Rethinking Parental Involvement in Disadvantaged Families: The Importance of Invitations

Abstract: Parental involvement among disadvantaged families is frequently interpreted through family deficit explanations that attribute low participation to weak motivation or limited capability. Drawing on survey data from rural minority regions in China, this study reframes involvement as a situationally activated practice shaped by opportunity and relational cues. We examine whether parents' time and energy availability, and invitations from schools and children predict involvement beyond family background characteristics. The results show that time and energy constraints and invitations account for substantial variation in parental involvement, whereas background factors and psychological characteristics play a comparatively weaker role. Importantly, the mechanisms differ by setting: school invitation is strongly associated with school-based involvement, while child invitation is a key predictor of home-based involvement. These findings shift the analytical focus from "who parents are" to "when involvement becomes feasible" and "whether participation is socially invited." Policy efforts may therefore prioritize flexible, welcoming, and proactively inviting school environments that reduce participation costs and broaden access for disadvantaged families, rather than interventions aimed at "fixing" parents regarded as unmotivated.

Keywords: educational inequality, parental involvement, disadvantaged parents, family-school collaboration

1. Introduction

Parental involvement refers to what parents do to support their children's learning at school and at home, such as talking about school, contacting teachers, supervising homework, attending meetings and joining school activities (Epstein, 2010; Hoover & Sandler, Howard M., 1995). It is often seen as a way to help reduce achievement gaps among different family groups (Lee & Bowen, 2006). However, studies indicate that parents living in poverty typically hold high educational aspirations for their children yet participate less in school-recognised forms of involvement (Gutman & McLoyd, 2000; Lareau, 2011). This pattern is often associated with long or inflexible working hours, limited information, language barriers, and unfamiliarity with school procedures (Crozier, 2001; Ji & Koblinsky, 2009).

This apparent mismatch between high parental involvement willingness and limited, often invisible involvement raises broader questions about what enables or hinders disadvantaged parents' involvement. Meanwhile, policy discourse in many education systems continues to privilege school-recognised, highly visible forms of 'proper' parental involvement, such as attending evening meetings or volunteering at school events, which scholars argue tend to presume parents' time flexibility, institutional familiarity, and relevant cultural resources

(Exley, 2013; Posey-Maddox & Haley-Lock, 2020). Such one-size-fits-all expectations may further exclude parents facing structural constraints or residing in rural and under-resourced communities, even when they hold a strong sense of responsibility for their children's education (Crozier, 2001; Harris & Robinson, 2016). The present study employs primary survey data from rural China as a critical case to identify key structural, psychological and contextual factors shaping parental involvement. In this way, it aims to contribute to understanding of how to build practical and inclusive family–school cooperation patterns that support disadvantaged groups.

Explanations of why disadvantaged parents may value school education highly yet participate less commonly draw on two strands of research: structural accounts of constraint and psychological accounts of motivation. Structural constraints are relatively fixed external conditions that parents cannot easily change in the short term, such as family income, parents' education level, education system rules and the broader distribution of social resources (Billingham & Hunt, 2016; Lareau et al., 2021). Research from this perspective demonstrates how unequal resource distribution shapes parents' behaviour and their situation in school, and how parents' social position influences both the resources they can use to support children and the extent to which their efforts are recognised by the school. All this in turn affects their involvement (Harris & Robinson, 2016; Wilson & Worsley, 2021). In contrast, motivational accounts emphasize internal individual motivation, arguing that parental involvement is influenced by parents' self-efficacy and role beliefs. This framework indicates that parents who feel more capable and responsible are more likely to participate (Green et al., 2007; Hornby & Lafaele, 2011). Extending this view, Hoover-Dempsey and colleagues foreground "life context", including invitations from others, and parents' time, energy, knowledge, and skills (Hoover-Dempsey et al., 1987).

However, both structural and motivational perspectives are often rooted in a school-centred framing of parental involvement, in which "involvement" is defined in the school's terms and measured through compliance with school-recognised activities. This framing privileges visible, school-directed practices and can underestimate less formal forms of support that take place in out-school settings (Auerbach, 2007; Goodall & Montgomery, 2014). Thus, structural accounts can slip into construing "invisible" parents as lacking the resources that schools recognise and reward, while motivational accounts often inadvertently suggest deficits in parents' awareness or sense of responsibility. Taken together, these approaches risk reinforcing parent-blaming explanations rather than examining the institutional and structural conditions under which involvement becomes feasible, visible and valued.

Against this backdrop, this study investigates parental involvement among disadvantaged families in rural China. Parental involvement is defined as what parents do to support their

children's schooling and distinguishes between home-based parental involvement (HPI) and school-based parental involvement (SPI) according to where it takes place. The analysis examines how structural, psychological, and contextual factors influence HPI and SPI. While grounded empirically in rural China, the study speaks to wider debates on how involvement in schooling is shaped by the everyday contexts of disadvantaged families.

Conceptually, the study advances three points. First, it shifts attention away from "family deficit" framings and towards the ways contexts enable or constrain involvement, rather than locating solely in parents. Second, it argues for policy approaches that move beyond uniform assumptions about families' capacities and instead differentiate across levels of advantage. Third, it treats HPI and SPI as distinct practices that call for different points of emphasis, with HPI more closely tied to children's signals and requests, and SPI more closely tied to how schools structure opportunities, expectations, and access.

2. Theoretical background

2.1 Structural logic

From a structural perspective, prior research broadly recognises that structural factors, such as family income, highest level of education attained and social networks (Barg, 2019; Bourdieu, 2011; Bridwell-Mitchell et al., 2023), which are unlikely to be particularly changed in the short term, shape opportunities and approaches to parental involvement. The influences of structural factors differ across regions and social groups.

At the resource level, Coleman's work shows that unequal distributions of economic and social resources across families shape parents' access to information, time, and networks, and thus their basic opportunities to be involved in school (Coleman, 1988). Building on this, Putnam demonstrates that these resource gaps are also spatially patterned and amplified: parents in resource-rich communities are more able to participate in their children's education, whereas parents in poorer communities face practical constraints that systematically restrict participation (Putnam, 2016). Ultimately, these material inequalities reshape the very forms of involvement. Lareau further reveals that these classed and place-based inequalities are reflected in the forms that parental involvement takes: working-class and disadvantaged families more often follow a "natural growth" approach, prioritising basic care and allowing children to develop through everyday routines rather than organised, school-oriented activities (Lareau, 1987). As a result, their involvement may include less proactive, school-facing contact and is more likely to be overlooked or devalued by schools, even when parents care deeply about their children's education (Lareau et al., 2021). Taken together, these studies suggest that structural factors such as family income, employment, available social connection and education level shape whether, and how, parents participate in their children's schooling. It can be argued that

amongst families from disadvantaged backgrounds, like low-income or ethnic minority families, there is variation in parental involvement according to these factors as well (Palma, 2025).

2.2 Psychological motivational logic

An alternative approach focuses on psychological processes shaping parental involvement. Whereas structural approach can appear to imply that involvement is directly determined by social position. It can also struggle to explain variation among parents who face broadly similar constraints. Exploring psychological motivational patterns can address this, by focusing on how parents interpret circumstances, develop their motivations, and decide how to act (Barger et al., 2019; Eccles & Harold, 1996; Grolnick & Slowiaczek, 1994). This work shifts the explanatory mechanism from resources limitations to individual agency and decision processes.

Hoover-Dempsey and Sandler (1997) proposed a psychological model to explain how parents decide whether and how to participate in their children's education. This model emphasises three key components: a) parents' role construction: represented by parents' role beliefs, that is, what they think they should do to support their children's education, and parents' self-efficacy, meaning how capable they feel in helping their children succeed at school; b) invitations from others for involvement: referring to how parents perceive others' invitations for participation; c) parents' life context: referring to the conditions that make involvement easier or harder, including parents' available time, energy, knowledge and skills (Hoover-Dempsey et al., 2005; Walker et al., 2005). In this model, internal motivational factors including role beliefs and self-efficacy shape parents' motivational disposition for involvement, while external contextual factors containing perceived invitations and life context act conditionally to facilitate or hinder actual participation. In this framework, the external influences are depend on parents holding some extent of sense of responsibility and efficacy (Hoover-Dempsey & Sandler, 1997). This framework offers an important conceptual move. Compared to structural rationale, it does not treat parents as passive recipients of structural conditions, but as actively agentic.

However, within a school-centred definition of involvement, both structural and psychological mechanisms may be interpreted as "why certain parents participate insufficiently", thereby overlooking how schools and institutions construct opportunities for participation, set thresholds, and create disparities in visibility (Auerbach, 2007; Goodall & Montgomery, 2014). When involvement is understood as participation that is visible by the school, structural explanations can slide into a narrative of deficiency. Parents whose participation forms are not recognized by the school's established framework are often perceived as lacking resources and capabilities. Motivational explanations can also be interpreted in deficit terms: low

participation is regarded as weak awareness, low responsibility, or insufficient self-efficacy. To prevent simplifying parental involvement disparities to parent-level factors alone, the present study considers structural factors alongside the core factors from Hoover-Dempsey and Sandler's theory within a single analytical model explaining specifically why disadvantaged families decide to get involved or not.

3. Research hypotheses

As described above, there is reason to assume that parental involvement reflects the joint influence of internal psychological and external contextual factors. Following up on this idea, this study sets out to investigate how parental involvement is shaped by structural factors, psychological motivations and contextual conditions, including parents' income, highest level of education attained and social connections, their role beliefs and self-efficacy, invitations from others, and their available time, energy, knowledge and skills for participation. Therefore, the study proposes the following hypotheses, which complement rather than compete:

H1. Amongst disadvantaged families, structural factors, like family income, highest level of education attained, and social relationship positively predict parental involvement behaviours. Parents living with better resources are more likely to participate in school education.

H2. Psychological factors (e.g., role beliefs and self-efficacy) positively predict parental involvement behaviours. Parents who believe they play an important educational role and feel capable of supporting their children's learning are more likely to take part in school activities

H3. Contextual factors such as school invitation; teacher invitation; children's invitation; available time, energy, knowledge and skills have a direct and significant influence on parental involvement behaviours, independent of structural and psychological factors.

4. Data, variables and method

4.1 Data

This study is conducted in three rural public junior middle schools in Tong Liao, Inner Mongolia, China. Tong Liao is a prefecture-level administrative region in northern China that encompasses both urban area and extensive rural counties with marked rural–urban differentiation (Inner Mongolia Autonomous Region Bureau of Statistics, 2022). There are 106 middle schools in Tong Liao (Tongliao Municipal Education Bureau, 2025). Such a context features substantial within-region disparities in school resources and family educational support, making it particularly informative for examining parental involvement among rural, low-income and ethnic-minority families. In this context, primary and secondary education

commonly takes the form of a mixed-ethnicity schooling model.

All three schools are rural public schools and are similar in physical facilities, teachers' qualifications, and high-school enrolment rates. Consistent with the characteristics of Tong Liao and the sampled schools, participating families are predominantly disadvantaged. Ethnic minority parents constitute 79.0% of respondents. Taking regional development disparities into account, this study employs the income quintile classification criteria published by local governments to determine income levels. Using income categories from the 2020 Inner Mongolia Population Census, nearly half of the parents (49%) reported an annual disposable income below CNY 20,000 (approximately GBP 2,119) and 42% reported receiving financial subsidies. According to local income classification criteria, this income level falls within the category of severe poverty. Employment is generally unstable: more than 80% of parents are not in full-time work, including 30% unemployed or seeking work, 28% full-time caregivers, and 27% in part-time or informal employment, only 15% reported full-time employment. Educational attainment is also relatively low, with around 65% parents report junior high school as their highest level of education and comparatively few completing senior high school or higher (see Table 1). Overall, the three schools and their participants can be characterised as predominantly ethnic minority, low-SES rural families, and thus provide an appropriate and locally representative sample for the present study.

Ethical approval for the study was granted by the authors' home institution's Research Ethics Committee. The survey was administered in May 2025 over a one-month period. Sampling and data collection were conducted using school-level cluster sampling. Parents of students in Grades 7–9 (Junior Years 1-3) were invited to complete an online survey distributed via classroom teachers. Participation was voluntary and anonymous. In total, 988 surveys were distributed and 819 were returned (response rate = 83%). Data quality checks included two logically opposite items ("I contact the teacher regularly" / "I rarely contact the teacher") to identify inconsistent responses. After excluding cases with substantial missing data (n = 107) and inconsistent answers (n = 99), the final analytic sample comprised 613 parents. School A, School B, and School C contributed 295 (48.1%), 164 (26.8%), and 154 (25.1%) respondents, respectively (Table 1).

Table 1. Description of the sample

Variables		**Total (n=613)**	
		n	**%**
Gender	Male	191	0.31
	Female	422	0.69
Ethnicity	Han	129	0.21
	Ethnic minority	484	0.79

Annual Income	<CYN20,000/ GBP 2,119	299	0.49
（Min=1, Max=5, SD=1.14）	CYN20,000-35,000 /GBP2,119-3,708	157	0.26
	CYN35,000-50,000 /GBP 3,708-5,297	90	0.15
	50,000-75,000 /GBP 5,297-7,946	40	0.07
	>CYN75,000 /GBP 7,946	27	0.04
Employment Status	Unemployed/Looking for employment	181	0.30
（Min=1, Max=4, SD=1.05）	Part-time/ Informal work	166	0.27
	Full time parent (either mother or father)	172	0.28
	Full time job	94	0.15
Highest Education Level	Primary school and below	117	0.19
（Min=1, Max=4, SD=.66）	Junior high school	400	0.65
	High school	79	0.13
	Higher education	17	0.03

4.2 Measures and variables

This study employed a five-point Likert scale adapted from Walker's parental involvement scale to collect data from parents at three rural junior high schools. Several modifications of questions were made to ensure cultural and linguistic appropriateness for the Chinese context. For example, items were rephrased to ask parents how much they agree that their child wants them to participate in school activities, rather than how often their child asks them to attend specific school events. The scale includes 65 questions. Based on the dimensional structure of Walker's version, Principal Component Analysis (Hotelling, 1933) and Categorical Principal Components Analysis (Linting et al., 2007) were employed to reduce the dimensionality of the data. This ultimately yielded three sets of core independent variables: structural, psychological, contextual variables. It also produced two dependent parental involvement variables: school-based parental involvement and home-based parental involvement.

Table 2 demonstrates variables and indicators. Four domains are measured: structural, psychological, contextual, and parental involvement variables. In addition to the above four primary variables, the model incorporates a set of demographic characteristics of families and children as control variables to prevent these proven systematic influences on parental involvement from confounding the primary effects, including family structure, number of children, parent and child gender/ethnicity, and schooling mode (boarding vs non-boarding) (Fan et al., 2012; Tong et al., 2023; Wei et al., 2016). These demographic variables consist of 4 parent-related items (e.g., What is your gender?) and 3 child-related items (e.g., What is your

child's schooling mode?). Structural variables include 5 items measuring parents' socioeconomic background, such as "What is your current employment status?". Psychological variables are assessed through 14 items introduced by two prompts: 8 items begin with "Please indicate how much you agree or disagree based on the status of your participation in your child's school activities" (e.g., I think I should help my child with homework), and another 6 begin with "Please indicate how much you agree or disagree based on your feelings about participating in your child's schoolwork" (e.g., I can strongly influence my child's progress in school). Contextual variables include 26 items beginning with the statements "Please indicate how much you agree or disagree based on your contact experiences with the school this year" or "Please indicate how much you agree or disagree based on your participation experiences in your child's schoolwork," with sample items such as "I have enough time and energy to listen to my child talk about school" and "My child likes to talk with me about school." Parental involvement variables are measured by 13 items under the instruction "Please indicate how often you participate in the following activities," including items such as "I go with my child to after-school activities." (a full list of items is provided in Appendix 1).

Table 2. Variable domains and indicators

Variable type	**Block**	**Scale/Construct**	**Indicators/Items**	**Factor loading range**	**Cronbach's α**
Predictors	Structural variables	Family socioeconomic status (SES)	Annual household income; employment status; financial subsidy; highest education attained	0.51-0.70	0.47
		Social relationship	Social connections parents can utilise to support their children's education	/	/
	Psychological variables	Role beliefs	Scale items (parents' beliefs about their educational role/responsibility)	0.72-0.88	0.93
		Self-efficacy	Scale items (parents' efficacy beliefs for involvement)	0.61-0.91	0.95
	Contextual variables	School invitation	Scale items (perceived invitations/communication from the school)	0.89-0.94	0.93
		Teacher invitation	Scale items (perceived invitations/communication from teachers)	0.81-0.87	0.9
		Child invitation	Scale items (perceived expectations/invitations from the child)	0.80-0.90	0.89
		Time and energy	Scale items (available time and energy for involvement)	0.85-0.93	0.95

		Knowledge and skills	Scale items (availability of knowledge/skills needed for involvement)	0.68-0.87	0.91
Dependent	Parental involvement variables	Home-based parental involvement (HPI)	Scale items (involvement practices in the home sphere)	0.83-0.90	0.92
		School-based parental involvement (SPI)	Scale items (involvement practices in the school sphere)	0.82-0.88	0.93
Control variables	Demographic variables	Parent demographics	Ethnicity; gender; family type; number of children	/	/
		Child demographics	Ethnicity; gender; schooling mode	/	/

Categorical Principal Components Analysis (CATPCA) was used to integrate multiple structural indicators into a single continuous family socioeconomic status (SES) index, with indicator loadings ranging from 0.51 to 0.70 (Min=-1.85, Max=3.96, SD≈1). The psychological, contextual, and behavioural measures were continuous and therefore subjected to Principal Component Analysis (PCA) after removing the attention-check item ("I rarely contact teachers"). For each subscale the Kaiser–Meyer–Olkin (KMO) measure exceeded 0.80 and Bartlett's test of sphericity was significant ($p < .001$), the subscale-level PCAs yielded clear and interpretable structures, extracting ten components in total, including SES, role beliefs (factor loadings: 0.72–0.88), self-efficacy (0.61–0.91), school invitation (0.89–0.94), child invitation (0.80–0.90), teacher invitation (0.81–0.87), time and energy (0.85–0.93), knowledge and skills (0.68–0.87), and two behavioural components of parental involvement (HPI: 0.83–0.90, SPI: 0.82–0.88). Overall, these findings indicate that the variable structure aligns well with the theoretical dimensions, providing a reliable aggregate variable for subsequent analysis.

4.3 Analytical Approach

To examine the influence of structural variables, psychological variables, and situational variables on two types of parental involvement, this study employed multiple linear regression, sequentially incorporating structural, psychological, and situational variables. By comparing the coefficients and explanatory power changes across models, this research identified the independent explanatory power of each variable to parental involvement after controlling for others.

This study separately ran three models separately for school-based and family-based parental involvement. Model 1 (M1) incorporates demographic variables (control variables) and structural factors (SES and social relationship) to assess the baseline influence of structural

factors on parental involvement. Model 2 (M2) adds psychological variables to evaluate their additional explanatory value and to observe how associations with structural factors changed after their inclusion. Model 3 (M3) introduces contextual variables to test whether these variables have independent associations with parental involvement beyond structural and psychological factors. By comparing coefficients and goodness-of-fit across the three models—particularly changes in effect size—the analysis identifies the relative contribution of each factor and clarifies how structural, psychological, and contextual factors are jointly associated with parental involvement behaviours.

To examine the correlations matrices and multicollinearity, this study examined Pearson correlation coefficients between all predictor variables and the two types of parental involvement (see Appendix 2). The results revealed a distinct gradient distribution: structural variables showed weak associations with parental involvement (r=0.035–0.256); psychological variables exhibited moderate to strong correlations (r=0.595–0.699); while situational variables exhibited the strongest correlations with both outcome variables (r=0.592–0.805). Despite these substantial correlations, no evidence of multicollinearity was detected, with variance inflation factors (VIF) consistently below conventional thresholds (VIF<5).

5. Results

5.1 Model performance and relative contributions of factors

Although the correlation analysis reveals a gradient pattern of "lowest structural—moderate psychological—highest contextual", the stepwise regression analysis shows that contextual factors constitute the most explanatory power. Table 3 presents the overall fit of three linear regression models predicting parental involvement (school-based parental involvement and home-based parental involvement). Model fit improved dramatically as additional blocks of predictors are introduced. M1, which includes only structural and demographic variables, explains a small proportion of parental involvement (HPI: R2=0.075; SPI: R2=0.086). Adding psychological predictors in M2 yields a substantial increase in explanatory power (HPI: R2=0.528; SPI: R2=0.535). With the inclusion of contextual variables in M3, model fit increases further to R2=0.764 for HPI and R2=0.737 for SPI. Overall, the model fit shows a clear stepwise improvement. Explanatory power is minimal in M1, increases notably in M2, and rises further in M3. This pattern indicates psychological and contextual factors explain more of the variation in parental involvement than structural or demographic variables alone, with contextual variables providing additional explanatory variance beyond parents' psychological motivations.

5.2 Predicting school-based and home-based involvement

A gradient effect pattern emerges across the three models: weakest structural-moderate psychological-strongest situational effect. This pattern appears in both SPI and HPI. The results indicate a shift from distal structural factors to more proximal contextual factors. They also reveal the different influence pathways of contextual factors on HPI and SPI. Figure 1 shows the key predictors associations with parental involvement across the three models. It shows that contextual factors consistently exhibit stronger and more robust associations with both SPI and HPI than structural and psychological factors. Structural variables, including family socioeconomic status, failed to demonstrate significance in all 3 models. Psychological factors showed significance in Model 2 but exhibited substantially weakened significance after introducing contextual variables in Model 3. Conversely, contextual variables maintained statistical significance for both types of parental involvement and contributed more substantially to explaining the variance.

Figure 1. Core predictors of parental involvement across models

Note: Coefficient plots for school-based parental involvement (SPI) and home-based parental involvement (HPI). Dots report OLS coefficient estimates, and horizontal bars indicate 95% confidence intervals. The dashed vertical line at zero denotes no correlation. If the horizontal bars cross this line, the association is not statistically significant. Estimates to the right (left) indicate a positive (negative) correlation with the outcome. Detailed coefficient values (B values) are reported in Table 3.

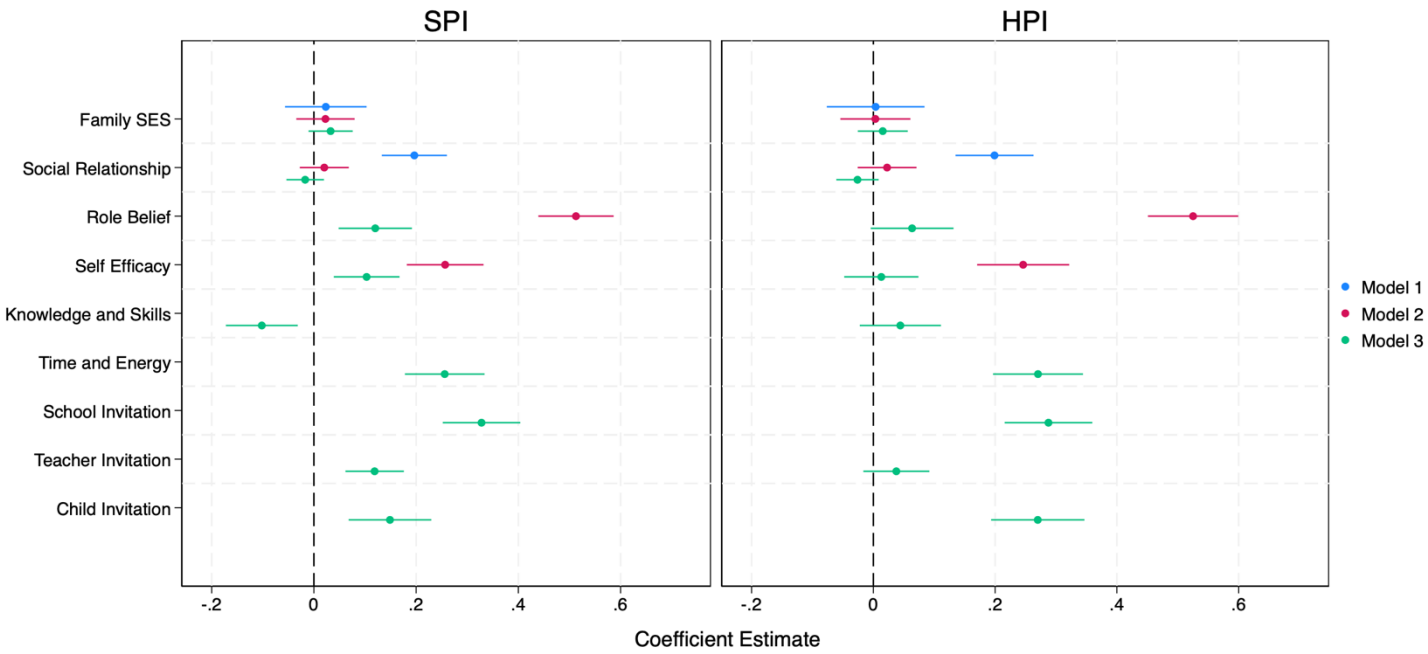

Table 3. The contributions of explanatory indicators to parental involvement varied across the three regression models.

N (613)	**SPI** (B value)			**HPI** (B value)		
Variable	**M1**	**M2**	**M3**	**M1**	**M2**	**M3**
Gender (ref: mother)	0.253**	0.165*	0.139**	0.094	0.008	0.003
Ethnicity (ref: ethnic minority)	0.094	-0.001	-0.099	0.261	0.163	0.041
Family type (ref: both-parents)	0.104	0.067	0.069	0.089	0.051	0.052
Children number (ref: multiple child)	0.073	0.09	0.027	0.001	0.019	-0.047
Schooling mode (ref: non-boarding)	0.100	0.139*	0.091	0.023	0.06	0.038
Child ethnicity (ref: ethnic minority)	0.064	0.032	0.143	-0.046	-0.076	0.059
Child gender (ref: girl)	-0.125	-0.020	-0.005	-0.133	-0.028	-0.010
Structural factors						
Social relationship	0.197***	0.020	-0.017	0.199***	0.023	-0.026
SES	0.023	0.023	0.033	0.004	0.003	0.015
Psychological factors						
Role belief		0.513***	0.120***		0.525***	0.064
Self-efficacy		0.257***	0.103**		0.246***	0.013
Contextual factors						
Knowledge and skills			-0.102**			0.044
Time and energy			0.256***			0.270***
School invitation			0.328***			0.288***
Teacher invitation			0.119***			0.038
Child invitation			0.149***			0.270***
	SPI (R^2)			**HPI** (R^2)		
M1	0.086			0.075		
M2	0.535			0.528		
M3	0.737			0.764		

Note: 1) * $p < .05$, ** $p < .01$, *** $p < .001$；2) "ref" means the reference category against which other groups are compared; 3) B value indicates the expected increase or decrease in the dependent variable when the independent variable increases by one standard deviation, holding all other variables constant; 4) R^2 refers to the proportion of dependent variable variance explained by the independent variables in the model.

Table 3 shows the general model fit across three models and explanatory power of each variable. Model fit improved significantly with the progressive addition of structural, psychological, and contextual variables: the R^2 value increased from the weak explanatory power observed in Model M1 (SPI=0.086; HPI=0.075) to a moderate level in Model M2, ultimately reaching a high level of explanatory power in Model M3 (SPI=0.737; HPI=0.764).

For SPI, among all demographic and structural factors, only parents' gender (B = 0.253) and

social relationships (B = 0.197) are statistically significant. The model results indicate psychological variables appear significant in M2, but they become insignificant once we control for invitations, time and other contextual factors. In M2, psychological variables significantly explain involvement: parental role beliefs emerge as the strongest predictor (B=0.513), while self-efficacy also is an important contributor (B=0.257). However, once contextual variables enter M3, the independent explanatory power of psychological variables markedly diminishes (role beliefs and self-efficacy contracted to B=0.120/0.103), The explanatory focus shifts to contextual factors: school invitation contributes most significantly (B = 0.328), followed sequentially by time and energy (B = 0.256), child invitation (B = 0.149), teacher invitation (B = 0.119), and knowledge-skills (B = -0.102). This effect pattern aligns more closely with the framework of "school invites and time constraints": for these rural parents, school-based parental involvement primarily relies on the external invitations, while simultaneously being constrained by parents' available time and energy. Notably, SPI is also responsive to child invitation, indicating that children can act as proximal "mobilisers" of school-based participation. By contrast, the negative coefficient for knowledge-skills suggests that higher perceived knowledge and skills are associated with lower levels of SPI, implying that more self-perceived knowledgeable and skilful parents may less participate in school activities.

The effect pattern of HPI more clearly exhibits the characteristic shift from psychological motivation to external context dominance. The explanatory power of psychological variables for HPI in M2 remains significant, exhibiting a pronounced "motivation-driven" pattern: role beliefs (B = 0.525) and self-efficacy (B = 0.246) constitute the primary explanatory sources, indicating that HPI relies more heavily on parental psychological motivation. However, upon entering M3, the explanatory focus of HPI does not simply replicate "school invitation and time constraints" structure of SPI (school invitation: B= 0.288; time and energy: B=0.270). While child invitation emerges as equally influential as time and energy in predicting HPI (child invitation: B = 0.270), and its relative importance is stronger than in SPI (child invitation: B = 0.149). Such pattern indicates a different "school invitation, child acceptance" pattern of HPI comparing to SPI. Different to SPI, teacher invitation (0.038) and knowledge-skills (B=0.044) yield negligible marginal explanation in HPI. Concurrently, psychological variables exhibit near-zero independent explanatory power at M3 (role beliefs: B=0.064; self-efficacy: B=0.013). This suggests home-based parental involvement is more directly influenced by the effects of "whether children welcome" and "whether schools extend invitations", whilst parental time and energy remain crucial conditions determining parental involvement.

Among all control variables, only parental gender shows a modest significant and inconsistent association with SPI across models (M1: B = 0.253, $p < .01$; M2: B = 0.165, $p < .05$; M3: B = 0.139, $p < .01$). Specifically, mothers reported higher levels of school-based involvement than

fathers. However, this effect declined as the models expanded, and gender is not significantly associated with HPI. This pattern suggests that gender functions as a persistent, though secondary, structuring factor in school-based parental involvement, with mothers being more likely than fathers to participate in school settings, even after accounting for other factors.

These key findings reject H1: Structural factors positively predict parental involvement behaviours. The findings provide only partial support for H2 that although psychological factors initially show positive correlations with parental involvement, their effects diminish once contextual factors are introduced. By contrast, the results strongly support H3: contextual factors have a direct and significant influence on parental involvement behaviours, independent of structural and psychological factors. Contextual factors play a determined role in parental involvement and are the most powerful mechanism that explains variations in parental involvement. In summary, for rural parents, parental involvement presents a highly context-dependent practice. Within this pattern, two contextual mechanisms dominate: invitations mobilise involvement, while limited time and energy constrain it. School invitation is the strongest predictor of both forms of involvement, whereas child's invitation plays a more prominent role in driving home-based involvement than in driving school-based involvement.

6. Discussion and conclusion

This study of 613 parents from three rural public junior high schools in Tong Liao, Inner Mongolia, China shows that in disadvantaged contexts, parental involvement is activated by contextual conditions more than driven solely by family resources or stable psychological motivations. Linear regression analyses indicate that structural variables explain little variation in either school-based or home-based involvement. Psychological motivation variables are significantly associated with involvement when contextual factors are excluded, but these effects diminish once school invitation and time–energy constraints are included in the model. This pattern suggests that, in resource-constrained rural settings, the key is not simply whether parents possess resources or intentions, but whether the opportunity structure enables those resources and intentions to be converted into feasible action.

The significant effect of school invitation indicates schools' dual role in shaping parental involvement: they can actively enable participation by signalling welcome and providing opportunities, while also acting as gatekeepers by defining which forms of involvement are recognised and facilitated. From M2 to M3, parental involvement is not primarily explained by structural position or psychological motivation but is more determined by opportunities for participation and external conditions. This shift emphasises the importance of context while prompting us to ask critically: why and how do these contextual factors play such a decisive role? Data indicate that, after controlling for structural and psychological factors, school

invitation remains a key determinant of participation. This implies that within disadvantaged contexts, schools retain the authority to allocate participation opportunities, establish pathways for involvement, and define the rules governing parent involvement. According to Bourdieu, institutions shape individual behaviour through symbolic power by making "seemingly rational" standards and rules appear legitimate (Bourdieu, 1989). Schools embed this symbolic power in everyday routines by defining who is noticed, whose participation matters, and what forms of participation are regarded as legitimate, thereby perpetuating its impact with parents' acquiescence and acceptance. The function of symbolic power manifests in the supportive and filtering attributes of the school invitation. There are two ways in which this operates:

Firstly, the school invitation possesses supportive attributes. On the one hand, extending an invitation not only sends a signal that parents are needed, but also shifts the role of parents from uncertain "bystanders" to recognised "participants", thereby empowering them with an active identity and value within the school's educational framework. The invitation simultaneously provides clear opportunities and pathways for participation, reducing uncertainty and thereby lowering the action costs for disadvantaged parents. Therefore, school invitation enhances both the likelihood and practicality of parental involvement. This can explain why school-based parental involvement is more sensitive than home-based parental involvement to school invitation. Since school-based involvement occurs within institutional frameworks, whether and how parents can participate primarily depends on whether schools provide accessible opportunities and actionable pathways (Yotyodying & Wild, 2019).

Secondly, invitations contain a filtering property. From a parents' perspective, receiving an invitation does not equate to the opportunity actually being accessible or actionable (Guo & Zhao, 2025; Murray et al., 2014). The design of the invitation system, such as whether channels are accessible, whether notifications are given in advance, whether attendance is defaulted to arranged on weekdays, whether alternative participation options are provided, and whether parents feel capable to do what the school is asking, will distinguish parents into responsive and non-responsive groups. This study found that time and energy exerted a significant and stable predictive effect on both SPI and HPI, indicating that responsiveness is closely correlated with time and energy availability. Even when schools invite parents, if participation is assumed to require substantial time and energy costs, parents lacking sufficient time and energy remain less likely to respond. More significantly, this filtering is not a one-off affair. Once responsiveness is perceived as a sign of active cooperation or being a good parent, invitations may form a self-reinforcing cycle. This enables responsive parents to gain more opportunities, while those struggling to respond become progressively marginalised, thereby creating inequalities in both participation opportunities and outcomes (Mzidabi et al., 2024). Superficially, this appears as voluntary parental non-participation. In reality, it reflects the sustained operation of institutionalised access protocols within everyday interactions,

reproducing inequality through subtle means. Consequently, in disadvantaged contexts, schools' symbolic power readily shapes parental involvement through routine invitations, access, and acknowledgement. This calls for attention to exclusionary effects, alongside institutional reforms to enhance equality.

The explanatory power of psychological variables is significantly reduced, once contextual factors are incorporated. This both weakens the motivational dominance framework of the Hoover-Dempsey and Sandler's model and refutes the "family deficit" perspective. Consequently, it reminds practice and intervention of the need to place less emphasis on morally blaming parents and instead focus on improving opportunities and channels for participation (Wilson & McGuire, 2021). The change in the influence of parental motivation from M2 to M3 reveals a typical substitution process. When contextual factors are excluded, psychological motivations are highly correlated with parental involvement. However, when school invitation, time, and energy constraints are integrated into the model, the independent explanatory power of psychological motivations significantly diminishes. This indicates that, once multiple factors are taken into account, psychological motivations are insufficient to explain differences in parental involvement; instead, contextual conditions provide the dominant explanatory framework. Drawing on Hoover–Dempsey and Sandler's model, these findings suggest shifting the analytical focus from whether parents want to participate to whether external conditions enable them to participate. School invitation provides explicit entry channels for involvement, whilst time and energy constraints define the practical costs and boundaries of participation. Consequently, variation in parental involvement appears to reflect external opportunity distribution and constraints more than the strength of parents' internal motivation. This finding also challenges the "family deficiency view", which attributed low participation to lower awareness and deficits in parents' capacity (Crozier, 2001; Posey-Maddox & Haley-Lock, 2020). The low participation of disadvantaged parents can be understood as the result of institutional filtering rather than moral irresponsibility. Accordingly, one-size-fits-all intervention approaches focusing on "enhancing parents' awareness and participation capacity" often overlook the key bottleneck: the lack of accessible opportunities and practicable pathways. Consequently, it is difficult to change the reality of low participation and using this approach may reinforce the blame placed on disadvantaged parents.

Time constraints supersede family resources as the primary factor shaping parental involvement, revealing an implicit alternative mechanism for reproducing inequality: the overlap of time poverty with school invitation structures may reinforce inequalities of opportunity for participation. In this study, SES is not statistically significant, which could be interpreted as "structural effects being unimportant" within disadvantaged groups. However, where most families face broadly similar constraints and resources are generally tight, structural influences may not show up as clear gaps in income or educational qualifications

(Jackson & Schneider, 2022; Schneider et al., 2022). This does not mean that structural factors are irrelevant. Rather, the strong effects of time and energy suggest that, in such settings, inequality is more likely to be expressed through everyday pressures and constraints than through obvious differences in material resources (Kalil et al., 2023). Arrangements for work and care, spatial and commuting costs, and the pressures of daily life compress parents' available time and energy, leading to time poverty. Less obvious than income disparities, time poverty more directly determines whether participation occurs. It also is further compounded by the selective nature of school invitation, creating unequal opportunities. Parents who feel they have sufficient time and energy are more likely to respond to invitations, and interact, gain recognition, and accumulate participation into educational advantages. In contrast, those experiencing time poverty, even with strong motivation, struggle to continue participating and ultimately withdraw passively from interactions. Thus, the reproduction of inequality operates not only through wealth or cultural capital but also through the appropriation and distribution of time and energy (Prickett & Augustine, 2021).

In short, the significant effect of contextual factors represented by school invitation and available time and energy provides a mechanism for explaining the present predicament where "policy support has strengthened yet participation remains constrained". When time poverty increases participation costs, the symbolic power exercised by schools through the "invitation-recognition-access" mechanism is amplified. This not only determines who is more likely to be seen and enter the interaction process but also facilitates parents who have more time resources to transform participation into accumulated educational advantages. Consequently, it will reinforce and reproduce such opportunity inequalities within everyday practices.

In practice, this study recommends shifting the focus of policy and school practice from "transforming parents" to "transforming invitation and participation systems." First, schools can consider whether invitation systems are fair and minimize the unintended screening effects of invitations. This may include employing multiple outreach channels, adopting inclusive and respectful wording, clarifying task requirements, providing adequate advance notice, and offering alternatives and remedy pathways for absences. Second, schools could consider lowering potential participation thresholds. For school-based involvement, this could involve providing online, asynchronous, and short-duration options. For home-based involvement, schools might design "mini-tasks" that can be completed at home, shifting participation away from high-cost, one-off events toward less intensive, sustainable routines. Alongside this, schools can highlight children's role as initiators by providing students with simple cues and take-home material that prompt them to invite parents. Third, it may be useful for schools to monitor for potential screening dynamics, by identifying families who remain persistently unreachable or repeatedly unable to respond and then adjusting outreach approaches rather than reducing contact. This may help prevent a self-reinforcing cycle in which schools interact only

with already proactive parents. Overall, this is about enhancing the accessibility of participation opportunities and reducing participation costs for disadvantaged parents, to avoid one-size-fits-all approaches turning equality goals into new forms of inequality. Only when systems ensure that disadvantaged parents are "seen, able to enter, and able to participate" can their motivation and efforts translate into tangible educational benefits.

Despite these implications, the findings should be interpreted in light of two limitations. First, measurements rely on parent self-reports, which may introduce self-report and expectancy biases and exaggerate or reduce estimated effects. Future work may adopt multi-informant data (e.g., teacher reports) and consider indicators capturing parent–teacher perceptual alignment. Second, the SES measure reflects relative within-area ranking rather than absolute national position, which may weaken the structural factors influence and limit generalisability; future research may consider adopting cross-regional stratified sampling and separately estimate both regional and family level effects.

To conclude, this study proposes a theoretical possibility: parental involvement is not primarily determined by fixed resources or stable motivation but rather constitutes a highly context-dependent behaviour that is sensitive to short-term, even immediate, conditions for action. Future research may further explore under what institutional arrangements and living contexts parental involvement transcends the classic resource-structure and motivation-behaviour frameworks, becoming instead dominated by opportunity structures and action feasibility. At the practical level, this study reflects on the one-size-fits-all intervention approach based on the "family deficit" view. Policy and school measures may consider prioritising regional disparities and lived conditions, establishing flexible and adjustable participation support systems to prevent unintended reinforcement of inequalities in participation opportunities and outcomes through single-criterion evaluation systems.

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Appendix 1: Parental Involvement Scale

Family Information (12 items)
Your gender:
Your ethnicity:
Do you have more than one child?
What type of family structure do you have?
What is your child's ethnicity?
What is your child's gender?
What is your child's current schooling mode?
What is your highest level of education?
What is your current employment status?
Have you, your child, or any main family members ever received subsidies from school or the government?
What is your current annual disposable income (for living expenses and savings)?
I believe my social relationships (relatives, friends, colleagues, etc.) are helpful for my child's academic development.

Role beliefs. Please indicate how much you agree/disagree based on the status of your participation in child's school activities. (8 items)
I think I should join volunteer activities at school.
I think I should help my child with homework.
I think I should talk with other parents (like in parent groups or meetings).
I think I should support the teacher's teaching plans.
I think I should talk with the teacher regularly.
I think I should know what's happening at school.
I think I should help my child with study problems.
I think I should join in school improvement work.

Self-efficacy. Please indicate how much you agree/disagree based on your feelings of participation in child's school work. (6 items)
When my child has learning problems, I can help to solve.
My child understands my advice about studying.
I am confident I can help my child do better in school.
I think I am doing a good job helping my child learn.
I rarely contact the teacher (reversed question).
I can strongly influence my child's school progress.

Involvement form and frequency. Please indicate how often you participate below activities? (13 items)
I check my child's homework regularly.
I talk with my child about school life.
I pay attention to changes in my child's learning progress.
I go with my child to after-school activities.
I talk with teachers regularly.

I cooperate with home visits.
I understand the school's teaching schedule and design.
I attend school lectures.
I join parent meetings or teacher talks.
I take part in making school rules and plans.
I give advice on teaching, school events, or student rules.
I help raise money or collect resources for the school.
I give suggestions about teaching and school management.
Knowledge and skills. Please indicate how much you agree/disagree: (7 items)
I know how to communicate with my child's teachers.
I know how to talk with my child about school.
I know how to check and help my child with homework.
I have the subject knowledge to help with homework.
I use good ways to encourage my child to study.
I try to learn more about parenting and education.
I think I need to improve my skills to help my child.
Time and energy. Please indicate how much you agree/disagree based on your participation experiences with the child's school work. (6 items)
I have enough time and energy to listen to my child talk about school.
I have enough time and energy to deal with school notices and activities.
I have enough time and energy to talk with teachers regularly.
I have enough time and energy to join school events (like parent volunteer work or lectures).
I have enough time and energy to help my child with homework.
I have enough time and energy to stay with my child when they study at home.
Feeling on school invitation. Please indicate how much you agree/disagree based on your contact experiences with school in the current year. (4 items)
The school gives parents many ways to contact them.
When I contact the school, they respond actively and willing to talk.
The school sets parent activities at times that are convenient.
The school mainly contacts me when my child is facing problems.
Feeling on children's and teachers' invitation. Please indicate how much you agree/disagree based on your contact experiences with school in the current year. (5 items)
Teachers give regular updates on my child's performance in school.
Teachers ask me to help my child with homework.
Teachers want parents to know and watch school behaviour.
Teachers invite parents to join events like sports or festivals.
My child's teacher often contacts me.

Feeling on children's invitation. Please indicate how much you agree/disagree based on your contact experiences with school in the current year. (4 items)
My child wants me to check their homework.
My child likes to talk with me about school.
My child wants me to join school activities.
My child wants me to stay in touch with the school and teachers.

Appendix 2. Correlations Matrix for continuous structural, psychological, context, parental involvement variables

	Social Relationship	**SES**	**Belief**	**Efficacy**	**KS**	**TE**	**SI**	**TI**	**CI**	**HPI**	**SPI**
Social Relationship											
SES	0.077										
Belief	.268**	0.019									
Efficacy	.320**	0.024	.655**								
Knowledge and Skills	.335**	0.018	.721**	.700**							
Time and Energy	.286**	0.035	.687**	.648**	.680**						
School Invitation	.275**	0.008	.721**	.554**	.637**	.747**					
Teacher invitation	.234**	0.032	.556**	.457**	.482**	.594**	.634**				
Child Invitation	.275**	-0.002	.687**	.625**	.679**	.799**	.769**	.641**			
Home-based Parental Involvement	.245**	0.035	.699**	.595**	.657**	.799**	.796**	.610**	.805**		
(VIF)	(1.16)	(1.011)	(2.977)	(2.353)	(2.862)	(3.535)	(3.326)	(1.889)	(3.807)		
School-based Parental Involvement	.256**	0.060	.693**	.607**	.592**	.771**	.787**	.640**	.755**	.822**	
(VIF)	(1.16)	(1.011)	(2.977)	(2.353)	(2.862)	(3.535)	(3.326)	(1.889)	(3.807)		

**. Correlation is significant at the 0.01 level (2-tailed).