

Transformation of Shadow Education and Restructuring of Educational Ecology under the "Double Reduction" Policy: A Systematic Literature Review of Multi-Stakeholder Impacts

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Abstract

Since the implementation of the "Double Reduction" Policy, its impacts on the basic education ecology have sparked extensive academic discussions. However, existing studies have mostly focused on the perspective of a single stakeholder and failed to form a systematic integration. To sort out the evolution of the policy's impacts and clarify the multi-stakeholder mechanism of action, this study adopted the method of systematic literature review, followed the PRISMA 2020 framework, screened relevant peer-reviewed literatures published from July 2021 to January 2026, and conducted a qualitative comprehensive analysis. The study found that the "Double Reduction" Policy has driven the redistribution of educational responsibilities and ecological adjustment through the regulation of shadow education. The policy has compressed the explicit space of shadow education, yet the logic of academic competition for further education remains unchanged. Parental anxiety over their children's academic performance has intensified, and parents have shifted to various forms of implicit compensatory educational investment. This not only weakens the effect of burden reduction at the family level but also transmits pressure to teachers, who are confronted with increased workload and occupational burnout. Although students' physical and mental health has improved due to the reduction in homework burden, they face the challenges of intensified parent-child conflicts and the differentiation of academic gaps under the influences of strengthened family supervision and implicit shadow education. Based on these findings, this study puts forward optimization suggestions, including defining teachers' rights and responsibilities and establishing a compensation mechanism for their remuneration, constructing a home-school collaborative guidance system for family education, and strengthening the supervision of off-campus training while guiding the characteristic development of non-academic training institutions. From the multi-stakeholder perspective, this study systematically integrates the logic of the policy's impacts, and provides theoretical reference and practical support for further deepening the effect evaluation and long-term implementation of the "Double Reduction" Policy.

Keywords: Double Reduction Policy; Shadow Education; Educational Ecology; Multi-Stakeholder Impacts; Educational Equity

1. Introduction

In recent years, China's education system has been confronted with the problems of excessive academic pressure on students and heavy burdens from off-campus training. This is particularly evident among primary and secondary school students, for whom the continuous increase in after-school tutoring and homework load has become a prevalent phenomenon (Zeng, 2025). Such paid off-campus tutoring activities, which center on supporting in-school learning and aim to improve academic performance and enhance competitiveness for further education, have developed in attachment to the mainstream school education system, forming a typical form of "shadow education" (Xie, 2025). The scale and intensity of shadow education usually expand with changes in the examination system and academic pressure for further education (Wu & Wu, 2023), which not only exacerbates students' physical and mental stress but also imposes an ever-increasing burden of educational investment on families. In response to the above problems, China officially introduced the "Double Reduction" Policy in 2021, which focuses on alleviating students' excessive homework burden and off-campus training burden. By comprehensively regulating and strictly governing academic off-campus training institutions in the compulsory education stage, the policy has drastically reduced their quantity and scale and strictly prohibited capitalized operation (State Council of China, 2021). The introduction of the "Double Reduction" Policy has directly regulated the institutional expansion of shadow education, strengthened the dominant role of school education, and aimed to build a healthier, fairer and sustainable basic education ecology (Jin & Zhang, 2022; Song, 2022).

The introduction of the "Double Reduction" Policy is a concentrated response to the structural contradictions in China's education sector, against a backdrop intertwined with multiple factors such as the intensified involution in education, the expansion of shadow education, and the accumulation of economic and emotional pressure from family education (Wang, 2022; Zhao et al., 2024). The educational pain points sorted out multi-dimensionally by Li et al. (2022) have fully confirmed the urgency of introducing this policy. Data from the Programme for International Student Assessment (PISA) shows that the weekly study hours of Chinese students far exceed the average level of the Organisation for Economic Co-operation and Development (OECD). This inefficient learning mode of "trading time for scores" not only seriously squeezes students' rest time and affects their physical and mental health, but also forces parents to bear the pressure of accompanying their children in study and bearing the high expenditure on shadow education. Moreover, the disorderly expansion and frequent irregularities of shadow education driven by capital have further deviated from the public welfare nature of education and disrupted the normal educational order (Li et al., 2022). To this end, the "Double Reduction" Policy focuses on breaking the unbalanced situation of burden reduction at school but burden increase outside school, curbs the excessive expansion of shadow education through institutional intervention, promotes the return of education to the main position of schools, and advances the realization of educational equity and the essence of education for fostering people (Zhou & Qi, 2022). The

promulgation of the "Double Reduction" Policy has quickly attracted extensive attention from the academic community. In the initial stage of its implementation, relevant studies mostly focused on the policy's background and the evaluation of its preliminary implementation effects. With the in-depth advancement of the policy, the research focus has gradually shifted to its multi-level impacts on students, families, society and other stakeholders (Zhang, 2025). Existing studies have not only examined the changes in students' academic burden and physical health, but also discussed the adjustment of family education expenditure structure and the transformation of family education responsibilities at the family level, analyzed the changes in teachers' workload and occupational satisfaction at the teacher level. Meanwhile, they have investigated the closure and transformation of academic training institutions at the off-campus training industry level, as well as the governance challenges posed by the hidden mutation of shadow education under policy regulation.

Although abundant research results have been accumulated, existing findings are mostly scattered across different stakeholder dimensions. Studies involving society, families, students and other aspects are mostly carried out independently, and a systematic analytical framework that can integrate multi-level impacts has not yet been formed. Furthermore, few studies have examined the overall effects of the "Double Reduction" Policy in a coherent manner from the perspective of shadow education transformation. Based on the above analysis, the core of this review is to systematically integrate these scattered research conclusions, sort out the influence logic and correlation mechanism of the "Double Reduction" Policy among multiple stakeholders, and provide a more holistic theoretical reference for policy optimization and subsequent research.

2. Research Methods

To systematically sort out and evaluate the multi-dimensional impacts of the "Double Reduction" Policy, this study adopted the systematic literature review method. This method conducts literature identification, screening and comprehensive analysis through explicit, transparent and reproducible procedures. It can systematically integrate research findings scattered across different stakeholder dimensions, and identify the core themes, theoretical gaps and future directions of current research, which aligns with the core requirement of this study to construct a multi-stakeholder impact analysis framework. The entire review process was implemented in accordance with the PRISMA 2020 framework.

2.1. Search Strategy and Literature Sources

To ensure the reliability and quality of the literature while achieving a reasonable coverage, this study selected several mainstream Chinese and English databases covering social science and education research, including China National Knowledge Infrastructure (CNKI), Web of Science and Google Scholar. Searches were conducted on the advanced search interface of each database, with the search fields uniformly limited to title, keywords and abstract. A one-to-one matching search strategy was adopted, with the "Double Reduction" Policy as the core search term, which was combined with research theme terms such as "shadow education", "teacher burden", "family education", "students' mental health" and "off-campus training institutions" for combined retrieval.

Specifically, the search was carried out using search formulas including "Double Reduction Policy AND shadow education", "Double Reduction Policy AND teacher burden" and "Double Reduction Policy AND family education". Through this strategy, the initial literature collection for the literature identification stage in the PRISMA process was completed.

2.2. Inclusion and Exclusion Criteria

To ensure the scientificity of literature screening and the validity of research conclusions, this study formulated explicit inclusion and exclusion criteria in advance before literature screening, as shown in Table 1. These criteria ran through all stages of literature screening and served as the core basis for judgment.

Table 1. Inclusion and Exclusion Criteria for Literature

Inclusion Criteria	Exclusion Criteria
1. Literature type: Peer-reviewed academic journal articles or core research reports with clear research design	1. Literature type: News reports policy promotional materials conference briefings and non-academic review articles
2. Research subject: Compulsory education stage in Chinese mainland	2. Research subject: Literature not related to the compulsory education stage in Chinese mainland
3. Research content: Direct analysis or evaluation of the impacts of the "Double Reduction" Policy on students families teachers off-campus training institutions or relevant social levels	3. Research content: Literature that only conducts textual interpretation or normative discussion of the "Double Reduction" Policy without involving its implementation effects or impacts or literature with no direct relevance to the impacts of the "Double Reduction" Policy
4. Publication time: From July 2021 to December 2025	4. Research quality: Literature lacking basic research data or with unclear research methods
5. Language: Chinese or English	-

2.3. Literature Screening Process

The literature screening process followed the standard procedures for systematic literature reviews and was conducted in phases in accordance with the PRISMA 2020 reporting guidelines. The number of literatures at each phase was clearly traceable to ensure the standardization and reproducibility of the research process. A total of 304 initial literatures were retrieved at the literature identification stage using the above-mentioned database search strategy. All search results were uniformly imported into Zotero, a literature management software, and 52 duplicate literatures were removed through a combination of automatic deduplication and manual verification. Ultimately, 252 deduplicated literatures were selected for the preliminary screening phase. At the preliminary screening phase, the 252 literatures were screened by examining their

titles and abstracts, with a focus on excluding those that had no direct relevance to the "Double Reduction" Policy, whose research objects did not involve the basic education stage, or that obviously failed to meet the inclusion criteria. A total of 181 literatures were excluded in this phase, and 71 were retained for the full-text evaluation phase. At the full-text screening phase, an in-depth systematic review was conducted on the 71 literatures, with key verification on whether the research content directly focused on the impacts of the "Double Reduction" Policy, and whether the research methods were clearly specified and the analysis was based on empirical data. In accordance with the inclusion and exclusion criteria, 46 literatures were excluded for reasons including inconsistent research types, insufficient relevance of research content, and inadequate description of data and methods, leaving a final set of 25 literatures. At the final inclusion phase, eligibility recheck was performed on the 25 literatures to confirm that all met the pre-set inclusion criteria of the study, which were then finalized as the research sample for the qualitative comprehensive analysis of this study. The complete process of the above literature screening is presented in the form of a PRISMA 2020 flow diagram, as shown in Figure 1.

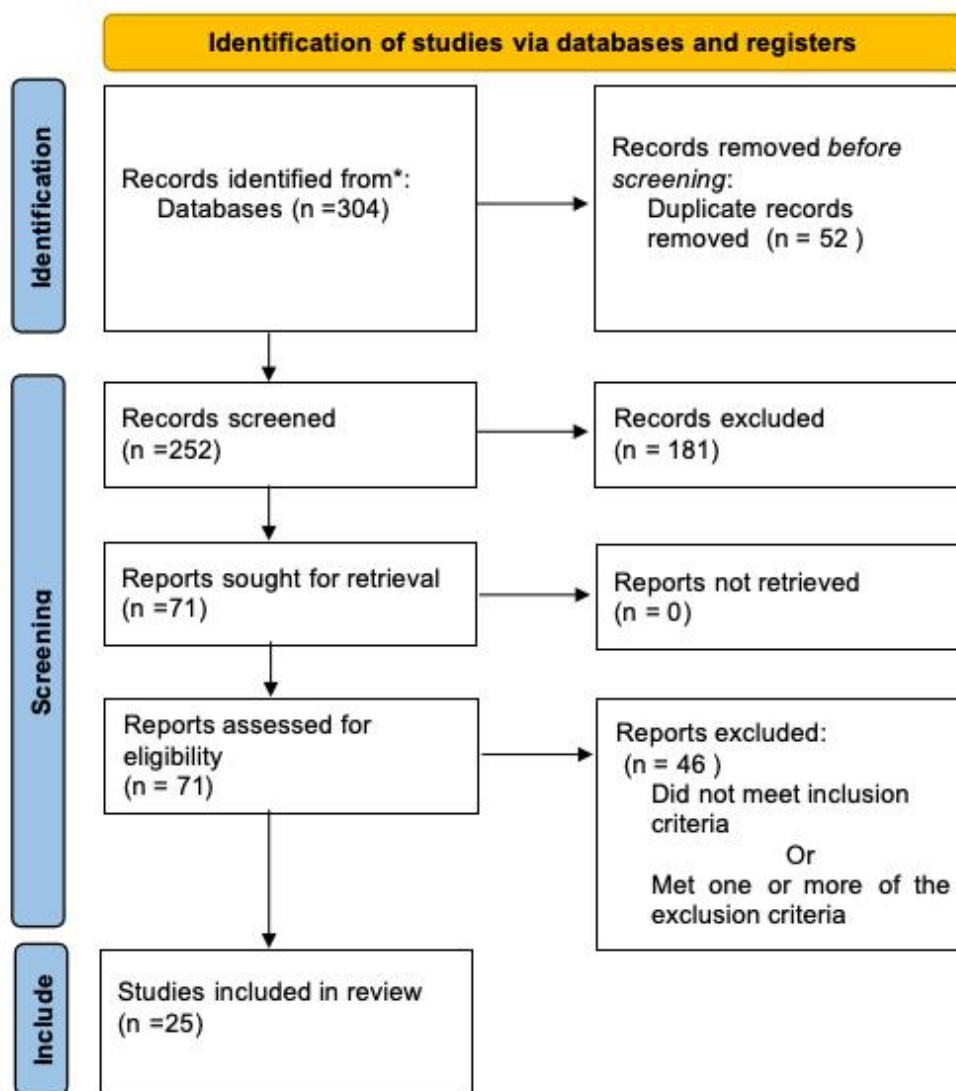


Figure 1. PRISMA Flow Diagram

3. Classified Review of the Impacts of the "Double Reduction" Policy

3.1. Review of Research on Impacts at the Social Level

As a systematic education reform the "Double Reduction" Policy has gradually adjusted the social ecology of basic education in China. Existing studies have focused on the market-oriented supplementary forces and core subjects of educational services. They pay attention to the transformation paths of off-campus training institutions and changes in the work status of teachers. These studies reflect the corresponding adjustments in the educational service system driven by the policy.

The impact of the "Double Reduction" Policy on off-campus training institutions has not only triggered a short-term shock to the industry. It has also promoted its long-term structural adjustment (Wu, 2021). Chen's (2024) study pointed out that the policy has imposed strict restrictions on the operating hours and capitalized operation of academic training. This has led to a decline in the valuation of China's academic training market. A large number of small and medium-sized institutions have withdrawn from the market. Leading institutions have also been forced to close campuses and cut staff and expenses. Surviving institutions on the other hand have launched business model transformations. They have expanded into diversified fields such as quality-oriented education vocational education and study tour camps. They explore integrated online-offline teaching models. They also seek external cooperation and return to the essence of education. Chen's (2022) case study on New Oriental showed that the policy's ban on profit-making academic training in the compulsory education stage led to the suspension of the company's junior high school business. This business accounted for approximately half of its revenue. The suspension resulted in a sharp drop in stock price and market value. The business suspension triggered a chain reaction. Teachers' teaching hours and incomes decreased significantly. A large number of personnel resigned voluntarily. The company also launched large-scale layoffs. To cope with the crisis New Oriental achieved transformation through strategies such as expanding high school and college student training consolidating its advantages in overseas study training and undertaking after-school services of public schools. It provided a reference for the industry. Qi's (2023) study on county-level off-campus training institutions found that after the policy's implementation the number of academic institutions at the county level decreased. Most shifted to non-academic fields such as art or sports to develop innovative courses. However, few academic institutions successfully registered as non-profit entities. Non-academic institutions on the other hand ushered in development opportunities. Their quantity continued to increase. They added characteristic courses such as robot programming and manual creation. They gradually moved towards diversification and differentiation. In addition, there is a mismatch between supply and demand in the transformation of county-level institutions. Some institutions carry out academic training in the name of non-academic training to meet parents' implicit needs. Most emerging non-academic institutions fail to accurately grasp the interests and growth needs of county-level students. They face problems such as insufficient professionalization of teachers and homogeneous courses. Some characteristic courses do not match the actual needs of the local market and lack core competitiveness. They require policy guidance and self-innovation to achieve characteristic and standardized development (Qi, 2023).

The contraction and transformation of the off-campus training industry have promoted the return of education's main position to schools. The core status of schools has been strengthened. As key players in the policy's implementation teachers have thus become important participants in education reform (Zhou et al., 2024). Through two initiatives improving quality and efficiency in schools and full coverage of after-school services the policy has put forward new requirements for teachers' work content and professional capabilities. Existing studies generally agree that teachers' workload has generally increased. Their professional roles have become more complex. They are facing new challenges in professional development.

Multiple studies have shown that the "Double Reduction" Policy has increased teachers' workload and working hours. The implementation of after-school services is the main reason for the increased workload. Zhao and Hu's (2023) survey of a large number of primary and secondary school teachers found that the daily working hours of the vast majority of primary and secondary school teachers exceed the legal standard. Nearly half of junior high school teachers work more than 10 hours a day. About one-fifth of primary and secondary school teachers are dissatisfied with the current work intensity. The quality improvement requirements brought about by the policy continue to emerge. Teachers not only generally work beyond the standard hours. They also face problems such as heavy non-teaching tasks. Head teachers and main subject teachers are the main groups under pressure. Some responsibilities originally borne by off-campus institutions have been transferred to teachers after the policy's implementation. Ji et al.'s (2024) qualitative study further revealed the contradictions behind the burden. Their semi-structured interviews with teachers from a public school in Zhejiang Province found that after-school services have extended teachers' working hours. But the mismatch between economic returns and additional efforts has led teachers to feel that their labor value is underestimated. Their work enthusiasm has been significantly dampened. At the same time teachers' professional roles have changed under the policy's promotion. They show the characteristics of multiple role overlaps. Yue et al.'s (2023) interviews with 45 primary and secondary school teachers using grounded theory showed that teachers' sense of helplessness and anxiety stem from the coordination conflicts of multiple roles. With the reduction of off-campus tutoring channels students' access to knowledge has narrowed. Pressure has concentrated on in-school teachers. In addition to teaching they also need to take on the roles of safety officers and counselors. Some even manage students' accommodation and meals. A large amount of their energy has been dispersed. Furthermore the lack of cooperation or excessive dependence of some parents in home-school communication has further increased teachers' pressure. It directly affects their professional identity physical and mental health. Ding et al.'s (2025) questionnaire survey of primary and secondary school teachers in Jiangsu Province guided by the Stress Process Model showed that the work pressure brought by the "Double Reduction" has reduced teachers' professional satisfaction. The greater the pressure the lower the satisfaction. Social support and teachers' self-efficacy can play a buffering role. They effectively weaken this negative impact. Zhong et al.'s (2025) survey of primary school teachers covering multiple cities further showed that more than half of the teachers meet the criteria for occupational burnout. The emotional exhaustion and cynicism dimensions are strongly positively correlated with depressive symptoms. Teachers' professional pressure has become a problem requiring attention.

Studies at the social level have shown that the "Double Reduction" Policy has not eliminated the educational burden. It has triggered a structural transfer. Under the policy's influence off-campus academic training has contracted and passively transformed. Although it has expanded into diversified fields such as quality-oriented education problems exist. These problems include the mismatch between supply and demand in the county-level market insufficient professionalization of teachers in the industry and serious course homogenization. All these reflect a disconnect between the transformation direction and the real market demand. At the same time the educational pressure originally shared by the market has concentrated on schools. In the process of the return of education's main position to campuses this part of the pressure has been directly converted into teachers' workload. It exposes teachers to challenges such as increased tasks and complex professional roles. The problem of occupational burnout has also worsened accordingly. The transformation dilemmas of the off-campus training industry and the continuous increase in teachers' burden have further transmitted educational pressure to families. It prompts adjustments in family education responsibilities and parents' anxiety levels.

3.2. Review of Research on Impacts at the Family Level

Existing studies generally agree that by reducing off-campus academic training the core form of shadow education the "Double Reduction" Policy has transferred some educational functions originally undertaken by the market to families. It has thereby triggered adjustments in family education responsibilities educational behaviors and internal family relationships (Chen & Zhou, 2024). Relevant research mainly focuses on three aspects. These aspects are changes in family education responsibilities compensatory educational behaviors and adjustments in parent-child relationships. They present the policy's impacts on families.

With the restricted supply of shadow education the role of families in supporting students' learning and guiding their growth has been further amplified. Parents have gradually shifted from relying on external auxiliary participation through shadow education to directly intervening in students' learning processes and development paths. This shift has led to increased participation and responsibility intensity in family education. Luo and Liu's (2022) study is based on Giddens' theory of modernity and the perspective of institutional sociology. It found that the "Double Reduction" Policy has had heterogeneous effects on alleviating family education anxiety. It shows a characteristic of partial relief but widespread persistence. Implicit anxiety has not been fully eliminated. The study further pointed out that the persistence of anxiety is closely related to changes in family education responsibilities. The limited function of shadow education has directly increased families' educational responsibilities. However, parents generally lack corresponding family education capabilities. Even though the policy has alleviated the economic burden of education to a certain extent they are still inadequate in key links such as academic guidance and parenting decisions. This increase in responsibility has not only raised parents' educational participation. It has also made the pressure of parenting responsibilities a new source of anxiety. It has triggered a new type of educational anxiety. Subsequent empirical research has further revealed the inherent connection. Zhang et al.'s (2025) study took parents of students in Hangzhou as samples. They used questionnaire surveys and mediation and moderation effect tests. They found that parents' perception of the "Double Reduction" Policy is positively correlated with

educational anxiety. The stronger the policy perception the higher the anxiety level. Parent educational participation plays a fully mediating role between the two. Parents with stronger policy perception are more inclined to intervene in their children's learning by increasing learning guidance and formulating personalized learning plans. They do so to make up for the competitive pressure caused by the reduction of shadow education. However, this increase in participation has instead aggravated the emotional burden.

Against the background of increased family education responsibilities families have become important bearers of educational competition pressure. They have not passively accepted the increase in responsibilities. They have responded to policy constraints through a series of compensatory educational behaviors. Existing studies have shown that the decline in expenditure on academic training in shadow education does not mean an overall reduction in family education investment. On the contrary families have adjusted the direction of educational expenditure through other implicit investment methods such as non-academic training or private tutoring. They aim to cope with the unchanged reality of the academic competition pattern. Zhang et al.'s (2023) semi-structured interviews with parents of students in public middle schools found that most families still recognize education as an important path to social mobility. Educational anxiety has not been alleviated. All interviewed parents agree that the current phenomenon of educational involution is still serious. The consensus is that necessary expenses must be incurred. Some families continue to maintain high educational investment by hiring private tutors and striving for key school resources. This indicates that changes in family education expenditure are more about adjustments in investment forms. They are not a weakening of investment willingness. Building on this Zhao's (2023) study selected 9 parents of students in Beijing for interviews. It further revealed the actual implementation paths of such compensatory educational behaviors. Against the background of restricted off-campus academic training and adjusted in-school homework more than half of the parents fell into confusion. They experienced persistent anxiety due to concerns about their children's declining academic competitiveness. To make up for the uncertainty caused by the interruption of original tutoring channels some families turned to implicit methods such as underground training and cross-regional tutoring. They did so to maintain control over their children's academic progress. This reflects the strategic response of families to carry out educational compensation through informal channels under policy constraints. Niu et al.'s (2025) study went a step further. It adopted the perspective of family socioeconomic status. Based on a large-scale questionnaire survey covering 8 provinces it found that family socioeconomic status is a key structural factor affecting parents' educational anxiety and coping capabilities. For each unit increase in family socioeconomic status parents' educational anxiety level decreases by 0.062. The core reason for this difference is that families with high socioeconomic status are more likely to maintain their children's academic competitive advantages through implicit methods such as private tutoring. Families with low socioeconomic status on the other hand face both the dilemma of resource scarcity and guilt in parenting.

Such family anxiety and compensatory investment triggered by increased educational responsibilities have changed family educational behaviors. They have also had an impact on internal family interaction patterns. The implementation of the "Double Reduction" Policy has

freed students from excessive academic burdens and off-campus training. It has increased the time students devote to family life (Zhang et al., 2023). The extension of parent-child coexistence time has had complex impacts on internal family interactions. It has created conditions for enhancing parent-child affection and optimizing family education. It may also expose potential family conflicts and lead to intensified parent-child conflicts. Existing studies not only focus on the current situation and problems of parent-child relationships after the "Double Reduction". They also explore in depth the key factors affecting relationship quality and their improvement paths. Zhou's (2022) practical study based on a school in Zhejiang Province analyzed the roots and specific manifestations of parent-child conflicts after the "Double Reduction". The study found that nearly half of the parents and students reported increased anxiety after the policy implementation. The roots of parent-child conflicts are mostly concentrated in the gap in educational expectations between parents and children. The specific manifestation is that parents find it difficult to accept the gap between their children's academic performance and their own high expectations. They then attempt to reverse the situation through excessive discipline such as strictly controlling their children's entertainment time. This ultimately intensifies parent-child conflicts. The study also confirmed that schools can effectively reduce the frequency of conflicts by building a systematic home-school-community collaborative intervention system. They can turn the challenges brought by the "Double Reduction" into opportunities to improve parent-child relationships. To explore the internal psychological mechanisms of optimizing parent-child relationships Xie et al.'s (2024) study used questionnaire surveys to collect sample data from parents of adolescents. They tested the impact mechanism of parental autonomy support on family adaptation after the "Double Reduction". The study found that in the context of the "Double Reduction" parents who provide more autonomy support to their children can not only directly and positively predict the overall family adaptation level. They can also indirectly promote family harmony by improving the quality of parent-child communication and enhancing parent-child cohesion. This research result not only proves that good parenting styles are the core factor in improving parent-child relationships. It also indicates that the "Double Reduction" Policy not only promotes student burden reduction. It also indirectly promotes the transformation of parents' parenting concepts and the optimization of family functions.

Overall relevant studies at the family level have shown that the "Double Reduction" Policy has not eliminated the pressure of educational competition among families. It has prompted changes in its form of existence. After the space for shadow education was compressed the academic tutoring work originally undertaken by the market has been taken over by families. This has led to parents' new type of educational anxiety. It has prompted parents to turn to implicit compensatory methods such as non-academic training and private tutoring. Differences in such educational investments due to differences in family socioeconomic status have further widened the gap in access to educational resources among different families. At the same time the increase in students' time returning home has created conditions for improving parent-child relationships. It has also amplified potential parent-child conflicts due to differences in educational expectations between parents and children. Parents' compensatory educational behaviors and anxiety not only affect the quality of parent-child interaction. They also have a direct impact on students' academic adaptation and growth status.

3.3. Review of Research on Impacts at the Student Level

Compared with the indirect impacts at the social and family levels changes at the student level are generally regarded as the most direct and critical manifestation of the "Double Reduction" Policy's effectiveness (Zeng, 2025). Existing studies have systematically examined changes in students' learning outcomes and development status after the policy's implementation. They focus on the policy's impacts on students' academic performance physical health and mental health. Relevant studies attempt to reveal the actual effects of the "Double Reduction" in reducing academic burdens and promoting students' all-round development. They do so through comparative analysis of students' performance before and after the policy implementation. They also explore the differentiated manifestations of these effects.

Academic performance as the core indicator of students' learning outcomes is an important entry point for evaluating the "Double Reduction" Policy's effectiveness. Relevant research mainly examines the policy's impacts on students' academic performance and the development of learning abilities. It also explores the differentiated responses of students with different academic levels to the policy adjustments. These are achieved through comparative analysis of students' performance changes before and after the policy implementation.

Sun's (2024) study combined quantitative surveys and qualitative interviews. It involved students, parents, teachers and school administrators from multiple first-tier cities. The study confirmed that the academic performance of urban students declined in the early stage of the policy implementation. It gradually stabilized after one year. A considerable proportion of students showed improvements in classroom participation and critical thinking skills. Further analysis found that students with stronger independent learning abilities adapted faster. Their academic performance recovered significantly. Students highly dependent on shadow education on the other hand faced obvious academic decline in the early stage of the policy. Building on this Shen and Zhang's (2024) research extended the perspective to the detailed dimensions of grades and subjects. Based on the perspective of sociological institutionalism they adopted the Tukey multiple comparison test method. They conducted an empirical analysis of the final exam results of students from different grades in 30 primary schools in Hunan Province. They sorted out the differentiated characteristics of the policy's impacts. The study found that students in grades undergoing transitional learning stages had weaker adaptability. Their scores declined most significantly in memory-based subjects. Students in grades that had formed stable learning strategies showed an upward trend in scores. They performed particularly well in comprehension-based subjects. At the same time there was no significant difference in the score changes between urban and rural students. This result confirms the policy's role in alleviating the imbalance of educational resources between urban and rural areas. Zhou and Fan's (2025) study went further. It adopted an in-depth perspective of policy tool combinations and students' socioeconomic status. It conducted an analysis with upper-grade students from multiple primary schools as samples. The results of two waves of longitudinal tracking data showed that the "Double Reduction" achieved two expected outcomes simultaneously. These are the improvement of students' sense of happiness and the stability of academic performance. Among them the reduction of homework burden and the expansion of after-school services not only improved students' life satisfaction and

reduced their negative emotions. They also had a positive promoting effect on academic performance. Further heterogeneity analysis showed that regulating shadow education weakened the academic performance of students from low socioeconomic status families to a certain extent. Families with high socioeconomic status on the other hand could maintain their children's academic advantages through implicit shadow education forms such as private tutoring and underground training. In contrast students from low socioeconomic status families and those with low academic achievements could better benefit from the academic compensation provided by after-school services. This result also reflects the role of after-school services in alleviating educational inequality and promoting educational equity.

The core goal of the "Double Reduction" Policy is not only to reduce burdens. It is also to promote the physical and mental health development of students. This dimension has thus become an important part of policy effect evaluation. Existing studies focus on how the policy improves students' sleep quality and mental health conditions. This is achieved by reducing academic pressure and increasing rest and exercise time. These studies have confirmed that the policy has achieved positive results in alleviating students' insomnia symptoms depression and anxiety.

In the field of mental health Wang et al.'s (2022) study conducted two rounds of follow-up surveys on students from multiple schools in Guangdong Province. It explored the policy's role in improving students' depressive and anxiety symptoms. The study found that the policy alleviated students' negative emotions by optimizing their lifestyles. Although the improvement in relevant symptoms was limited a positive mental health effect has been shown. The reduction in homework load the increase in parent-child time and the extension of sleep duration are the key factors driving this improvement. As a key measure of the policy after-school services have also been proven to play an important role in promoting students' physical and mental health. Fu and Zhang's (2022) large-scale empirical study involved primary and secondary schools in multiple regions of eastern central and western China. The results showed that high-quality after-school services have a positive impact on both students' physical and mental health. Sports activities can effectively increase students' exercise time and help steadily improve their physical fitness. At the same time rich group activities can promote students' interaction and communication. They enhance interpersonal skills and further help students reduce negative emotions such as loneliness and depression. After-school services are not just an arrangement to take over students' after-school time. They are an important way to achieve burden reduction and efficiency improvement and help students grow healthily in the context of the "Double Reduction".

Overall relevant studies at the student level have shown that the "Double Reduction" Policy has driven tangible changes in students' growth status. The policy's impact on academic performance presents phased characteristics of short-term fluctuations and long-term stability. There are also group differences related to learning abilities grades subjects and family socioeconomic status. Measures such as after-school services have also played a role in alleviating educational inequality. At the same time the reduction of academic pressure has improved students' physical and mental health status. Both the alleviation of depression and anxiety and the improvement of physical fitness confirm the policy's core goal of promoting students' all-round development. The

implementation of high-quality after-school services has become the key link connecting burden reduction and efficiency improvement.

4. Main Findings

This study adopts the Stress Process Model as the core analytical framework. It conducts a systematic analysis of the generation transmission and multi-stakeholder impact logic of stress in the basic education ecology after the "Double Reduction" Policy regulates shadow education. The theory points out (Pearlin et al., 1981; Pearlin et al., 1997) that changes in macro-institutions will alter the environment in which individuals and organizations operate. They affect the way stress is generated and distributed. Stress will also be transmitted amplified or weakened among different stakeholders. It ultimately produces differentiated impact results. In this study the "Double Reduction" Policy is the initial stressor of the entire education ecology. It cuts off the main way parents used to cope with academic competition through off-campus tutoring by governing shadow education. However, because the logic of academic competition for further education remains unchanged the initial stress evolves into new stressors during the policy implementation. It is transmitted and diffused among different stakeholders. Figure 3 presents the transmission path of this stress within the education system. It also shows the chain impacts on different stakeholders.

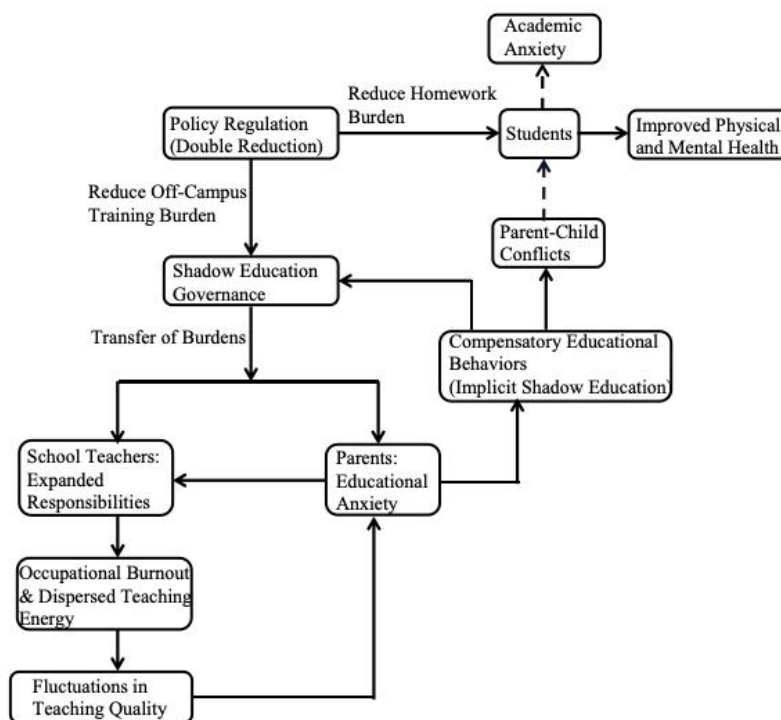


Figure 2. Logic Diagram of Shadow Education-Related Stress Transmission and Multi-Stakeholder Impacts Under the "Double Reduction" Policy

The "Double Reduction" Policy aims to break the vicious cycle of burden reduction at school and burden increase outside school. It curbs the disorderly expansion of shadow education by reducing students' off-campus training burden. It promotes the return of educational leadership to schools. In this process some academic enhancement responsibilities originally borne by off-

campus training institutions have been transferred to school teachers. This constitutes a direct stress transmission to the teacher group. Teachers not only need to improve the quality of classroom teaching to fill the academic tutoring gap caused by the reduction of off-campus training. They also have to take on additional work such as after-school services and student safety supervision. Their professional responsibilities have increased. According to the Stress Process Model the impact of responsibility adjustments brought about by institutional changes depends on whether individuals or organizations have sufficient buffering resources to regulate the role of stress (Pearlin et al., 1981; Pearlin et al., 1997). However existing studies generally show that in the process of promoting the "Double Reduction" Policy the remuneration subsidies and burden reduction measures matching teachers' new responsibilities have not been implemented simultaneously (Zhao & Hu, 2023). This leads to teachers lacking effective institutional support when facing increasingly heavy work tasks. In this case teachers' stress can easily be converted into occupational burnout. Their teaching energy is dispersed. This not only affects teachers' professional satisfaction and physical and mental health. It also indirectly affects students' learning experience due to fluctuations in classroom teaching quality. It further triggers parents' educational anxiety. Thus a vicious cycle of intensified parental anxiety increased teacher pressure and fluctuating teaching quality is formed.

At the same time after shadow education is restricted part of the stress accumulates at the family level. Shadow education has always been an important means for parents to cope with academic competition. Its sudden restriction has forced parents to take on heavier educational responsibilities. On the premise that the rules of academic competition for further education have not changed parents generally worry about their insufficient tutoring capabilities. They are afraid that their children's academic competitiveness will decline. This worry becomes persistent educational anxiety within families. According to the Stress Process Model when individuals or families lack sufficient coping methods stress is more likely to be converted into strong emotional reactions and behavioral changes (Pearlin et al., 1981; Pearlin et al., 1997). To alleviate this stress parents often adopt various compensatory educational methods. They even turn to illegal training that conducts academic training in the name of non-academic training. They do so to ensure control over their children's academic performance. Although this approach alleviates parents' anxiety to a certain extent it weakens the burden reduction effect of the policy at the family level. It also allows shadow education to continue to exist in a more hidden form. It increases the difficulty of governance.

The stress and coping methods at the family level are ultimately transmitted to students. As the ultimate target of the policy the impacts on students present differentiated characteristics of both benefiting and facing challenges. The reduction of shadow education burden and the control of in-school homework volume have alleviated students' academic pressure to a certain extent. They have improved students' physical and mental health. These are the positive effects brought by the "Double Reduction" Policy. However, some parents have strengthened their academic control over their children due to their own anxiety. This is likely to trigger parent-child conflicts. They also pass on emotions to increase students' psychological pressure and academic anxiety. At the same time the existence of implicit shadow education has widened the academic gap between

students from different family backgrounds. Students with strong independent learning abilities or access to implicit tutoring have gradually maintained their advantages. Students who rely on explicit shadow education on the other hand face the dilemma of academic decline in the short term.

Overall the systematic analysis based on the Stress Process Model shows that the "Double Reduction" Policy promotes the redistribution of educational responsibilities by regulating shadow education. However, under the premise that the logic of academic competition for further education remains unchanged the policy mainly reduces the external manifestations of educational stress. The continuous transmission of stress among multiple stakeholders and the existence of implicit shadow education together restrict the effectiveness of the reform. To break this dilemma and avoid the cyclic accumulation of stress within the education system it is necessary to follow the core logic of the Stress Process Model. We should provide sufficient buffering resources and stress relief channels for each stakeholder from the institutional level. We need to clarify the responsibility boundaries of different stakeholders. Only in this way can we avoid the cyclic accumulation of stress within the education system (Pearlin et al., 1981; Pearlin et al., 1997). Specifically, we can clarify teachers' rights and responsibilities and establish a remuneration compensation mechanism. We can construct a home-school collaborative family education guidance system. We can strengthen the supervision of off-campus training and guide the characteristic development of non-academic institutions. These measures can promote all parties to form a synergistic effect. They can help the education ecology develop in a more fair and sustainable direction.

5. Conclusions and Limitations

The "Double Reduction" Policy has promoted the adjustment of the distribution of educational pressure and responsibilities through the regulation and guidance of shadow education. The governance of shadow education by the policy has not only consolidated the dominant position of school education. It has also increased teachers' workload in classroom teaching and after-school services. The extension of teachers' responsibilities lacks adequate institutional guarantees. Phenomena such as occupational burnout and the dispersion of teaching energy have gradually emerged. The teaching effect is affected accordingly. This further intensifies parents' educational anxiety and forms a negative cycle. At the same time the underlying logic of academic competition for further education remains unchanged. Parents' demand for shadow education still exists. They turn to compensatory educational investment or underground training activities instead. This leads to the survival of shadow education in a more hidden form and increases the difficulty of governance. As the ultimate target of the policy students feel the effects of burden reduction. They also face new adaptive pressure at the same time. Therefore, the policy only changes the external manifestations of educational pressure. It does not eliminate the pressure itself. The redistribution and transmission of pressure among multiple stakeholders are the key factors affecting the policy's effectiveness and the restructuring of educational ecology.

Although this paper systematically sorts out the multi-dimensional impacts of the "Double Reduction" Policy it is necessary to explain several existing limitations. This paper mainly conducts analysis based on publicly published Chinese and English peer-reviewed literatures after the policy release. This is helpful to ensure the research quality. It may however omit some unpublished practical reports or long-term follow-up research results. This limits the comprehensiveness of the conclusions to a certain extent. At the same time most existing studies focus on the short-term or medium-term impacts of the policy. Sufficient time accumulation and data collection are still lacking to evaluate its long-term effects. In addition, the samples of existing studies are mostly concentrated in eastern regions and urban schools. There is a relative lack of systematic comparison of educational contexts in rural and county-level areas and differences in policy implementation across different regions. This may underestimate the heterogeneous impacts of the "Double Reduction" Policy in different social environments. Based on the current research limitations and new practical challenges of the "Double Reduction" Policy future research should advance in a more in-depth and operational direction. Long-term tracking can be strengthened to make up for the deficiencies of short-term research. Attention can be paid to the differences in policy implementation in rural and county-level underdeveloped areas. Research can also focus on specific solutions such as alleviating teachers' burden improving family education guidance and supervising illegal behaviors. These efforts can help form a healthy and orderly educational service ecology.

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