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WHY IS IT DIFFICULT TO "CAPITALIZE ON" SCHOOL SUPPORT? BARRIERS TO THE IMPLEMENTATION OF HOME-SCHOOL COLLABORATION FOR RURAL LEFT-BEHIND CHILDREN AND THEIR MECHANISMS

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Abstract: In the home-school co-education of rural left-behind children, there is a widespread paradoxical phenomenon characterized by "school enthusiasm but parental indifference": the professional support provided by schools struggles to translate into substantive parental involvement. Based on a structural equation model analysis of 162 parent questionnaires from a rural elementary school in Anhui Province, supplemented by teacher interviews, this study examined the transmission pathway of "school support—parental self-efficacy—parental participation behavior—student development." The results show that the direct effect of school support on student development is not significant ($\beta = 0.278$, $p = 0.143$), and its impact is primarily achieved indirectly through the mediation of parental self-efficacy and participation behavior; the mean score for parental participation (2.92) was significantly lower than that for perceived school support (3.22), revealing a structural disparity characterized by "high recognition but low participation." The bottleneck is concentrated at the family's end of the implementation process, manifesting as three forms of loss: a mismatch in discourse, a breakdown in implementation, and a disconnect in educational philosophy. Based on these findings, the study proposes that measuring the effectiveness of home-school co-education using parental satisfaction or approval may overestimate its actual impact. Furthermore, by employing the "Photosynthesis" transformation framework, the analysis shifts its focus from "whether activities were conducted" to "where the transmission chain is blocked," thereby providing a diagnostic analytical tool for rural home-school co-education.
Keywords: Home-school co-education; Rural left-behind children; Parental involvement; Mediating effect; Transformation blockages

1 "WARM AT SCHOOL, COLD AT HOME": THE OVERLOOKED BLACK BOX OF TRANSFORMATION

"Schools Are Enthusiastic, Families Are Indifferent" is a phenomenon frequently observed but rarely explained in the context of home-school collaboration for left-behind children in rural areas. At a rural elementary school in G County, Anhui Province—where left-behind children account for 84.66% of the student body and 82.1% are under the care of grandparents—162 parent questionnaires revealed a thought-provoking picture: Parents' perceived school support (mean 3.22) and their sense of efficacy in home-school collaboration (3.21) were both at the upper-middle level, while parental participation (2.92) was significantly the lowest. The difference between these two measures was found to be highly significant upon testing ($t=4.82$, $p<0.001$). This suggests that parents do not lack recognition of the value of school-family co-education; rather, what is lacking is the ability or conditions to translate that recognition into action. More notably, the structural equation model indicates that the direct effect of school support on student development is not significant; its impact is almost entirely mediated through parental involvement. This brings to light a long-overlooked insight: the true obstacle to school-family co-education may not lie in "whether the school is doing its part," but rather in "whether the family is stepping up." This phenomenon cannot be simply attributed to "inaction" on the part of schools or "lack of cooperation" on the part of parents. Guo Ning and Yu Wei point out that home-school collaboration currently faces a "de-familialization" dilemma, in which the educational functions of the family have been excessively supplanted by schools. It is necessary to rebuild the boundaries between home and school through "re-familialization," so that both parties can share the responsibility of education and fulfill their respective educational roles [1].

This phenomenon has deep-rooted policy and practical contexts. In recent years, collaborative education among families, schools, and communities has evolved from an educational advocacy initiative into a national action—from the *Law of the People's Republic of China on the Promotion of Family Education*, to the *Opinions on Improving the Mechanism for Collaborative Education Among Schools, Families, and Communities* issued by the Ministry of Education and 12 other departments [2], to the implementation of the "Education Alliance" work plan, the policy framework has become increasingly comprehensive. However, for rural left-behind children, carefully designed school initiatives—such as parent-teacher conferences, parent-child activities, and home visits—often remain unfulfilled due to the limited capacity of grandparents serving as guardians, or become mere formalities because of the spatial and temporal barriers posed by parents working away from home. Existing empirical evidence confirms this dilemma: the parents of left-behind children do not reject collaborative education, but are deeply trapped by multiple

constraints—namely, "willingness but lack of ability and time." Grandparent caregivers often "do not have time to participate" due to busy farming seasons or are reluctant to attend parent-teacher meetings because they "lack education" [3]. The professional support provided by schools encounters a "reception blind spot" when it reaches the family—it is not that schools have failed to act, but that families are unable to receive it.

The problem lies in the fact that existing research still lacks conceptual tools to explain "how school support translates into family participation." Relevant findings either focus on one-dimensional descriptions of "what schools should do" or "what parents lack," devoting little attention to the transmission process from support to participation; conclusions often remain at the level of suggestions such as "communication should be strengthened" or "'awareness of participation should be raised'"; or they borrow foreign frameworks such as the theory of overlapping spheres of influence or ecosystem theory. While these perspectives are undoubtedly beneficial, they often originate from contexts where social welfare systems are relatively well-developed, creating a disconnect with the reality of rural China—where "parental absence is common and grandparents often step in to fill the void"—and frequently stop at structural diagnosis without addressing "how to remedy the situation" [4]. There are also few research designs that organically integrate qualitative exploration with quantitative validation. Consequently, a "black box" remains unopened between what schools "have done" and whether these practices "have been accepted by families or produced results."

This conceptual gap is not merely an issue of academic construction; it directly limits the precision of practical improvements. When schools cannot determine "why support fails to translate into participation," improvements can only rely on trial-and-error approaches—such as increasing the frequency of activities or expanding communication channels—making it difficult to address the underlying obstacle of "insufficient family capacity to engage." Precisely to open this black box, this study poses the following questions in sequence: Is the chain of transmission from school support to family participation unobstructed? If a blockage exists, at which stage does it occur and how does it manifest? Furthermore, what conditions are necessary for this transformation process to function effectively? To answer these questions, this study draws on the home-school co-education practices at a rural elementary school in Anhui Province. It first uses structural equation modeling to test the continuity of the transmission pathways and then employs interview data to reveal the mechanisms underlying the blockages.

2 BREAK IN THE TRANSMISSION CHAIN AT THE "RECEIVING END": EVIDENCE FROM 162 QUESTIONNAIRES

Data and Measurement. The data were collected from S Primary School in G County, Anhui Province. With 84.66 percent of its students being left-behind children and 82.1 percent under the care of grandparents, this school is a typical rural school whose student body consists primarily of left-behind children. The study distributed 180 copies of the "Home-School Co-education Activity Questionnaire" to students' guardians. After screening using two attention-check questions (Questions 10 and 25) within the questionnaire and data cleaning, 162 valid samples were retained, resulting in a valid response rate of 90.0%; Among the sample, 82.1% were under the care of grandparents, and 15.4% were under the care of relatives entrusted by parents working away from home, which generally aligns with the actual composition of left-behind children's families at this school. The questionnaire included four latent variables: Perceived School Support (PSS, 6 items), Home-School Collaboration Efficacy (HSE, 5 items), Parental Involvement Behavior (PIB, 5 items), and Student Development (STUDEP, 5 items), all measured using a five-point Likert scale (item 4, which was reverse-scored, has been recoded). Following Anderson and Gerbing's two-step method, analyses were conducted using SPSS 27.0 and Mplus 8.3 with maximum likelihood estimation. Confirmatory factor analysis revealed that the standardized loadings of each item ranged from 0.661 to 0.848 ($p < 0.001$), and the composite reliability (CR) of the four latent variables was 0.88, 0.89, 0.84, and 0.87, respectively, with Cronbach's α ranging from 0.921 to 0.944. Convergent validity met the criteria (AVE values were 0.54, 0.62, 0.50, and 0.57, respectively); discriminant validity was confirmed through dual testing: the square roots of the AVE for each latent variable (0.739, 0.787, 0.710, 0.756) were all greater than their correlation coefficients with other latent variables (the highest being 0.671 between perceived school support and parental involvement behavior), and the HTMT ratios ranged from 0.596 to 0.785, all below the threshold of 0.85. The overall model fit was excellent ($\chi^2/df = 1.158$, CFI = 0.981, TLI = 0.979, RMSEA = 0.031, SRMR = 0.041); Harman's single-factor test showed that the first factor explained 44.20% of the variance (<50%), indicating that common method bias was not severe. It should be noted that the sample size of 162 is still insufficient relative to the number of items in this model according to the "1:10 rule" commonly used in SEM (which requires approximately 240 samples). This study employed maximum likelihood estimation supplemented by 5,000 bias-corrected Bootstrap simulations to enhance robustness; related limitations are discussed in Section 5.

The qualitative data were derived from semi-structured interviews with teachers at S Elementary School. Purposeful sampling was used to select 10 teachers, including 6 homeroom teachers covering lower, middle, and upper grades—some with notable collaborative education outcomes and others with average results—as well as 1 Chinese language teacher, 1 mathematics teacher, 1 director of moral education, and 1 principal; The interviews were conducted according to a pre-designed outline, lasting 20–30 minutes each. After audio recordings were transcribed, the resulting text totaled approximately 23,000 Chinese characters. The analysis of these qualitative data was scheduled to follow the analysis of the questionnaire data to provide targeted interpretations of anomalies found in the quantitative results. The coding rules for quotations in this paper are as follows: teachers T-01 through T-09; school administrators A-01 through A-02; and parent/guardian responses (including open-ended questionnaire questions) P-01 through P-21. Students are all referred to by pseudonyms. The study was approved by the G County Education Bureau and authorized by the

principal of S Primary School; all interviewees signed informed consent forms and were anonymized. Weak family capacity is not an isolated phenomenon. Based on an empirical survey of 17 cities (prefectures, districts) in Hubei Province, Lei Wanpeng and Zhang Zihan found that participation among parents of left-behind children was significantly lower than that of parents of non-left-behind children. Family education guidance services can significantly increase participation among parents of left-behind children, but this promotional effect varies within the group of parents of left-behind children [5]. This finding aligns with the conclusion of this study—whether school support can translate into family participation depends on whether the family possesses the basic conditions to receive it.

"Light" is in place, but "harmony" has not been activated. Descriptive statistics confirm the disparity highlighted at the outset: perceptions of school support (3.22) and sense of efficacy (3.21) are both in the upper-middle range, while parental involvement (2.92) ranks lowest among the four core variables. As shown in Table 1, a paired t-test indicates a significant difference between parental involvement and perceptions of school support ($t=4.82$, $p<0.001$). Parents generally acknowledge the school's efforts in communication channels, educational guidance, and care for left-behind children—school-side support is essentially in place; the real issue is that this acknowledgment has not yet translated into participatory behavior. Where exactly this disconnect occurs in the transmission chain depends on the results of the path analysis.

Table 1 Descriptive Statistics and Tests of Significance for Each Dimension

Dimension	Mean	Standard Deviation	Difference from PIB Mean	t-value	p-value
Perceived School Support (PSS)	3.22	0.63	+0.30	4.82	< 0.001
Perceived Effectiveness of Home-School Collaboration (HSE)	3.21	0.65	+0.29	4.76	< 0.001
Parental Involvement Behavior (PIB)	2.92	0.63	—	—	—

Empirical Testing of the Transmission Chain. As shown in Table 2, the structural equation model outlines a clear transmission chain: the perception of school support has a strong effect on both the sense of efficacy in home-school collaboration ($\beta = 0.768$, $p < 0.001$) and parental participation behavior ($\beta = 0.960$, $p < 0.001$); a sense of efficacy in home-school collaboration ($\beta = 0.339$, $p = 0.001$) and parental involvement ($\beta = 0.325$, $p = 0.020$) both significantly influence student development. However, most notably, the direct effect of school support on student development is not significant ($\beta = 0.278$, $p = 0.143$)—the support provided by the school cannot directly influence students by bypassing the family. Bootstrap tests (5,000 repetitions) further confirmed that both indirect paths—"school support → sense of efficacy → student development" (Estimate = 0.261, $p = 0.002$) and "school support → participatory behavior → student development" (Estimate = 0.312, $p = 0.028$)—were significant. The fact that direct effects were not significant while indirect effects were significant indicates that parental factors play a key mediating role between school support and student development: school support must be received and transformed by the family before it can ultimately influence student growth. The validity of this mediating structure has also been corroborated in studies in related fields. Based on an empirical survey conducted across 32 counties (districts) in 12 cities across 6 provinces in China, Fu Weidong and Zhang Yudi found that self-identity and home-school collaboration not only act as independent mediators but also as chain mediators between teacher care and student academic stress [6]. This indicates that support at the teacher level must pass through the "transformer" of home-school collaboration to effectively alleviate students' academic stress—a finding that resonates across contexts with the core finding of this study: "School support must be mediated by parents to influence student development."

Table 2 Direct Path Coefficients and Significance Tests for the Structural Model

Path	Beta	S.E.	t-value	P-Value	Sig.
PSS -> STUDEP	0.278	0.19	1.463	0.143	
PSS -> PARPOW	0.296	0.064	4.629	< 0.001	***
PSS -> HSE	0.768	0.104	7.421	< 0.001	***
PSS -> PIB	0.96	0.117	8.204	< 0.001	***
HSE -> STUDEP	0.339	0.105	3.24	0.001	***
HSE -> PARPOW	0.208	0.034	6.119	< 0.001	***
PIB -> STUDEP	0.325	0.139	2.329	0.02	**
PIB -> PARPOW	0.162	0.038	4.225	< 0.001	***

It should be carefully noted that the direct effect $\beta = 0.278$ is not numerically small; its lack of significance is more likely due to the sample size and the high correlation among variables rather than the effect actually being zero. Therefore, this study does not adopt the outdated criterion of "full mediation" but, based on the Bootstrap interval for the indirect effect, characterizes it as a "mediation mechanism centered on parental engagement." This approach both respects the limits of the statistical evidence and better aligns with the core thesis of this paper—that the problem lies not in the supply from the school side, but in the reception on the family side.

At this point, the path analysis has answered the question of "whether the transmission is unimpeded," but it still fails to explain "why the blockage occurs": even though the "light" from the school side has largely reached its destination,

reception on the family side remains at a low level of activation, as evidenced by the fact that the mean participation behavior ranks at the bottom. To uncover exactly which stages contribute to this "transformation loss" and how it gradually diminishes, we must rely on interview data—which is precisely the task of the next section.

3 WHY "HIGH APPROVAL" HAS NOT TRANSLATED INTO "HIGH PARTICIPATION": THREE SOURCES OF CONVERSION LOSS

Path analysis answers the question of "whether the transmission is unimpeded," but it cannot explain "why blockages occur." In fact, "high approval, low participation" is not a phenomenon unique to home-school co-education for rural left-behind children; rather, it is a concrete manifestation in the educational context of the "attitude-behavior gap" in social psychology—individuals may hold positive attitudes but fail to translate them into action due to situational constraints. The value of this study lies in concretizing this abstract proposition into observable stages of transformation: parents' "high approval" remains at the level of cognitive evaluation of the school's support; it has not yet translated into behavioral intent, much less actual action. Interview data reveal that standing between "approval" and "participation" are three layers of diminishing losses.

The first is a cognitive barrier at the discursive level. The support provided by schools often employs specialized, abstract language—such as "cultivating study habits," "focusing on mental health," and "enhancing core competencies"—which poses a comprehension barrier for grandparents with lower levels of education. One grandparent wrote in the questionnaire: "When the school holds parent-teacher conferences, we don't understand what they're talking about—things like 'mental health' and 'core competencies'—and we don't know exactly what to do." (P-06) A homeroom teacher's observation was even more direct: "If you tell an elderly guardian to 'cultivate the child's reading habits,' they won't know how to do it; but if you tell them, 'Just have the child read for 15 minutes every night while you sit beside them,' they'll understand. But the problem is, sometimes we don't have time to explain everything in such detail." (T-02) When schools fail to carry out this "discourse conversion"—translating professional jargon into actionable instructions—acceptance struggles to translate into understanding.

The second layer involves a disconnect at the implementation level. Even when this "discourse conversion" is achieved, families still face dual constraints of time and capability when putting instructions into practice. Surveys show that a high proportion of parents of left-behind children have only "occasional contact" with teachers; a sense of inferiority stemming from low educational attainment leaves parents "at a loss for how to communicate" with teachers. A grandparent serving as a guardian candidly admitted: "It's not that I don't want to attend school events, but we have several mu of farmland waiting to be cultivated—if I don't go to work, what will the whole family eat?" (P-02) For parents who have left home to work, the constraints of physical absence are even more fundamental. A math teacher described: "I've scheduled video home visits several times… but the father and son would just exchange a few phrases like 'Have you eaten?' and 'Study hard,' and hang up after two minutes." (T-04) The combination of time poverty and capability poverty means that even if parents are "willing," they lack the "ability" to act, making it difficult to translate understanding into action.

The third layer is the disconnect between theory and practice at the conceptual level. A word frequency analysis of approximately 23,000-character interview transcripts revealed that the school's signature concept, "Light·Synthesis," appeared only 12 times (accounting for 0.15%), while generic terms such as "activities" and "communication" appeared as many as 90 times (1.13%) and 85 times, respectively. While the school administration is adept at using the "Light·Synthesis" discourse, frontline teachers still operate using "old methods." One homeroom teacher admitted: "At school meetings, they talk about 'Light·Synthesis' and 'photosynthesis'; it sounds quite vivid to us, but when we return to our work, we still do things the old way—home visits, phone calls, and parent-teacher conferences." (T-06) Since the distinctive philosophy has not been internalized as practical tools for teachers or everyday language that parents can understand, it is difficult to sustain these actions.

These three layers of loss accumulate to form a progressively narrowing filter: a mismatch in discourse makes it difficult to transform recognition into understanding; a disconnect in implementation makes it difficult to transform understanding into action; and a disconnect between theory and practice makes it difficult to sustain action. The "light" emanating from the school continuously dims through these three layers of filtration, ultimately failing to "synthesize" into substantive parental participation.

This mechanism serves as a cautionary lesson for the methodology of research on home-school co-education. Many surveys use "parent satisfaction" or "parent approval" as metrics for measuring the effectiveness of co-education, yet this study indicates that this approach may systematically overestimate the actual impact of co-education: high approval does not necessarily lead to high participation, and approval lacking substantive implementation has very limited educational efficacy. In other words, when evaluating home-school collaboration, we must not stop at asking "whether parents are satisfied," but must further inquire "whether the support has truly been received and translated into action."

4 "LIGHT·SYNTHESIS" TRANSFORMATION: A PROCESS FRAMEWORK FOR DIAGNOSING OBSTRUCTIONS

The above findings—that direct effects are insignificant, indirect effects are significant, and obstructions are concentrated at the receiving end and attenuated through a triple layer of loss—collectively point to a process that has yet to be named: school support does not act directly on students but must be absorbed and processed by the family to

take effect. This study summarizes this process as "Photosynthesis" Transformation. The name borrows from the principle of photosynthesis: the support provided by schools is like "light," while families are like "chloroplasts"; only through their synergy can the outcomes of student development be "synthesized." This metaphor points to a testable empirical proposition—school support cannot directly produce educational outcomes; it must undergo transformation by the family.

Accordingly, "Photo·Synthesis" transformation can be defined as: in the context of home-school co-education for rural left-behind children, the professional support provided by schools is absorbed and processed by families, transformed into parental engagement behaviors, and subsequently influences the dynamic process of student development. In this process, "Light" represents professional empowerment at the input end (the transmission of educational philosophies, guidance on parenting methods, and emotional and psychological support); "He" represents the synergistic symbiosis at the transformation end (the combined effort of each party fulfilling its respective roles, the integration of home-school actions, and the alignment of educational values); "Transformation" is the operational logic that runs throughout the process—that is, the mechanism of "how support is transmitted, how it is received, and how it produces results." This definition is corroborated by the case findings of Wu Li and Wu Zhonghan, who argue that home-school collaboration should be institutionally "embedded" within the classroom [7].

This framework provides a process-oriented supplement to existing theories. Epstein's theory of overlapping spheres of influence is the most influential analytical tool in research on home-school collaboration. Its core premise is that when families and schools align their goals and actions within the overlapping areas of their spheres of influence, the positive impact on student development is greatest; however, this theory focuses on describing "what should happen" and devotes little attention to "how the overlap actually occurs" [8]. The empirical findings of this study indicate that "overlap of spheres of influence" does not occur automatically—the impact of school support on student development is primarily mediated by parental efficacy and participation behaviors. This implies that overlap must be activated by a "reception-transformation" mechanism on the family side: when this process flows smoothly, the spheres of influence of home and school can truly overlap; when it is obstructed, school support remains outside the family and cannot enter the microsystem of child development. Similarly, while Bronfenbrenner's concept of the "meso-system" has long remained at the level of structural description, this study's chained mediation model operationalizes its mechanism as a specific pathway—"school support → parental efficacy → parental engagement → student development"—thereby transforming the "quality" of the meso-system into a measurable and testable variable [9]. The recent EPIC home-school connection model from abroad also echoes the conclusion that "parental involvement plays a mediating role" from the perspectives of ecology, participation, and integration; however, its validation contexts are primarily societies with relatively well-developed social welfare systems, and it remains distant from the reality of rural China, where "parental absence and intergenerational care" prevail [10].

Previous empirical studies have examined various dimensions of family-school relationships in different contexts. Kim explored teachers' perceptions of family-school relations in rural China [11]. Cui et al. investigated the nonlinear effects of parental involvement frequency on student outcomes [12]. Jeynes conducted a meta-analysis confirming parental expectations as a key predictor of academic achievement [13]. These studies provide useful empirical grounding, yet they do not offer an integrated analytical tool for diagnosing the specific points of breakdown in the home-school collaboration process.

It is evident, therefore, that the analytical efficacy of the "Photosynthesis" transformation does not stem from the metaphor itself, but rather from the testable and falsifiable empirical proposition it refers to: in this study, "transformation" is operationalized as two components—"the activation of parental efficacy" and "the emergence of parental participation behaviors"—while "dissipation" is broken down into three diagnosable categories: discourse mismatch, continuity disruption, and conceptual detachment. It is precisely in this sense that it is not merely a "narrative," but an analytical framework that provides specific observational variables and diagnostic tools—it enables practitioners to pinpoint "where the transmission chain is blocked," rather than vaguely attributing the issue to "parents' lack of attention."

5 MOVING BEYOND "WHETHER IT WAS DONE" TO A DIAGNOSIS OF COLLABORATIVE EDUCATION FOCUSED ON "WHETHER IT WAS RECEIVED"

Centered on the question of "How does school support translate into family participation?", the findings of this study can be summarized along a progressive line of reasoning.

The starting point is an assessment of the nature of the pathway: the transmission of home-school collaborative education does not follow a direct path of "school support → student development," but rather a chained mediation process: "school support → parental efficacy → parental participation → student development." Empirical data show that the direct effect of school support on student development is not significant ($\beta = 0.278$, $p = 0.143$); its impact can only be realized through mediation by parents—the "synergy" stage is the key to whether the "light" can "grow" into tangible outcomes.

This leads to an assessment of where the bottleneck lies: the primary obstacle to transformation currently resides not on the supply side of "light," but on the receiving end of "harmony." Perceived school support (3.22) is already in the upper-middle range, yet parental participation (2.92) ranks significantly at the bottom; the triple loss resulting from a mismatch in discourse, a disconnect in reception, and a disconnect between theory and practice causes school support to

diminish layer by layer as it is transmitted to the family. Based on this, we can also draw a methodological inference: measuring the effectiveness of co-parenting through parent satisfaction tends to overestimate its actual impact.

This leads to an assessment of operational conditions, which also serves as a practical implication of this study: the effective implementation of this transformation depends on the synergy among three factors—the family's capacity to receive support, the school's ability to provide actionable support, and the stability of institutional safeguards. Structural constraints—such as the fact that 82.1% of children are cared for by grandparents, the majority of whom have an elementary school education or lower—require schools to "translate" abstract parenting guidance into actionable, specific instructions, such as "spend 15 minutes reading with your child every night." This "translation" does not require additional resources but does demand a proactive, adaptive stance on the part of the school; When collaborative parenting efforts rely excessively on individual homeroom teachers and lack institutional support, they degenerate from being "system-driven" to being "maintained by good will," and staff turnover inevitably leads to a breakdown in the system.

As an analytical concept, the theoretical contribution of the "Light·Synthesis" transformation lies in shifting the focus of home-school co-education research from static structures to dynamic processes: it examines "how support is transmitted, how it is received, how it is lost during transmission, and how it ultimately translates into outcomes." This advances research from a descriptive analysis of outcomes—such as "whether activities were carried out"—to a diagnostic examination of mechanisms—such as "where the transmission chain is blocked"—enabling practitioners to move beyond simply asking, "'Are we doing enough?'" but to ask, "Has what we've done been received, and at which stage did the chain break?"

This study also has clear limitations. First, the conceptual framework is based on cross-sectional data from a single case; the sample size (162 responses) remains insufficient relative to the number of items in the structural equation model. The applicability of the "Light·Synthesis" transformation across different types of rural schools requires verification through multi-case comparisons, and the causal directions between variables need further confirmation through longitudinal tracking designs. Second, this study focuses on the home-school dyad and has not yet incorporated broader support systems such as the society. Against the backdrop of "educational consortia" promoting home-school-society collaboration, the transfer of school support to families is likely moderated by macro-level variables such as society culture, county-level educational governance, and urban-rural population mobility policies. This represents an area where the "Light·Synthesis" framework requires further expansion. It should be emphasized that this framework is primarily applicable to situations where "families have a basic willingness to assume responsibility but lack the capacity to do so"; in more severe scenarios—such as when parents completely abdicate their educational responsibilities or families face extreme hardship—its explanatory power will significantly diminish.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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