: Technical Restrictions: Parents install filtering or monitoring software to prevent children from accessing unapproved digital media content. Interaction Restrictions: Parents restrict children's online social interactions, such as instant messaging, interactive gaming, emailing, and accessing social networking sites.

Additionally, they introduced Monitoring, involving checking children's browsing history and email messages [12].

Scholars Nikken and Jansz, in their study on parental mediation of internet use among children aged 2-12, proposed Supervision, where children are only allowed online in the presence of parents. They also categorized restrictive mediation into General Restrictive Mediation and Content-Specific Restrictive Mediation [13]. Mendoza categorized parental mediation into two types: Protectionism and Empowerment, which correspond to some extent with restrictive mediation and active mediation respectively [14].

By tracing the developmental trajectory of parental mediation theory, this paper categorizes mediation approaches into:

1) Restrictive Mediation: Establishing rules to restrict media content and usage time.

2) Active Mediation: Parents actively engage with children, discussing and explaining media content, and conversing with or guiding them on appropriate media use [9,15].

2.2. The Positive Effects of Parental Mediation on Adolescents

Previous research indicates that all forms of parental mediation can potentially yield positive effects on adolescents. For instance, parental restrictions on adolescent media use can effectively reduce their exposure time to media [16]. Furthermore, numerous studies have found that restrictive mediation can significantly buffer children against potential negative media influences [7,17]. Livingstone and Helsper pointed out that restricting children's online interactions can lower their probability of encountering harmful content and online risks [12]. Research by Marcum et al. also demonstrated a negative correlation between parental restrictions and children's exposure to sexual solicitations [18].

The effects of active mediation on adolescents are also predominantly positive. Studies show that children whose parents employ active mediation learn more from educational television, adopt a more rationally skeptical attitude towards TV news, exhibit higher engagement in political socialization, and experience fewer aggressive behaviors [19-21,11]. Additionally, data analysis reveals that compared to children of parents using traditional parenting styles, children of parents practicing active mediation achieve better academic performance, have shorter sleep onset latency, and display healthier social and emotional behaviors. Moreover, increasing family interaction time offers benefits comparable to those of active mediation [22].

2.3. The Effectiveness of Parental Mediation and Adolescent Cooperation Willingness

However, the positive effects of parental mediation are not guaranteed; they are influenced by numerous factors, particularly the cooperation willingness of the adolescents themselves. Some research suggests that adolescents exhibit stronger cooperation willingness towards active mediation. When active mediation is employed, children often feel that their parents respect their viewpoints and support their autonomy. This enhances their sense of self-determination and promotes moral internalization, making them more inclined to comply with parental guidance and less likely to exhibit rebellious behavior [23,24]. Conversely, many children show lower acceptance of restrictive mediation [25]. Some studies indicate that excessive use of restrictive parental control may backfire like a boomerang effect, potentially correlating with children holding more positive attitudes towards TV violence and sex, and increased viewing of such content, thereby producing negative outcomes [20].

Furthermore, the effectiveness of parental mediation is also influenced by the adolescent's developmental stage, largely mediated through its impact on their cooperation willingness. For instance, during adolescence, adolescents seek independence and autonomy, which typically necessitates distancing themselves from parents [26]. Alongside developing an increased need for privacy, adolescents may also feel invulnerable to risks, leading them to engage in more risk-taking activities [27]. Consequently, parental mediation efforts aimed at protection may meet with resistance from adolescents, sometimes escalating directly into conflict [28]. These parent-child conflicts arising from mediation not only negatively impact adolescents' self-esteem and life satisfaction but also positively correlate with increased feelings of loneliness and depression [29]. Therefore, parents of adolescents "must strike a balance between their children's growing independence and their own concerns for safety" and must exercise greater caution in implementing parental mediation [30].

Currently, research within China pays relatively little attention to the relationship between various types of parental mediation and children's cooperation willingness. Studies on how to enhance children's cooperation willingness are insufficient, and empirical research findings with local significance are scarce. Moreover, existing research has

not explored the configurational effects between active and restrictive mediation. For example, the impact on children's overall cooperation willingness when combining high-cooperation-willingness active mediation with low-cooperation-willingness restrictive mediation remains unclear. Delving into these issues can not only enrich the current theoretical research on parental mediation in China but also provide parents and educators with more targeted and practically valuable guidance strategies.

3. Research Design

3.1. Research Framework

First, based on the typology of parental mediation and centering on junior high school students' cooperation willingness towards parental mediation, this study constructs its research framework. As established earlier, this study categorizes parental mediation into two types: restrictive mediation and active mediation. To enhance operationalizability, and drawing on relevant research [14,31-33], this study further refines restrictive mediation into time restrictions and content restrictions, and active mediation into digital learning encouragement and risk identification guidance:

1) Time Restrictions: Refers to parents setting limits on how long children can use digital technologies.
2) Content Restrictions: Refers to parents setting boundaries on the specific activities children can engage in while using technology, such as rules prohibiting the use of social media or playing video games.
3) Digital Learning Encouragement: Involves helping children think critically about their online choices and encouraging their positive use of the internet. This includes recommending good websites and providing technical assistance and advice.
4) Risk Identification Guidance: Refers to parents, through parent-child communication, regulating children's media use to protect them from risks associated with digital media.

Parents' utilization of these four parental mediation strategies constitutes the foundation of this research framework. Cooperation willingness, defined as the degree to which junior high school students are inclined to accept parental mediation, is the central focus of this framework.

Furthermore, considering that junior high school students' own characteristics may also influence their cooperation willingness towards parental mediation, the research framework also incorporates the variables of student gender and academic performance. On one hand, numerous studies indicate that girls exhibit more compliance behavior towards parents, teachers, and other authority figures than boys, and are more likely to adhere to parental demands [34]. Non-compliant behaviors among adolescent youth also show a trend of being higher in boys than in girls [35]. On the other hand, research on conflicts between Chinese adolescents and their parents shows that academics are the primary source of such conflicts, forming the core of parent-adolescent conflict in China [36,37]. Moreover, child ego states like the compliant type also show significant correlations with academic performance in various subjects and total scores [38]. Therefore, this study incorporates the student's gender and academic performance into the research framework.

In summary, this paper ultimately constructs the research framework shown in Figure 1. Here, the student's gender and academic performance, as individual factors, are considered more as contextual backgrounds for parental mediation. The utilization of the other four parental mediation strategies represents subjectively adopted tactics by parents, which can be altered by adjusting appropriate strategies. These strategies are the key focus of this paper. They may not only interact with each other but also potentially interact with the student's individual factors, collectively influencing the junior high school students' cooperation willingness towards parental mediation.

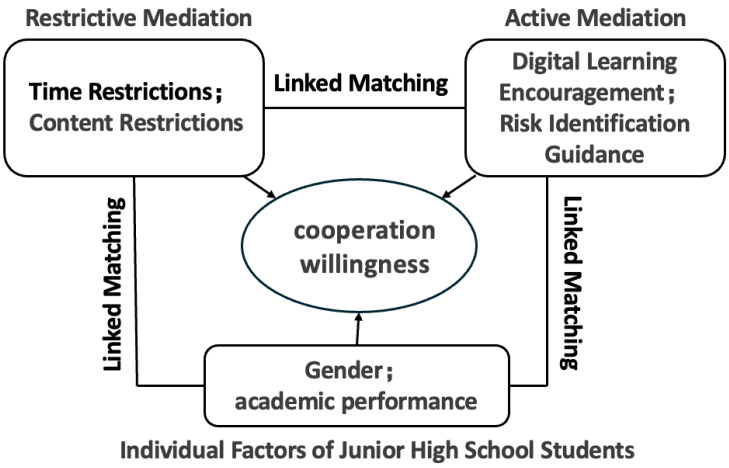

Figure 1. Research Framework on Junior High School Students' Cooperation Willingness Regarding Parental Mediation.

3.2. Research Method

QCA (Qualitative Comparative Analysis), an emerging research strategy situated between qualitative and quantitative methods, employs set theory and Boolean algebra as its methodological foundation to explore how combinations of antecedent conditions lead to observable variations in the outcome variable. In this study, parents' utilization of time restrictions, content restrictions, digital learning encouragement, and risk identification guidance, along with the junior high school students' gender and academic performance, serve as the antecedent conditions. Junior high school students' cooperation willingness towards parental mediation is the outcome variable. Compared to traditional regression analysis, QCA does not rely on the assumption of variable independence, enabling a more comprehensive revelation of the interdependence between variables and the impact of overall configurations on the outcome. Based on data types, QCA can be categorized into csQCA (crisp-set Qualitative Comparative Analysis), mvQCA (multi-value Qualitative Comparative Analysis), and fsQCA (fuzzy-set Qualitative Comparative Analysis). fsQCA is capable of further handling issues concerning degree variation or partial membership. Therefore, this paper selects fsQCA as the research method.

3.3. Data Source

The data for this study originates from the "Family Digital Parenting Survey" conducted by the Family Digital Parenting Research Group at Anhui Normal University in June 2023. This survey targeted day-school junior high school students in Anhui Province, utilizing a questionnaire method for data collection. The questionnaire covered aspects such as the basic digital life situation of day-school junior high school students, the basic situation of family digital parenting, and its effects, comprising a total of 25 items.

During the pilot survey phase (May 2023), the Family Digital Parenting Research Group at Anhui Normal University preliminarily tested the reliability and validity of the questionnaire. For reliability, test-retest reliability was employed. Using purposive sampling, 30 day-school junior high school students were selected as a sample and asked to complete the questionnaire twice with a two-week interval. Subsequently, the data from both measurements were consolidated into a single table. Since each respondent answered the same variable twice, corresponding variables were created by appending "1" and "2" to the variable names to distinguish the survey order. Then, Pearson correlation tests were conducted for each pair of corresponding variables using SPSS software (when dichotomous variables are coded as 0 and 1, the Pearson correlation coefficient can also measure the linear correlation between two dichotomous variables). The results showed that all corresponding variable pairs were significantly correlated at the 0.05 level, indicating

good test-retest reliability for the questionnaire. For validity, the expert evaluation method was used; experts in relevant fields were invited to assess the questionnaire items. Experts judged that the items could accurately reflect the concepts or variables intended to be measured.

Furthermore, regarding the sampling method, a multi-stage sampling approach was adopted to balance scientific rigor and feasibility. This process was divided into three stages:

1) Stage One: Using purposive sampling, W City and F City in Anhui Province were selected as survey cities. Anhui Province has a vast territory. W City has a relatively high level of economic development, with rapid growth in high-end manufacturing sectors such as automobile manufacturing in recent years. As a member of the Nanjing Metropolitan Circle, it can to some extent represent eastern developed regions. F City, a member of the Central Plains Urban Agglomeration, can to some extent represent central-western regions.
2) Stage Two: Within the two cities, four junior high schools were selected as survey sites using purposive sampling. For example, in W City, School A located in the city center and School B located in a township were chosen.
3) Stage Three: At the gates of the selected schools, suitable day-school students were approached based on convenience sampling for offline questionnaire completion. Subsequently, contact information for these students was collected, and online questionnaire links were sent, requesting they recommend the survey to other day-school classmates. Through this method, 513 questionnaires were ultimately collected.

After cleaning the data according to the needs of this study, a total of 348 valid samples were obtained. This sample size is reasonable and can to some extent reveal the relationship between different condition configurations and the outcome. Since fsQCA is a set-theoretic qualitative comparative method focusing on the configurational relationships between conditions and outcomes, rather than linear relationships between variables, and considering this paper focuses on family parental mediation — where day-school junior high school students, compared to boarding students, have more family life and are more likely to experience parental mediation from their families — this study contends that the data from the "Family Digital Parenting Survey" conducted by Anhui Normal University's research group can be used for the fsQCA analysis of junior high school students' cooperation willingness towards parental mediation.

3.4. Measurement of Outcome and Antecedent Conditions

3.4.1. Cooperation Willingness

This study measured junior high school students' cooperation willingness towards parental mediation using the specific question in the "Family Digital Parenting Survey" questionnaire: "Do you cooperate with your family's management and guidance regarding your electronic device use?" Response options were: "Very uncooperative" (assigned 1), "Relatively uncooperative" (assigned 2), "Neutral" (assigned 3), "Relatively cooperative" (assigned 4), "Very cooperative" (assigned 5). Higher scores indicate higher levels of cooperation willingness towards parental mediation.

3.4.2. Time Restrictions

This study measured parents' utilization of time restrictions using the specific question: "What is the maximum duration you are allowed to use your most frequently used electronic device per week?" Response options were: "One hour or less" (assigned 6), "One to two hours" (assigned 5), "Two to four hours" (assigned 4), "Four to seven hours" (assigned 3), "Seven to ten hours" (assigned 2), "More than ten hours" (assigned 1). Lower scores indicate higher frequency and intensity of parental use of time restrictions.

3.4.3. Content Restrictions

This study measured parents' utilization of content restrictions using the specific question: "When you use electronic devices, do your parents manage the content you browse or use?" Response options were: "No" (assigned 0, indicating parents use content restrictions less frequently), "Yes" (assigned 1, indicating parents use content restrictions more frequently).

3.4.4. Digital Learning Encouragement

This study measured parents' utilization of digital learning encouragement using the specific question: "Do your parents encourage you to learn new digital technologies? Such as various creative apps, programming, etc." Response options were: "No" (assigned 0, indicating parents use digital learning encouragement less frequently), "Yes" (assigned 1, indicating parents use digital learning encouragement more frequently).

3.4.5. Risk Identification Guidance

This study measured parents' utilization of risk identification guidance using the specific question: "Do your parents frequently teach you to identify risks online?" Response options were: "Strongly disagree" (assigned 1), "Relatively disagree" (assigned 2), "Neutral" (assigned 3), "Relatively agree" (assigned 4), "Strongly agree" (assigned 5). Higher scores indicate higher frequency and intensity of parental use of risk identification guidance.

3.4.6. Gender and Academic Performance

This study measured student gender and academic performance using the specific questions: "What is your gender?" and "What is your current academic performance level within your class?" respectively. Response options for gender: "Male" (assigned 0), "Female" (assigned 1). Response options for academic performance: "Bottom" (assigned 1), "Below average" (assigned 2), "Average" (assigned 3), "Above average" (assigned 4), "Top" (assigned 5). Higher scores indicate better academic performance.

For clearer presentation, the descriptive statistics of the above variables are shown in Table 1 below.

Table 1. Descriptive Analysis of Outcome and Condition Variables.

Variable Name	Total (N)	Mean (M)	Std. Dev. (SD)	Min	Max
Cooperation Willingness	348	1.80	0.816	1	5
Time Restrictions	348	4.53	1.066	1	6
Content Restrictions	348	0.30	0.460	0	1
Digital Learning Encouragement	348	0.72	0.450	0	1
Risk Identification Guidance	348	4.29	0.802	1	5
Gender	348	0.49	0.501	0	1
Academic Perf.	348	3.52	0.974	1	5

4. Analysis Results

4.1. Data Calibration

In fsQCA, each condition and outcome is treated as a unique set, with each case having a membership score within these sets. The process of assigning these set membership scores is called calibration. This study employs the direct calibration method to transform the data into fuzzy-set membership scores, using the 90th, 50th, and 10th percentiles of the sample data as the thresholds for full membership, crossover point, and full non-membership, respectively. (Note: Data coded as 0 or 1 do not require calibration; 0 represents a full non-member of a fuzzy set and 1 represents a full member of the set.) Furthermore,

to ensure no missing cases in the analysis, cases with a calibrated value of exactly 0.5 were manually adjusted to 0.501 [39]. The calibration information is presented in Table 2 below.

Table 2. Calibration of Outcome and Antecedent Conditions.

Target Set	Full In (90%)	Crossover (50%)	Full Out (10%)
High Cooperation Willingness	3	2	1
High Time Restrictions	6	5	3
High Risk Identification Guidance	5	4	3
High Academic Performance	5	4	2

4.2. Analysis of Necessary Conditions for Single Antecedent Conditions

Before conducting the configurational analysis, it is necessary to test the necessity of each antecedent condition. If the test results indicate that the consistency of a specific antecedent condition is greater than 0.9, that condition is considered a necessary condition for the outcome. Such a condition cannot be included in the subsequent construction of configurations [40]. This study used the fsQCA 3.0 software to perform the necessity test for the antecedent conditions leading to high cooperation willingness and non-high cooperation willingness. The detailed results are shown in Table 3 below. The data in Table 3 clearly show that the consistency coefficients for all antecedent conditions are below 0.9. This indicates that there are no necessary conditions influencing either high cooperation willingness or non-high cooperation willingness towards parental mediation among junior high school students.

Table 3. Analysis of Necessary Conditions for Antecedent Conditions.

Antecedent Condition	High Cooperation Willingness		Non-High Cooperation Willingness	
	Consistency	Coverage	Consistency	Coverage
High Time Restrictions	0.518	0.744	0.566	0.541
Non-High Time Restrictions	0.681	0.702	0.732	0.502
High Content Restrictions	0.315	0.627	0.282	0.373
Non-High Content Restrictions	0.684	0.589	0.718	0.411
High Digital Learning Encouragement	0.767	0.641	0.646	0.360
Non-High Digital Learning Encouragement	0.233	0.498	0.354	0.502
High Risk Identification Guidance	0.807	0.749	0.751	0.464
Non-Risk Identification Guidance	0.423	0.719	0.594	0.671
Female	0.462	0.561	0.543	0.439
Male	0.538	0.639	0.456	0.361
High Academic Performance	0.545	0.819	0.549	0.548
Non-High Academic Performance	0.699	0.700	0.818	

4.3. Configurational Analysis for High Cooperation Willingness

Following the analysis of necessary conditions for the antecedent conditions, the subsequent configurational analysis can proceed. Based on the specifics of the cases, this study set the frequency threshold for the number of cases to 2, the consistency threshold to 0.8, and the PRI (Proportional Reduction in Inconsistency) threshold to 0.75. After standardized analysis, the fsQCA 3.0 software ultimately produced three solutions: the complex solution, the intermediate solution, and the parsimonious solution. For presenting the analysis results, this study adopts the approach proposed by Ragin, which uses

the intermediate solution as the foundation and the parsimonious solution as a supplement [40]. Specifically, antecedent conditions appearing only in the intermediate solution are treated as peripheral conditions, denoted by ● or ⊗. Antecedent conditions appearing in both the intermediate and parsimonious solutions are treated as core conditions, denoted by ⬤ or ⊗. The details are shown in Table 4 below. This presentation method can clearly indicate the relative importance of each antecedent condition within the configurations.

Table 4. Configurational Analysis Results for High Cooperation Willingness.

Antecedent Condition	Config. 1	Config. 2	Config. 3	Config. 4
Time Restrictions			⬤	●
Content Restrictions	⬤		⊗	⊗
Digital Learning Encouragement	⬤	●		⬤
Risk Identification Guidance	⬤	●	⬤	
Gender (Female)			⊗	⊗
Academic Performance		●		⬤
Consistency	0.827	0.895	0.860	0.931
Raw Coverage	0.197	0.389	0.172	0.105
Unique Coverage	0.066	0.166	0.080	0.014
Solution Consistency	0.851			
Solution Coverage	0.549			

Note: ⬤ or ● indicates the presence of the condition; ⊗ or ⊗ indicates the absence of the condition. ⬤ or ⊗ denotes a core condition; ● or ⊗ denotes a peripheral condition. A blank cell indicates that the condition's presence or absence is irrelevant (may or may not be present).

Table 4 reveals four core configurational pathways influencing high cooperation willingness among junior high school students. Each column represents a possible combination of conditions that may trigger high cooperation willingness, while each row reflects the relative importance of the different antecedent conditions within these combinations. The solution consistency index is 0.851, meaning that among all cases fitting these four condition combinations, 85.1% exhibited high cooperation willingness. The solution coverage is 0.549, indicating that these condition combinations can explain approximately 54.9% of the cases with high cooperation willingness. Both solution consistency and coverage exceed critical thresholds, validating the effectiveness of this empirical analysis. Broadly speaking, these four configurations correspond to combinations of parental mediation strategies that yield high cooperation willingness, adaptable to the specific circumstances of the junior high school student. The individual configurations (mediation strategy combinations) are described below:

Configuration 1: Under general circumstances, if parents employ a combination of high content restrictions, high digital learning encouragement, and high risk identification guidance, irrespective of the use of time restrictions, junior high school students are likely to exhibit high cooperation willingness.

Configuration 2: When the student has high academic performance, if parents employ a combination of high digital learning encouragement and high risk identification guidance, irrespective of the use of time restrictions and content restrictions, these students are likely to exhibit high cooperation willingness.

Configuration 3: When the student is male, if parents employ a combination of high time restrictions, low content restrictions, and high risk identification guidance, irrespective of the use of digital learning encouragement, these students are likely to exhibit high cooperation willingness.

Configuration 4: When the student is both male and has high academic performance, if parents employ a combination of high time restrictions, low content restrictions, and

high digital learning encouragement, irrespective of the use of risk identification guidance, these students are likely to exhibit high cooperation willingness. Within this pathway, low content restrictions and high digital learning encouragement are core conditions, indicating that greater emphasis should be placed on implementing these two strategies when adopting this combination.

4.4. Robustness Test

QCA is a set-theoretic method. If, after minor adjustments to the operations, the resulting configurations form subset relations and the core explanatory logic of the study remains unchanged, the findings can be deemed robust and reliable. To test the robustness of the results, this study increased the consistency threshold from 0.8 to 0.85 when constructing the truth table. The resulting configurations were substantially identical to the original ones, with no significant change in their meaning. Secondly, when the PRI consistency threshold was lowered from 0.75 to 0.65, the newly generated configurations showed nested superset-subset relationships with the original configurations. This further verifies the robustness of the research findings. It can therefore be concluded that the results of this paper are relatively robust.

5. Conclusion

In summary, based on survey data from 348 junior high school students in two cities in Anhui Province and employing fsQCA analysis, this study has delved into students' cooperation willingness towards parental mediation and identified four configurational pathways associated with higher levels of cooperation willingness. Furthermore, these pathways reflect the following underlying configurational logic:

5.1. The Potential Negative Impact of Combined Use of Different Restrictive Mediation Strategies on Adolescent Cooperation Willingness

Both Configuration 3 and Configuration 4 feature the combination of high time restrictions and low content restrictions. This suggests that when parents employ multiple restrictive mediation strategies simultaneously, it may trigger adolescent resistance and reduce their cooperation willingness. Adolescents in adolescence are at a stage of pursuing independence and autonomy. Excessive restrictions can make them feel that their freedom is being unduly constrained by parents, leading to reactance. For instance, if parents strictly limit both their child's online time and the content they browse, the child may feel their personal space is severely invaded, fostering resentment towards parental mediation.

5.2. The Application Value of Active Mediation and Its Potential to Enhance the Effectiveness of Restrictive Mediation

Configuration 1 and Configuration 2 demonstrate that the use of active mediation strategies can effectively enhance adolescent cooperation willingness towards parental mediation. Particularly in Configuration 2, when both types of active mediation (high digital learning encouragement and high risk identification guidance) are implemented, students are likely to exhibit high cooperation willingness irrespective of the use of time and content restrictions. The reason may lie in the fact that active mediation allows children to feel that their parents respect and support their autonomy, fulfilling their pursuit of self-worth. For example, by encouraging children to learn new digital technologies, parents not only satisfy the child's curiosity and desire to explore the digital world but also guide them towards positive media use within a safe framework. This positive guidance can enhance the child's sense of self-efficacy, making them more willing to accept other parental mediation strategies, including necessary restrictive mediation strategies.

5.3. Flexible Adjustment of Parental Mediation Based on Child Characteristics

The study also found that the students' own characteristics, such as gender and academic performance, significantly influence their cooperation willingness towards parental mediation. For instance, in Configuration 2, when a student has high academic performance, even if parents do not employ time or content restrictions, the child can still exhibit high cooperation willingness solely through the two active mediation strategies: high digital learning encouragement and high risk identification guidance. This may be because students with better academic performance typically possess stronger self-discipline and identification with parental expectations, making them more willing to proactively cooperate with parental guidance to achieve better development.

In conclusion, this study provides a new configurational perspective and empirical evidence for understanding junior high school students' cooperation willingness towards parental mediation. From a configurational perspective, it emphasizes the impact of the interaction between different parental mediation strategies and multiple factors on the outcome. Simultaneously, it offers concrete suggestions for intervention strategies to parents. However, this study has certain limitations, such as room for improvement in sample selection and variable selection. Future research could further explore other potential factors influencing junior high school students' cooperation willingness and investigate more types of parental mediation strategies.

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