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Managing After-School Service Reform and Parental Educational Expectations: Evidence from Primary Education in Shenzhen

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Abstract
This study examines After-school Service Transformation (AST), Perceived Evaluation Reform (PER), and Parental Educational Expectations (PEE) with respect to the implementation of the Double Reduction policy in primary schools in Shenzhen. This study aimed to explore how the transformation of after-school services affects parents' educational expectations and determine whether perceived evaluation reform has a mediating effect. A quantitative cross-sectional research design was used, and a survey was conducted with 210 parents of primary school students in Shenzhen. The data were analyzed using descriptive statistics, Pearson correlation analysis, and regression-based mediation analysis using PROCESS. The results show that After school Service Transformation is positively associated with Parental Educational Expectations, with a significant positive effect ($\beta = 0.825$, $p < 0.001$). Furthermore, After-school Service Transformation is a significant predictor of Perceived Evaluation Reform ($\beta = 0.865$, $p < 0.001$), and Perceived Evaluation Reform is also a significant predictor of Parental Educational Expectations ($\beta = 0.614$, $p < 0.001$). Furthermore, mediation analysis showed that Perceived Evaluation Reform partially mediated the relationship between After-school Service Transformation and Parental Educational Expectations (DE = 0.288; IE = 0.531), indicating the importance of evaluation reform in influencing parental attitudes towards holistic education. These results indicate that the effectiveness of after-school service reform is not only determined by the provision of services but also by the establishment of a transparent and credible evaluation system that facilitates comprehensive educational development. This study offers valuable insights for schools and policymakers on how to improve the implementation of the "Double Reduction" policy and encourage more equal parent expectations regarding education. Expansion of the research is recommended to include longitudinal and comparative studies in various parts of China to examine the sustainability of after school service reforms. Other unexplored factors, including parental socioeconomic background, school quality, and learning outcomes, may also impact parental expectations for education.

Keywords: Double Reduction Policy, After-school Service Transformation, Evaluation Reform, Parental Educational Expectations, Primary Education, Shenzhen, China

Introduction

China has implemented a new compulsory education system with significant changes, the "Double Reduction" policy, which aims to alleviate the intensity of academic workloads and support students' overall development. The "5+2" model is one of the key reforms, which allows schools to expand and transform after-school programs by offering diversified learning activities, focusing on creativity, arts, physical development,

and applied competencies, instead of exam-based tutoring (Chen & Lin, 2024; Hu & West, 2024). After-school services in Shenzhen's primary schools have become increasingly focused on student development rather than academic reinforcement and have shifted to enrichment-oriented programs.

However, despite these institutional changes, parental expectations for education remain high, influenced by the idea of exam competition and high-stakes admission systems. Schools changed the purpose and form of after-school services, but many parents still assess educational value mostly from the academic competitive aspect and future admissions possibilities. The literature shows a close relationship between parents' educational expectations in China and educational competition, as well as family capital and parental educational views on upward academic mobility (Ding & Wu, 2023; Li & Xue, 2022; Sheng, 2023). Consequently, there is a conflict between policy-based holistic education and parents' ongoing use of examination-based indicators of success.

This phenomenon can be explained using the Rational Choice Theory, which states that parents make decisions about education based on perceived costs, benefits, risks, and future returns (Breen & Goldthorpe, 1997; Hechter & Kanazawa, 1997). Parents in highly competitive educational contexts, such as Shenzhen, may still value traditional academic success as offering better access to later schooling. This suggests that opposition to non-academic education reform may stem from sensible and thoughtful reactions to the vagueness surrounding the importance of holistic competencies in the longer term.

In recent years, educational research has focused on creating diverse and technologized learning environments as the key to children's overall development. For instance, Supot Rattanapun et al. (2025) discovered that interactive and self-regulated learning had a significant effect on improving digital literacy among primary school students, suggesting that learning environments that focus on competency-based learning are vital for digital literacy, as opposed to exam-driven instruction. The results confirm the overall educational trend towards diversified after-school learning experiences.

Meanwhile, the adoption of educational innovation and technology has had a profound impact on the reform of primary education in China. In parallel, the use of educational innovation and educational technology is gradually influencing educators in primary schools' reform practice. AI-powered personalized learning and technology-enhanced instructional management are among the revolutionary instructional strategies that schools are implementing to stimulate creativity, communication, and personalized learning experiences. This illustrates that after-school service transformation must be interpreted as part of a transition towards competency-based and student-centered education.

Another significant issue is parents' perceptions of changes in evaluation. Some parents may not recognize the value of holistic competencies as being assessed by descriptive or qualitative evaluation systems, as this may be seen as more subjective and less consistent than the results of standardized examinations. Parents' trust in the fairness and transparency of these evaluation systems could make it harder to trust the legitimacy of the non-academic outcomes of education and support reforms of after-school services. Without credible and transparent systems for evaluation, improvements to after-school services are unlikely to significantly affect parental expectations for education.

Previous research on the "Double Reduction" policy has primarily explored educational anxiety, policy implementation, and educational equity (Qian et al., 2024; Wu & Dong, 2023; Xue& Li, 2023). However,there has been limited research dedicated to linking the transformation of after-school services with the transformation of evaluation systems and their impact on parental expectations for education. Specifically, the mediation of perceived evaluation reform in primary education in Shenzhen is under-researched.

Thus, this study aims to explore the interrelationships between After-school Service Transformation (AST), Perceived Evaluation Reform (PER) and Parental Educational Expectations (PEE) in the context of educational reform in Shenzhen. Specifically, it examines whether perceived evaluation reform plays a mediating role between after-school service transformation

and parents' educational expectations. Drawing on Rational Choice Theory, this study contributes to the understanding of the impact that institutional educational reform can have on parental attitudes in a highly competitive educational context.

Research Objectives

- This study examined the impact of perceived evaluation reform (PER) and after-school service transformation (ST) on parental educational expectations (PEE) in primary education in Shenzhen.
- This study investigates whether the Perceived Evaluation Reform (PER) impacts the relationship between After-school Service Transformation (ST) and Parental Educational Expectations (PEE) in primary education in Shenzhen.

Literature Reviews

The conceptual framework of this study is based on three social and psychological theories. These theories were developed to account for the robustness of parental expectations in the face of reform and the circumstances under which they may be structurally changed.

The Relationship between After-School Service Transformation and Parental Educational Expectations

The literature indicates that after-school quality, availability, and trustworthiness of the services offered in school affect parental educational methods and expectations. In China, after-school service reform is a key policy to alleviate students' over-academic stress and enhance balanced child development under the "Double Reduction" policy. Previous research has shown that after-school programs may mitigate parents' reliance on private tutors and shadow education and promote broader educational goals than test scores (Zhang et al., 2023). Specifically, parents who have access to diversified enrichment activities, such as sports, arts, or creativity, and competency-based learning in school, tend to perceive formal schooling as being able to support holistic child development (Xie & Xiao, 2022). Zhou (2022) also pointed out that even though the "Double Reduction" policy is likely to increase parental anxiety when there is uneven family capital and educational facilities, this anxiety can be reduced over time if schools enhance the quality and effectiveness of their after-school programs.

Empirical research from primary education settings also provides evidence that parents' educational expectations are strongly correlated with confidence in learning support in school. Deng et al. (2024) used qualitative research with primary school parents to identify that a lack of trust in services offered by the school exacerbated educational anxiety and academic panic among parents, especially those in the middle class who worried about the future competitiveness of their children. Likewise, Hao (2025) noted that the effectiveness of the "Double Reduction" reform hinges on the extent to which schools can provide concrete enhancements of teaching and learning that break with parents' deeply held conviction of an exam-oriented education. In conclusion, these results indicate that not only do children's after-school services change how education is delivered, but they also affect the values of parents in terms of what they think is desirable in an education for their children.

However, some ambiguities and constraints have emerged from previous studies. Although many scholars claim that diversified after school services keep parents from relying on academic tutoring and encourage holistic educational values, others have found that even with policy changes, some parents still pay attention to examination performance, particularly in highly competitive urban areas. Zhou (2022), for instance, reported that families with greater socio-economic capital are more inclined to invest in private tutoring even if they had after school programmes offered in schools. Similarly, Deng et al. (2024) discovered that parental anxiety can continue if the programs offered in schools are not academically rigorous or easily measurable. The contradictory results indicate that, regardless of whether these programs are after-school, they cannot be expected to change parental educational expectations without changes to the quality of education, the credibility of assessment, and the public's trust in the school system. Furthermore, most past research studies were based on qualitative methods and/or policy analysis and lacked sufficient large empirical evidence based

in primary education contexts, especially in rapidly developing metropolitan cities like Shenzhen.

International studies also highlight the link between changes in education, multi-grade teaching, and parents' attitudes towards education. Research from South Korea, Singapore, and Finland has shown that competency-based after-school learning can help alleviate academic stress and enhance collaborative and self-regulated learning skills in primary and secondary school students (Kim & Jung, 2021; Sahlberg, 2021; Tan, 2022). The Organisation for Economic Co-operation and Development (OECD) also firmly highlighted the need to move away from examination-driven education towards education focused on competency development, creativity, and student well-being in future education systems (OECD, 2021). The results suggest that the transformation of after-school services is not just an administrative change but a shift in the educational system towards sustainable and holistic learning.

Moreover, recent empirical research has emphasized the role of parental trust in the process of implementing reforms in educational assessment. Research in China, Japan, and Europe has revealed that transparent and credible assessment practices can alleviate parental worries about academic competition and improve the acceptance of non-academic and holistic educational approaches (Gao & Ren, 2022; Kutsyuruba & Walker, 2023; Martínez-Domínguez & Fierros-González, 2022). Additionally, researchers in educational change, including Michael Fullan (2020) and Andy Hargreaves and Shirley (2021), stress the importance of trust, communication and implementation consistency among stakeholders for a successful change in education. The ideas here imply that the impact of after-school service transformation on parents' expectations of education may be contingent not only on the amount of the service available, but also on parents' trust in the credibility and quality of the school's educational products.

The literature suggests that transformation in after-school services could have positive implications for parental educational expectations in a way that is more comprehensive and based on competence. However, the results from these studies are somewhat mixed because of the variability in socioeconomic status, school quality, parents' faith or trust in the school, and school competition. Accordingly, a series of empirical studies in primary education schools, especially in rapidly urbanizing cities like Shenzhen, is needed to gain a deeper understanding of the influence of after-school service reform on parents' educational expectations under the "Double Reduction" policy environment.

H_1: After-school service transformation has a positive effect on Parental Educational Expectations of holistic development.

The Relationship between After-school Service Transformation and Perceived Evaluation Reform

After-school services are a key aspect of parents' perception of the reform of the evaluation system for education, as outlined in the "Double Reduction" policy. Parental trust in educational reforms is more likely to be achieved when policy changes are evident in school practices and learning activities. Qian, Walker, and Chen (2024) stated that the success or failure of the top-down educational reform relies heavily on the effectiveness of its implementation at the school level. In this context, after-school services transform means a transformation in how schools are adapting to a holistic and competency-based education objective instead of an examination-based education objective.

After-school programs are more strongly linked to examination reform due to recent changes to the Zhongkao system, in which physical education and arts are now more prominent. These reforms have introduced new educational values and challenges for schools, as identified by Yang et al. (2026) and Dong et al. (2024). Many schools then reengineered their after-school programs to feature sports, arts, and competency-based learning that matched the new assessment standards. Structured and high-quality after-school programs raise parents' confidence in the authenticity of evaluation reform (Ning, 2024). In addition, Sun et al. (2022) identified that parents in Shenzhen were more supportive of reform when schools were professionally run and prepared and ready for the new assessment systems.

However, there are some contradictions and limitations in previous studies. Despite a number

of researchers arguing that after-school service transformation supports parent acceptance of evaluation reform, some parents are still not convinced that the new evaluations are fair or accurate, particularly in competitive educational climates. Variations in school quality, educational resources, and implementation in different regions could also affect parents' feelings about the school. Furthermore, previous studies were largely qualitative and limited to policy discussions, and few were conducted in primary schools.

International research also highlights the need for transparency, trust in institutions, and effective communication in the process of successful educational reform (OECD, 2021; Kutsyuruba & Walker, 2023). Stakeholder trust and implementation quality were also cited as important in determining public acceptance of reform by educational change scholars such as Michael Fullan. Thus, effective after-school service transformation could reinforce parents' perception of the reform of educational evaluation if they can see and trust the policy in practice.

H_2: After-school Service Transformation positively impacts Perceived Evaluation Reform.

The Relationship between Perceived Evaluation Reform and Parental Educational Expectations

Parents' behavior and educational expectations are profoundly affected by educational evaluation systems (Cai & Cheng, 2024; Zhou et al., 2024). Parents tend to adapt their educational approaches in response to institutional policies and admission procedures. Ding and Wu (2023) revealed that perceived meaningfulness and credibility of evaluation reform, particularly if it is based on non-academic competencies influencing school admissions, would increase the likelihood that parents would support holistic child development rather than exam performance alone.

Empirical research also indicates that parents' expectations are vulnerable to academic competition and institutional pressure. Zhao, Wang, and Ma (2025) found that transparent and reliable assessment systems can alleviate educational anxiety and foster parents' appreciation of the overall education. Likewise, Zhang et al. (2022) reported that the acceptance of competency- and well-being-based education is enabled by fair institutional mechanisms and effective communication between parents and their children's schools.

However, there are inconsistencies and restrictions in previous studies. Evaluation reform may foster general expectations for education, but many parents are still concerned about education for the future and socially competitive concerns. Parental perceptions may also be influenced by differences in school quality, socioeconomic status, and trust in the school. In addition, most previous studies have been conducted with only policy discussions and secondary education, and there is not much empirical evidence in the primary education context, such as Shenzhen.

The importance of transparent assessment systems and institutional trust has also been stressed from an international perspective for successful educational reform. OECD (2021) emphasized the need for competency development and students' well-being in future-oriented education systems. Thus, when evaluation reform is perceived, it may positively affect parents' educational expectations by boosting their confidence in holistic and competency education.

H_3: Perceived Evaluation Reform positively impacts Parental Educational Expectations.

The Mediating Role of Perceived Evaluation Reform

Perceived Evaluation Reform (PER) is the perception of parents that the school evaluation systems are changing from examination-oriented evaluation to evaluation of all-round development of the child, such as creativity, collaboration, and physical health, which were not being assessed using examinations. Parents might be aware of the advantages of learning through diverse after-school activities, but they are less likely to shift their educational goals when such skills are not formally recognized in assessment and admission processes. In the context of competition, parents' decision-makingis largely determined by academic evaluation standards (Sheng, 2023; Wu & Dong, 2023).

According to Signaling Theory, evaluation systems serve as institutional messages that

communicate which competencies a student has that are socially and educationally rewarded (Spence, 1973). An increase in parental satisfaction with evaluation reform that is fair, transparent, and meaningful will increase the likelihood of children viewing after-school enrichment activities as important for future educational success and not simply as recreational activities. The results of previous studies have revealed that institutions' assessment systems significantly affect parents' educational expectations and decisions (Chen et al., 2022; Li & Xue, 2022).

Thus, if after-school service transformation affects perceived evaluation reform, it can indirectly impact parental educational expectations. Diversified after-school services, in other words, provide new pathways to development, and evaluation reform provides a means of legitimization and reinforcement of the value of these competencies in the education system.

H_4: Perceived Evaluation Reform (PER) mediates the relationship between After-school Service Transformation (ST) and Parental Educational Expectations (PEE).



Figure 1 Conceptual framework

Research Methodology

This study employed a quantitative cross-sectional research design to investigate the relationships among after-school service transformation, perceived evaluation reform, and parental educational expectations in primary schools in Shenzhen, China. This study further examined the mediating role of perceived evaluation reform in the relationship between after-school service transformation and parental educational expectations. Data were collected using a structured questionnaire and analyzed using descriptive statistics, Pearson's correlation, and regression-based mediation analysis. The mediation effect was tested using the PROCESS macro with 5,000 bootstrap samples and 95% confidence intervals (CIs).

Population and Sample

The subjects in this research were parents of pupils enrolled in selected public primary schools in Shenzhen that have adopted the "5+2" after-school service mode based on the "Double Reduction" policy. A total of 405 parents of students in Grades 1-6 or kindergarten were accessed. The minimum sample size used was 201 respondents at 95th confidence level and 0.05 margin of error. The questionnaires were sent out again to increase reliability and ensure a complete response. All 210 questionnaires collected, 210 were valid and used in the final analysis.

Before the main data collection, a pilot study was conducted with 30 parents with similar characteristics to the target group but not in the sample. The purpose of the pilot study was to test the clarity, reliability, and content validity of the questions on the questionnaire. The Item-Objective Congruence (IOC) method was used to assess content validity, which was performed by three experts in the field of educational management and educational policy. The result obtained was above 0.50, which is within the acceptable limit. Reliability analysis revealed good internal consistency for all constructs, with Cronbach's alpha values above the recommended threshold of 0.70. The pilot participants' and expert reviewers' feedback was then used to modify the wording and clarify items and to make the instrument more consistent before the full-scale survey was conducted.

Research Instrument

Data were gathered through a structured questionnaire on a 5-point Likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree). The instrument comprised three parts: demographic data, measurement of the researched variables, and open-ended feedback. These constructs were the main constructs of the study: after-school service transformation, perceived evaluation reform, and

parental educational expectations. The questionnaire was first translated into Chinese and then translated back into English to ensure linguistic equivalence and contextuality.

Validity and Reliability

Content validity was determined by three experts in educational management and educational psychology. Some minor changes were made to improve the contextual relevance and clarity of the items. The test was tested with 36 respondents and the internal consistency was obtained very high, with an alpha coefficient of 0.938 for the whole test. The item-total correlation (ITC) was calculated for all items, and the results showed satisfactory reliability of the instrument, with all corrected ITC values above the acceptable limit of 0.50.

Data Collection and Analysis

Data were gathered in February 2026 via official school-parent communication tools via Wenjuanxing (online survey). IBM SPSS Statistics 26 was used for statistical analysis. Respondent characteristics and distributions of variables were summarized using descriptive statistics. Relationships between variables were analyzed using Pearson's correlation analysis, and multiple regression and mediation analyses were used to test the proposed hypotheses. To detect multicollinearity, variance inflation factor (VIF) diagnostics were conducted before the regression analysis.

Results

Descriptive Analysis

Table 1 Demographic Characteristics of Respondents (n=210)

Variable	Category	Frequency	(%)
Gender	Male	88	41.9%
	Female	122	58.1%
Age	25-35	92	43.8%
	36-45	98	46.7%
	46-55	18	8.6%
	Over 55	2	0.9%
Education Background	Junior College & below	21	10.0%
	Undergraduate	138	65.7%
	Graduate (Master)	45	21.4%
	Doctor	6	2.9%
Family Monthly Income	< 10,000	25	11.9%
	10,000 - 20,000	82	39.0%
	20,001 - 40,000	76	36.2%
	> 40,000	27	12.9%
Child's Grade Level	Grade 1-2	47	22.4%
	Grade 3-4	96	45.7%
	Grade 5-6	67	31.9%
Total		210	100%

Table 1 indicates that the majority of the respondents (58.1%) were females and the age group (25-45) accounted for 90.5% of the responses. Most of them had received undergraduate degrees or above (90.0%), and their families were of middle to high income, with 88.1% of them having a family income of over RMB 10,000 per month. Parents were involved across all primary school levels, with the greatest participation from Grades 3-4 (45.7%). The overall sample of parents is a fairly well-educated and economically stable population representative of those appropriate for the "Double Reduction" policy for educational expectations.

Variables Characteristics

Table 2 indicates that all variables were rated highly, with mean scores ranging from 4.00 to 4.12. Overall, parents found that after-school services had become more holistic and focused on the quality of development (M = 4.06). They also had positive attitudes towards the evaluation reform system (M = 4.00), especially feedback from schools for their professions. Moreover, the expectations parents had for their children's education were high (M = 4.12), and parents did not expect that the children's education would only be focused on their exams. The overall results indicate that parents have positive perceptions of the implementation of the "Double Reduction" policy and the changes in after-school services.

Table 2 Descriptive Statistics of After-school Service Transform, Perceived Evaluation Reform and Parental Educational Expectations

Variable	Mean	Standard deviation	Interpretation
After-school Service Transformation			
My child's school provides a wide range of quality-oriented courses (e.g., arts, sports, STEAM).	4.04	0.93	High
The content of after-school services has shifted from academic tutoring to holistic enrichment.	4.09	0.92	High
The school employs professional instructors and provides structured facilities for after-school activities.	4.10	0.91	High
The management of after-school services is well-organized and follows a clear schedule.	4.03	0.99	High
Total	4.06	0.86	High
Perceived Evaluation Reform			
I believe that the new non-academic assessments are formally linked to future school admissions.	3.96	1.01	High
The school's evaluation system for comprehensive qualities is fair, objective, and transparent.	3.99	0.97	High
I receive regular and professional feedback regarding my child's performance in after-school programs.	4.06	0.95	High
Total	4.00	0.90	High
Parental Educational Expectations			
I prioritize my child's comprehensive competencies (social skills, health) over standardized test scores.	4.12	0.94	High
I am willing to reallocate family resources and time from academic tutoring to quality-oriented activities.	4.09	0.94	High
I expect my child to achieve success through well-rounded growth rather than academic competition alone.	4.14	0.92	High
Total	4.12	0.87	High

Note: Interpretation criteria for mean scores: 1.00–1.80 = Very Low; 1.81–2.60 = Low; 2.61–3.40 = Moderate; 3.41–4.20 = High; 4.21–5.00 = Very High.

Reliability Analysis

Table 3 Cronbach's Alpha Reliability Analysis (n = 210)

Variable	Number of Items	Cronbach's Alpha
After-school Service Transformation (ST)	4	0.924
Perceived Evaluation Reform (PER)	3	0.918
Parental Educational Expectations (EE)	3	0.916
Total	10	0.963

Table 3 shows that all variables achieved high reliability, with Cronbach's Alpha values ranging from 0.916 to 0.924, exceeding the acceptable threshold of 0.70. Among the constructs, After-school Service Transformation demonstrated the highest reliability (α = 0.924), followed by Perceived Evaluation Reform (α = 0.918) and Parental Educational Expectations (α = 0.916). The overall reliability coefficient for all items was 0.963, indicating excellent internal consistency. These results confirm that the questionnaire was reliable and suitable for further statistical analysis.

Correlation Analysis

Table 4 Pearson Correlation Matrix of Key Variables (n = 210)

Variables	After-school Service Transformation (ST)	Perceived Evaluation Reform (PER)	Parental Educational Expectations (PEE)
After-school Service Transformation (ST)	1		
Perceived Evaluation Reform (PER)	0.865	1	
Parental Educational Expectations (PEE)	0.825	0.863	1

Note. $p < 0.01$.

The correlation analysis showed high positive correlation between all the variables. Perceived Evaluation Reform (PER) and Parental Educational Expectations (PEE) were significantly and highly correlated with After-school Service Transformation (ST) ($r = 0.865$, $p < 0.01$ and $r = 0.825$, $p < 0.01$ respectively). In addition, there was a strong relationship between Parental Educational Expectations (PEE) and the Perceived Evaluation Reform (PER) ($r = 0.863$, $p < 0.01$). The results of these findings are preliminary support for the proposed conceptual framework and suggest that there are strong relationships between the constructs.

However, potential multicollinearity concerns were thoroughly examined before regression and mediation analyses were conducted, as several correlation coefficients were above the threshold of 0.80. In line with recommendations by Hair et al. (2022), multicollinearity diagnostics were evaluated by variance inflation factor (VIF) and tolerance. The results showed that all the VIF values were less than 5.0 and tolerance was greater than 0.20, which means that multicollinearity was not considered to be severe enough to affect the stability or interpretability of the regression estimates. Also, while conceptually related, the constructs were theoretically distinct as per the study framework and measurement design in the context of educational reform.

Regression Analysis

Table 5 presents the regression analysis examining the effect of After-school Service Transformation (ST) on Parental Educational Expectations (PEE). The results show that the model is statistically significant ($F = 443.27$, $p < 0.001$) and explains 68.1% of the variance in PEE ($R^2 = 0.681$). In addition, ST had a significant positive effect on PEE ($\beta = 0.825$, $p < 0.001$), indicating that higher perceptions of service transformation were associated with higher parental educational expectations. Therefore, Hypothesis 1 (H_1) is supported.

Table 5 Regression Analysis of Service Transformation on Educational Expectations (n = 210)

Model	Unstandardized Coefficients (B)	Standardized Coefficients (β)	t	Sig. (p)
(Constant)	0.741	-	4.251	0.000
After-school Service Transformation (ST)	0.832	0.825	21.054	0.000

Note: $R^2 = 0.681$, Adjusted $R^2 = 0.679$, $F = 443.27$, $p < 0.001$

Mediating Effect Analysis

To test the mediating role of Perceived Evaluation Reform (PER), the three-step regression approach proposed by Baron and Kenny was adopted.

Table 6 presents the regression results of Service Transformation (ST) on the mediator, Perceived Evaluation Reform (PER). The results indicate that Service Transformation significantly and positively predicted Perceived Evaluation Reform ($\beta = 0.865$, $p < 0.001$). The model explained 74.8% of the variance in PER ($R^2 = 0.748$), and the regression model was statistically significant ($F = 619.78$, $p < 0.001$). Therefore, H2 was supported.

Table 6 Regression Analysis of Service Transformation on Perceived Evaluation Reform (n = 210)

Model	Unstandardized Coefficients (B)	Standardized Coefficients (β)	t	Sig. (p)
(Constant)	0.354	-	2.150	0.033

After-school Service Transformation (ST)	0.898	0.865	24.895	< 0.001

Note: $R^2 = 0.748$, $F = 619.78$, $p < 0.001$

Table 7 Regression Analysis of ST and PER on Educational Expectations (n = 210)

Model	B	β	t	p
Constant	0.528	-	3.541	< 0.001
ST	0.291	0.288	3.512	0.001
PER	0.602	0.614	7.485	< 0.001

Note: $R^2 = 0.765$, $F = 336.52$, $p < 0.001$

Table 7 presents the regression results when both Service Transformation (ST) and Perceived Evaluation Reform (PER) are included in the regression model predicting Parental Educational Expectations (PEE). The results show that Perceived Evaluation Reform (PER) has a significant positive effect on Parental Educational Expectations ($\beta = 0.614$, $p < 0.001$). Therefore, H3 was supported.

Furthermore, after introducing the mediator PER into the regression model, the standardized regression coefficient of ST on PEE decreased from 0.825 (Table 7) to 0.288 (Table 8), while it remained statistically significant ($p = 0.001$). This result indicates that Perceived Evaluation Reform partially mediates the relationship between Service Transformation and Parental Educational Expectations.

Table 8 Summary of Hypothesis Testing and Mediation Effects

Hypothesis	Path	Direct Effect (β)	Indirect Effect (β)	Result
H_1	ST → PEE	0.825	-	Supported
H_2	ST → PER	0.865	-	Supported
H_3	PER → PEE	0.614	-	Supported
H_4	ST → PER → PEE	0.288	0.531	Supported (Partial Mediation)

Bootstrapping analysis revealed that After-school Service Transformation (ST) indirectly impacts Parental Educational Expectations (PEE) via Perceived Evaluation Reform (PER). The indirect effect was significant ($\beta = 0.531$), and the 95% bootstrap confidence interval did not include zero (95% CI [0.412, 0.648]), indicating a mediation effect. Including PER in the regression model did not alter the direct effect of ST on PEE. The indirect impact was significant ($\beta = 0.531$), and the 95% bootstrap confidence range did not include zero (95% CI [0.412, 0.648]), indicating a mediation effect. Although PER was included in the regression model, the direct effect of ST on PEE remained significant ($\beta = 0.288$, $p = 0.001$), suggesting a partial mediation. So H4 was supported.

Discussion

This section analyzes the empirical data within the framework and previous research and focuses on the specific educational environment of the "Double Reduction" experimental areas in Shenzhen.

The Positive Impact of After-school Service Transformation on Parental Expectations

The results of this study clearly indicate that the After-school Service Transformation significantly changed parental education expectations ($\beta = 0.825$, $p < 0.001$). The findings imply that once the Shenzhen school has effectively developed the "5+2" after-school service to form diversified and quality curriculum packages, including STEAM activities, arts education, and sports activities, parents will lessen their focus on academic competition and more readily focus on the more comprehensive aspects of student development.

Rational Choice Theory can be used to explain this phenomenon. For most middle-class parents in Shenzhen (88.1% reported monthly incomes exceeding 10,000 RMB), educational choices are often made based on weighing costs and benefits. High-quality after-school support in schools helps children not feel the need for private tutors and provides a more affordable and dependable option. The regression analysis revealed that 68.1% of the variance in Parental Educational Expectations could be accounted for by Service Transformation, indicating that the quality of services in schools has

had a significant impact on parents' cost–benefit assessments. Thus, it is no longer an abstract dream that is considered a sensible strategy to achieve a more comprehensive education, but a real and reasonable one. This is in line with Zhang (2021) who states that "institutional supply-side reforms are an important 'safety net' to help ease parents' educational anxiety."

Moreover, the findings are also in line with Expectancy–Value Theory, which suggests that people make decisions based on their belief in succeeding in a task as well as the value assigned to the specific task. The mean score for Service Transformation (M = 4.06) was relatively high, suggesting that parents believe that all the programs offered after school are of great value to them. As parents see their children engaged in purposeful learning experiences at school, their aspirations for achievement begin to move beyond academic achievement to skills and interests.

The Mediating Role of Perceived Evaluation Reform

The results of this research provide an important finding on the mediating effect of After school Service Transformation (after school ST) between Parental Educational Expectations (PEE) and Perceived Evaluation Reform (after school PER). The regression findings show that the influence of evaluation reform on parental educational expectations is significant and positive ($\beta = 0.614$; $p < 0.001$), which means that evaluation reform is an influencing mechanism of school service transformation on parental educational expectations.

The explanation for this finding can be found in Signaling Theory, which acknowledges that assessment systems act as signals that affect how parents understand the value of learning and future academic prospects. In China, where the schooling setting is highly competitive, parents frequently use evaluation criteria, admission standards, and assessment methods in schools to gauge the competencies that matter in the Chinese education system. The relatively high mean score for PER (M = 4.00) suggests that many parents believe that nonacademic competencies and comprehensive qualities are increasingly recognized as part of school evaluations. Therefore, if parents view evaluation reform as authentic and significant, they are more open to supporting diversified and holistic learning activities.

The results also underscore the link between service transformation and reforming service evaluation. High-quality after-school activities offer students a chance to extend their development in other areas, such as arts, sports, and interdisciplinary enrichment, but the opportunities to learn these activities are more likely to impact parents' expectations if they are perceived as part of the standard school program and meaningful to education. Evaluation reform, in other words, reinforces non-academic competencies as officially recognized, indicating that holistic development is being accepted within the mainstream education system.

The success of the "Double Reduction" policy thus relies not only on increasing the number of after-school programs but also on the capacity of evaluation processes to increase transparency and credibility. The integrated use of these two aspects might alleviate the competition under the examination-oriented mentality among students and gradually lead parents to shift their focus from students' comprehensive development to their lifelong growth.

Policy Implications for the Double Reduction Policy

The results of this study offer several policy implications to support the ongoing implementation of the "Double Reduction" policy, especially in fast-developing urban areas like Shenzhen. The results indicate that both After-school Service Transformation (ST) and Perceived Evaluation Reform (PER) have significant effects on parents' expectations about education, thus indicating that changing schools' perception of their own function in education, while reducing academic pressure, is a necessary precondition for effective educational reform.

The findings emphasize the need to enhance the quality and diversity of after-school provisions. The positive correlation between ST and Parental Educational Expectations is significant, meaning that

through properly designed after-school programmes, these ideas can be incrementally changed to more expansive kinds of education. Hence, schools need to go beyond supervision roles and offer diverse learning opportunities in arts, sports, STEAM education, creativity, and interdisciplinary learning. These programs can foster more general skills in students and build parental confidence in school-based learning.

Second, the importance of evaluation reform in the legitimation of non-academic learning outcomes is highlighted through the PER perspective. Second, the mediating role of PER highlights the critical importance of evaluation reform in legitimizing nonacademic learning outcomes. Parents might still not accept a school that offers excellent after-school programs if the skills these programs teach are not valued in the school's admission and evaluation procedure. Therefore, policymakers and educational administrators should enhance systems and programs for evaluating students' achievements that encompass all kinds of achievements, particularly creativity, collaboration, communication skills, physical development, and social responsibility. A clear and trustworthy assessment can serve as an institutional indicator that helps validate the educational salience of all-round development.

Third, the findings highlight the need for policy coordination. The findings indicate that service transformation and evaluation reform are complementary processes that impact the development of parental educational expectations. Simultaneous curriculum, assessment, and school management reforms create a more consistent educational atmosphere and help parents adopt more balanced education strategies for their children.

Finally, the Shenzhen experience has implications for other regions that are implementing the "Double Reduction" policy. Shenzhen is a key pilot city with abundant educational and technological capabilities, showcasing the potential for progressive institutional reform to shift away from excessive pressure on students' learning through examinations and toward the cultivation of a wider range of educational values. These experiences could be valuable for policymakers in formulating more equitable, balanced, and sustainable basic education systems.

Overall, the results indicate that for the "Double Reduction" policy to be successful in the long term, it is important not only to limit homework and private tutoring but also to increase the quality of the services provided in schools and implement clear assessment systems that foster students' all-round development.

Implications for Parental Educational Concepts

The results of this study can provide significant clues about the changes in parental educational attitudes in the context of the "Double Reduction" policy. Parents are traditionally focused on exam results and students' grades as the main measures of success in highly competitive educational contexts, such as Shenzhen. However, the findings indicate that system changes in after-school programs and assessment mechanisms can help shift parental conceptions of educational value and promote more expansive conceptions of students' achievement.

The strong positive correlation between After-school Service Transformation (ST) and Parental Educational Expectations (PEE) suggests that the quality and diversity of after-school programs could impact parents' valuation of holistic student development. Students get the chance to be creative, communicate, work in teams, and learn how to manage their emotions through activities such as arts, sports, STEAM education, and collaboration. Parents will slowly become aware that success in education can be measured through means other than examination results and league tables.

Second, the fact that Perceived Evaluation Reform (PER) is a mediator between values and parental attitudes makes it important to give institutional legitimacy its proper place in explaining parental attitudes. Second, the mediating role of Perceived Evaluation Reform (PER) underscores the need to account for institutional legitimacy in explaining parental attitudes. Parents' expectations of education are a powerful function of the performance of children in schools and admission systems. If the system of student assessment begins to acknowledge that there are multiple aspects of students' development, then parents are more likely to see holistic education as something more than symbolic. In this regard, evaluation reform can serve

as an institutional message to legitimate diversified educational objectives and to back parents' wider expectations of the expected success of their students.

Third, the results indicate that parents' concepts of education are substantially influenced by the external environment of education and policy. Parental values for balanced development are also subject to social pressure in examination-oriented systems. If schools offer viable alternatives to learning and policies can ease excessive academic pressure, parents might be more inclined to embrace multiple developmental avenues for their children. As a result, the "Double Reduction" policy not only serves educational governance reform, but it is also a process of the gradual transformation of parental educational values.

The Shenzhen context also provides an example of how institutional reform can affect parents' perceptions in a highly competitive urban setting. Shenzhen is an important city for studying the shift in parental expectations due to its high-level educational competition and high level of education among its middle-class population. Relatively positive perceptions reported in this study indicate that coordinated changes in after-school service and evaluation systems may contribute to decreasing parental anxiety over excessive academic competition among students and fostering more emphasis on their longer-term personal development.

Overall, the results indicate that parental educational concepts are not only influenced by individual beliefs but are also tightly connected to institutional structures and the context of policy. Over time, educational systems can foster more balanced, holistic, and development-focused conceptions of student success by strengthening and implementing transparent evaluation reform in school-based services..

Contribution and Recommendation

In this study, after-school service transformation (ST) is used to partially mediate the relationship between After-school Service Experience (ASE) and Parental Educational Expectations (PEE) to enrich the research on the "Double Reduction" policy implemented by the Chinese government. The results indicate that after-school service improvement is not sufficient if there are no evaluations that are perceived as transparent, credible, and supportive of holistic student development by parents. This study also transcends previous studies by combining the reform of service and assessment in a mediation framework in the context of primary education in Shenzhen.

The results offer practical suggestions. First, schools need to improve communication with parents by providing regular student development reports, parent–teacher meetings, and digital feedback systems that highlight students' overall development, not just exam grades. Second, the quality of activities offered in after-school programs should be enhanced in structured programs such as sports, arts, and competency-based learning, all in keeping with the reform of assessment.

Third, to develop more effective and uniform assessment procedures for non-academic skills, evaluation policies should be strengthened and communicated more effectively with the public via parent orientation programs and communication. Finally, digital platforms should be used for service monitoring, parent feedback, and transparency of after-school program administration.

In general, the results support the continuity and sustainability of the "Double Reduction" policy and the transformation from examination-oriented education to a more holistic and student-centered approach to education.

Limitations and Future Research Directions

Although this study offers significant insight into the relationships between After-school Service Transformation (ST), Perceived Evaluation Reform (PER), and Parental Educational Expectations (PEE), several limitations are noted.

One limitation of this study is its cross-sectional design, meaning that perceptions were only gathered at one point in time. Longitudinal studies are recommended to investigate the stability of parental educational expectations across educational attainment, including in the examination-oriented phases of the educational process (e.g., Zhongkao).

Second, the study only investigated Shenzhen, a highly developed first-tier city with relatively good educational resources and policy support.

Consequently, the results may not fully reflect the perspectives of parents in less developed urban and rural communities. Future studies are recommended to conduct a cross-regional comparative analysis to determine the wider applicability of the findings in various socio-economic and educational environments.

Third, the quantitative approach led to the discovery of important relationships among the variables but failed to fully explain the psychological process of making educational decisions and the reasoning behind parents. Future research should use mixed methods by conducting interviews or focus groups to provide a deeper understanding of the perceptions of educational reform and competition among parents.

Finally, the sample consisted of 210 parents from primary schools, which might reduce external validity. Future studies should involve more participants and include different social, economic, and educational groups. Other factors, such as family socioeconomic status, parents' educational experience, students' learning attitudes and academic performance, students' well-being, and future learning outcomes, should also be analyzed to better understand the impact of after-school service reform and evaluation reform under the "Double Reduction" policy.

Conclusion

This study explored the relationships between After-school Service Transformation (ST), Perceived Evaluation Reform (PER), and Parental Educational Expectations (PEE) in primary schools in Shenzhen, China, under the "Double Reduction" policy. The results indicate that transformation in after-school services was positively associated with increasing parental educational expectations, with the effects being partially mediated by perceived evaluation reform.

The study indicates that parents will be more positive toward holistic and competency-based education when schools can offer high-quality after-school programs, along with credible and transparent evaluation systems. The results of this study stress the need to optimize the harmonization of educational services, assessment, and policy implementation to build public trust in educational reform.

Overall, this study validates the importance of the transformation and reform of after-school services for fostering a progressive transformation in the teaching way of examination-oriented education towards comprehensive and student-oriented education in the implementation of the "Double Reduction" policy, from the perspective of empirical data.

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Author Contributions

All authors have read and approved the final manuscript.

Declaration of Competing Interest

The authors declare no conflict of interest related to this study.

Ethical Approval

This study was conducted in accordance with ethical research standards. Participation was voluntary, and all respondents provided informed consent prior to completing the questionnaire. The anonymity and confidentiality of participants were fully protected.

AI Use Disclosure

Artificial intelligence (AI) tools were used solely to support language refinement and academic editing. All interpretations, analyses, and final academic content were reviewed and approved by the authors.

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