

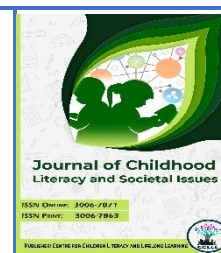


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Migrant Parents' Assessment Discrepancies in the Social Development of Rural Left-Behind Preschool Children: A Dual-Source Study in China

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ABSTRACT

Assessing young children's social development is particularly difficult in rural China when a parent lives elsewhere for work. Accordingly, migrant parents' ratings were compared with direct assessments of 120 rural left-behind preschoolers (60 in public and 60 in private kindergartens) from a county-level district in Shaanxi Province. The assessment covered five dimensions: peer interaction, prosocial behavior, self-control, rule awareness, and autonomy. Children were assessed on-site through structured tasks; migrant parents completed a parallel five-point Likert questionnaire; both sources were mapped onto a common 0-100 scale for comparison. Pearson correlations between parent and child scores were uniformly weak and non-significant ($r = -.10$ to $.03$, all Pearson $p \geq .28$), indicating that parental evaluations carried little information about children's directly observed performance. Paired-samples t -tests on a common 0-100 scale showed migrant parents significantly overestimated self-control ($t(119) = 12.14$, $p < .001$, $d_z = 1.11$) and autonomy, peer interaction, and prosocial behavior, while significantly underestimating rule awareness ($t(119) = -3.59$, $p < .001$, $d_z = -0.33$). Overestimation was more pronounced when both parents had migrated and when grandparents were the primary caregivers. These findings suggest a structural, rather than motivational, information gap in long-distance caregiving, with implications for home-kindergarten communication.



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Introduction

As urbanization has accelerated in China, large numbers of rural laborers have migrated to cities for work, leaving many young children in their home villages under the care of grandparents or other relatives. These "left-behind children" now constitute a distinct and policy-relevant population. The State Council's Opinions on Strengthening the Care and Protection of Rural Left-Behind Children (State Council of the People's Republic of China, 2016) called for a coordinated protection system involving families, government, schools, and social organizations. The Ministry of Civil Affairs' subsequent Three-Year Action Plan for Improving the Quality of Care and Protection Services for Rural Left-Behind Children and Children in Difficult Circumstances (Ministry of Civil Affairs of the People's Republic of China, 2023) set the goal that, by 2026, left-behind children's psychological wellbeing should visibly improve and guardianship systems should be more robust. The Preschool Education Law of the People's Republic of China (Standing Committee of the National People's Congress, 2024) further specifies that the state must take measures to guarantee eligible rural left-behind children access to inclusive preschool education. Together, these policies provide clear direction for attending to left-behind children during the early childhood years specifically, a stage that has received comparatively less scholarly and policy attention than the compulsory-education years.

National surveys indicate that rural left-behind children face several converging risks, including gaps in family education, insufficient emotional support, uneven kindergarten quality, and elevated safety concerns (Duan et al., 2013). While public and academic attention to left-behind children has concentrated on the compulsory-education stage, the preschool-age population remains comparatively under-examined. Social development is the process through which children build interpersonal relationships, form moral understanding, establish a sense of self,

regulate emotion, and enhance social adaptability through interactions with family, kindergarten, and the broader community (Chen, 1994); it is foundational to children's later learning and adjustment. Yang and Qi (2020) found that the social withdrawal rate among left-behind preschoolers was significantly higher than among non-left-behind peers, with self-concept and psychological resilience acting as mediating and moderating mechanisms. Mo et al. (2024) reported that although rural left-behind children's interpersonal relationships were generally adequate, difficulties in interpersonal cognition contributed to disproportionate social anxiety.

A persistent methodological limitation in this literature is that most assessments of children's social development rely on a single informant, typically a teacher or a parent, both of whom are subject to their own experiential biases and information constraints (Chen, 1994; Duan et al., 2013). For migrant parents, the problem is more pronounced because information about the child's everyday behavior often comes from telephone or video contact and from what the caregiver reports. A parent therefore forms a picture of the child's social functioning without seeing the relevant behavior directly, and that picture may differ from what is observed in kindergarten. The discrepancy can work in either direction. When parents rate self-control or autonomy too highly, they may miss developmental difficulties, underestimate the need for support, or be less likely to intervene in family routines that could help the child regulate emotions or manage tasks independently. A different problem arises when parents and kindergartens receive inconsistent accounts of the child's behavior: communication may become limited to brief updates, notifications, or attendance matters rather than discussion of specific developmental concerns. If parents' impressions are shaped by isolated, rule-related incidents, the resulting picture may also be misleading. When parents underestimate visible, rule-oriented behavior, they may over-react to

isolated reports of misbehavior, generating unnecessary anxiety and, at times, harsh disciplinary responses that are themselves detrimental to children's social development.

Against this background, we paired the two sources of assessment and asked four questions: (1) How well are rural left-behind preschoolers performing in the five social-development domains when assessed directly? (2) How closely do migrant parents' ratings match those direct assessments? (3) How does the size of the parent-child discrepancy vary with family and child characteristics? and (4) What could schools and families do to give migrant parents a fuller picture of children's social development?

Literature Review and Theoretical Framework

Cross-Informant Discrepancy in Child Assessment Research

The mismatch examined in this study is part of a broader problem in child assessment. Different informants do not necessarily see the same aspects of a child's behavior, and disagreement is especially common when their observations come from different settings. Achenbach, McConaughy, and Howell (1987), in a meta-analysis of 269 samples, reported correlations of about $r = .60$ for similar informants observing children in the same setting (e.g., two parents), but only about $r = .28$ when the informants observed children in different settings (e.g., a parent and a teacher). Correlations involving children's self-reports averaged $r = .22$. De Los Reyes and Kazdin (2005) argued that these differences should not automatically be treated as measurement error because each informant may provide information that another informant cannot observe. In a related methodological paper, De Los Reyes and Kazdin (2004) recommended standardized difference scores, rather than raw differences, when the size of an informant discrepancy is of interest; this recommendation underlies the common-scale comparison used here. More recently, Booth et al. (2023), using data from 6,947 parent-adolescent dyads in the UK,

found that parent-adolescent discrepancies followed systematic patterns associated with family and child characteristics, including parental psychological distress and education. This provides a useful comparison for the heterogeneity analyses in the present study.

Distance, Observability, and the Structure of Migrant Parents' Information

The informant-discrepancy literature typically attributes low cross-informant correlations to differences in the settings in which informants observe the child (Achenbach et al., 1987). Migrant parenthood represents an extreme version of this setting-difference problem: rather than observing the child in a different physical location within the same general timeframe (e.g., a teacher's classroom versus a parent's home), migrant parents typically have no direct, unmediated observation of the child's behavior at all, relying instead on telephone or video contact and on secondhand reports filtered through a co-resident caregiver. Migration and separation researchers in China have documented the resulting information gap. Shi et al. (2021), in a cross-sectional study of 811 left-behind children under age three in poor rural counties, found that children whose mothers had migrated, and who were cared for by grandparents, showed higher rates of social-emotional problems than those left in a father's or mother's direct care, implicating caregiving-arrangement structure, not merely separation per se, as a driver of developmental risk. Zhang et al.'s (2018) systematic review and meta-analysis likewise found consistent deficits in left-behind children's social adaptation relative to non-left-behind peers, with the degree of deficit varying by which parent, or both, had migrated. Zhao and Yu's (2016) meta-analysis of 32 studies (28,629 participants) further showed that mental health outcomes for left-behind children vary by caregiving arrangement, with self-guardianship associated with more severe problems than grandparent or single-parent care. Together, this literature is consistent with, though does not directly test, the proposition explored here: that different caregiving and migration structures

shape not only children's developmental outcomes but also the fidelity of the information migrant parents receive about those outcomes. Recent preschool-focused studies further document that both-parent migration and grandparent caregiving are associated with elevated risks of early developmental delay and that the quality of distant mothering mediates social-emotional adjustment outcomes (Cheng et al., 2025; Liang & Van Leeuwen, 2024).

Grandparent Caregiving and Selective Reporting

Because grandparents constitute the modal caregiver for rural Chinese left-behind children, and did so in the present sample (60.0%), the literature on intergenerational caregiving is directly relevant to explaining assessment discrepancy. Chen, Liu, and Mair (2011), using the longitudinal China Health and Nutrition Survey, documented that grandparent caregiving in China is shaped by intergenerational obligation norms and reciprocal exchange rather than being a simple default arrangement, with implications for how caregiving responsibilities, and the information that flows from them, are distributed. Silverstein and Xu (2022) traced cohort change in the resources and burdens rural Chinese grandparents bring to caregiving over a 17-year period, noting that grandparents' own capacity to observe and interpret grandchildren's subtler, internally regulated behaviors (e.g., self-control, persistence) may be constrained relative to their capacity to track basic care needs. Zhang, Chandola, Bécares, and Callery (2016), drawing on qualitative interviews with left-behind children's caregivers, described a normative tendency for caregivers, particularly paternal grandparents, to frame reports to migrant parents in ways that fulfill social and relational obligations, which may bias secondhand reporting toward reassurance rather than accuracy. This body of work offers a plausible mechanism for the present study's finding that grandparent-guardianship households were associated with larger parental overestimation of self-control than mother-guardianship households: grandparents may be

both less attuned to internally regulated behaviors and motivated, consciously or not, to communicate favorably about the child to the migrant parent.

Left-Behind Children in China: From Deficit Framing Toward Structural Explanation

Ge, Song, Clancy, and Qin (2019) traced a paradigm shift in the Chinese left-behind children literature, from early work that treated parental absence itself as the primary explanatory variable to more recent work emphasizing the quality and structure of substitute caregiving, community context, and information flow as more proximal mechanisms. The present study's central finding, that parental assessment discrepancy stems from a structural information gap rather than from parental indifference, is consistent with this more recent, structurally oriented framing: it treats the near-zero parent-child correlation not as evidence of parental neglect but as a predictable consequence of the caregiving and communication channels available in long-distance parenting arrangements. This reframing carries direct implications for intervention, which are developed further in the Discussion.

Summary and Present Study's Contribution

Two literatures converge in framing the present study. The informant-discrepancy literature (Achenbach et al., 1987; De Los Reyes & Kazdin, 2004, 2005; Booth et al., 2023) establishes that cross-informant disagreement about children's functioning is a general, structurally predictable phenomenon, not restricted to clinical populations, and provides the standardized-difference-score methodology adopted here. The China-specific left-behind children literature (Cheng et al., 2025; Liang & Van Leeuwen, 2024; Xie et al., 2024) establishes that caregiving structure (which parent migrated, who provides daily care) shapes children's developmental outcomes and plausibly shapes the caregiving-derived information available to migrant parents. The present study contributes by directly pairing migrant parents' evaluations with children's on-site assessed performance for the same children, within the

same five-dimension social development framework, allowing the magnitude and direction of assessment discrepancy, rather than only developmental outcomes, to be estimated and linked to caregiving structure.

Methods

Participants

Participants were rural left-behind preschoolers enrolled in public and private kindergartens in a township in a county-level district of Shaanxi Province, China. Following prior research (Cao, 2013), a child was classified as "left-behind" if one or both parents had migrated to another region for work and the child had been unable to co-reside with both parents for more than six months, being cared for instead by grandparents, a single parent, or another relative. The final analytic sample comprised 120 children (57 boys, 63 girls) aged 3-6 years, drawn in equal numbers ($n = 40$ each) from small, middle, and large classes, and in equal numbers ($n = 60$ each) from public and private kindergartens. Migration structure was as follows: father migrated only ($n = 64$, 53.3%), both parents migrated ($n = 53$, 44.2%), mother migrated only ($n = 3$, 2.5%). Primary caregiver was a grandparent ($n = 72$, 60.0%), the mother ($n = 44$, 36.7%), the father ($n = 3$, 2.5%), or another relative ($n = 1$, 0.8%). Forty-three children (35.8%) were only children. Migrant-parent education was primary school or below ($n = 7$, 5.8%), middle school ($n = 56$, 46.7%), high school ($n = 26$, 21.7%), or junior college and above ($n = 31$, 25.8%). Full sample characteristics are reported in Table 1. Because the mother-only-migrated ($n = 3$), father-as-primary-caregiver ($n = 3$), and other-relative-caregiver ($n = 1$) subgroups are very small, results involving these categories are reported descriptively only and are not subjected to inferential testing.

Assessment Model

Drawing on the social-adaptation component of Qian's (2016) Diagnostic Scale for Children's School-Readiness Maturity and Hu's (2023) Parental Assessment Scale for the Social Development Level of Rural Left-Behind

Children, this study developed a Social Development Evaluation Model for Rural Left-Behind Children comprising five dimensions: peer interaction, prosocial behavior, self-control, rule awareness, and autonomy. Children were assessed directly, on-site, through structured tasks scored as pass (1) or fail (0); migrant parents completed a parallel questionnaire in which each item was rated on a five-point Likert scale describing the child's typical daily social behavior. Internal consistency (Cronbach's alpha) for the five parent-report subscales was .898 (peer interaction), .840 (prosocial behavior), .860 (self-control), .925 (rule awareness), and .944 (autonomy), indicating good reliability.

Peer interaction (child side) was assessed through a structured play scenario in which the examiner provided toys and observed whether the child spontaneously invited peers to play and accepted peers who wished to join; the parent-report items addressed the child's tendency to initiate play, gain peer approval, make friendly requests to join others' games, and respond warmly to others' questions.

Prosocial behavior (child side) included sharing and empathy items; for empathy, the examiner asked scripted questions and scored 1 if the child displayed comforting words or actions (e.g., helping a peer up, offering encouragement) and 0 for indifference or mockery; sharing was scored 1 if the child agreed to share and could give a simple reason, and 0 for refusal, avoidance, or aggression. Parent-report items addressed sharing possessions, cooperating with peers during activities, remaining composed after peer conflict, and proactively comforting or helping peers in difficulty.

Self-control (child side) included a structured self-control task (seven items; scored 1 if the child met five or more criteria, otherwise 0) and an emotional-expression task scored 1 for age-appropriate verbal expression of feelings (e.g., "you hurt me," "I'm angry," "you should apologize") and 0 for non-verbal responses such as sulking or physical aggression. Parent-report items addressed resisting distraction and temptation,

remaining composed during exciting play, not becoming angry or irritable when requests were denied, infrequent tantrums, and proactively verbalizing feelings.

Rule awareness (child side) was assessed primarily through examiner-rated politeness: the examiner greeted the child (e.g., "Hello, little friend") and scored 1 for a friendly response or a spontaneous greeting and 0 for no response; supplementary scenarios involving borrowing/returning objects and admitting mistakes were used to observe polite language and honesty. Parent-report items addressed absence of aggressive or verbally abusive behavior, not harming animals, plants, or classmates, following game rules, caring for belongings, admitting mistakes rather than lying, and using polite language with elders.

Autonomy (child side) included self-efficacy (scored 1 if the child's self-rating of that day's test performance matched an independently scored visual-perception subtest, 0 otherwise), and self-management and household-helping tasks (each seven items; scored 1 if the child met five or more criteria, otherwise 0). Parent-report items addressed confidence, motivation to improve after success, completing tasks assigned by teachers or parents independently, self-organizing belongings at pick-up without prompting, willingness to attempt moderately difficult tasks, task persistence, tolerating frustration without seeking help prematurely, and appropriately pursuing desired objects or activities.

Statistical Approach

Because child-side pass rates (proportion of items passed, range 0-1) and parent-side Likert means (range 1-5) are on different metrics, both sources were mapped onto a common 0-100 percentage scale to permit direct comparison: the child score was computed as pass rate multiplied by 100, and the parent score was computed as (mean Likert rating - 1) / 4 multiplied by 100. A deviation score was then computed for each child on each dimension as the parent percentage score minus the child percentage score; positive values indicate that the parent rated the child higher than the child's

directly observed performance (relative overestimation), and negative values indicate relative underestimation. This common-scale mapping preserves the ordinal meaning of both sources without imposing distributional assumptions and follows the general recommendation of De Los Reyes and Kazdin (2004) to quantify informant discrepancy using standardized or comparable-scale difference scores.

Analyses proceeded in three stages. First, descriptive statistics characterized children's directly observed performance and migrant parents' evaluations for each of the five dimensions and the total score on the common 0-100 scale. Second, dual-source consistency was evaluated using Pearson correlations between each child's parent-report subscale mean and the corresponding child-side pass rate; rank-based agreement was further assessed with Spearman's rho and Kendall's tau, and absolute agreement was examined using the intraclass correlation coefficient (ICC[2,1], two-way random, single-rater, absolute agreement) and Bland-Altman bias with 95% limits of agreement. Systematic mean-level discrepancy was tested using paired-samples t-tests comparing parent and child common-scale scores within each dimension, with Cohen's *d* as the effect size; the proportion of cases in which the parent rated the child higher (overestimated) or lower (underestimated) than the directly observed score was also calculated. Third, heterogeneity in the magnitude of deviation was examined across migration structure (father-only, mother-only, both-parents), primary caregiver type (grandparent, mother, and, descriptively, father or other relative), and class/age group (small, middle, large), using independent-samples t-tests or one-way ANOVA as appropriate, with alpha set at .05. All analyses were computed directly from the matched case-level data (*N* = 120).

To support interpretation beyond significance testing, 95% confidence intervals for the Pearson correlations were computed via the Fisher *r*-to-*z* transformation, and approximate 95% confidence intervals for Cohen's *d* were reported.

Results

Overall Levels of Children's Directly Assessed Performance and Parental Evaluation

Among the five dimensions assessed directly in children, rule awareness showed the highest pass

rate (0.94), followed by prosocial behavior (0.70); peer interaction (0.56) and autonomy (0.53) were at intermediate levels, and self-control showed the lowest pass rate (0.30). The mean total social-adaptation score was 5.03 of 10, leaving the clearest room for improvement in self-regulation and autonomy.

Table 1. *Sample Characteristics (N = 120)*

Variable	Category	n	%
Gender	Boy	57	47.5
	Girl	63	52.5
Class / age group	Small class	40	33.3
	Middle class	40	33.3
	Large class	40	33.3
Kindergarten type	Public	60	50.0
	Private	60	50.0
Migration structure	Father only	64	53.3
	Both parents	53	44.2
	Mother only	3	2.5
Primary caregiver	Grandparent(s)	72	60.0
	Mother	44	36.7
	Father	3	2.5
	Other relative	1	0.8
Only child	Yes	43	35.8
	No	77	64.2
Migrant parent education	Primary school or below	7	5.8
	Middle school	56	46.7
	High school	26	21.7
	Junior college or above	31	25.8

On the common 0-100 scale, mean deviation scores (parent percentage score minus child percentage score) indicated relative overestimation for self-control (+44.3), autonomy (+25.2), and peer interaction (+22.6); a smaller overestimation for

prosocial behavior (+8.1); and a relative underestimation for rule awareness (-9.6). The overall (total-score) deviation was +27.9. Mean child and parent scores by dimension are reported in Table 2.

Table 2. *Standardized Scores for Children's Directly Observed Performance and Migrant Parents' Evaluations by Dimension (N = 120)*

Dimension	Child z-score	Parent z-score	Deviation (Parent – Child)
Peer interaction	–0.16	0.25	0.41
Prosocial behavior	0.40	0.19	–0.21
Self-control	–1.20	–0.05	1.15
Rule awareness	1.36	0.51	–0.85
Autonomy	–0.28	0.15	0.43
Total score	0.02	0.21	0.19

Note. Deviation = parent standardized score – child standardized score; positive values indicate relative parental overestimation; negative values indicate relative underestimation.

Dual-Source Consistency and Deviation Characteristics

Pearson correlations between each child's parent-report subscale mean and the corresponding child-side pass rate ranged from $-.10$ to $.03$ across the five dimensions and the total score, and none reached statistical significance (all $p > .28$; Table 3). Spearman's rho ($-.11$ to $.04$) and Kendall's tau ($-.09$ to $.00$) converged on the same conclusion, indicating that the near-zero association was not an artifact of the linear (Pearson) metric. With 95% confidence intervals for the Pearson correlations (via the Fisher r -to- z transformation) spanning approximately $-.28$ to $+.21$ across dimensions, these estimates are compatible with a true correlation near zero and inconsistent with a moderate or strong relationship in either direction. Bland-Altman analysis on the common 0-100 scale confirmed systematic bias ranging from -9.6 to $+44.3$ percentage points across dimensions, with wide 95% limits of agreement (e.g., self-control: -34.0 to 122.6 ; rule awareness: -66.9 to 47.7 ; total score: -24.1 to 79.9), and ICC(2,1) absolute-agreement values were near zero or slightly negative (range = $-.24$ to $-.05$), indicating that the two sources cannot be treated as interchangeable measures of the same construct. Together, these results indicate that migrant parents' evaluations carried little

linear or rank-based information about children's directly observed social behavior in this sample; the two sources of information were statistically close to independent.

Paired-samples t -tests on the common-scale scores, in contrast, revealed clear and, for several dimensions, large systematic discrepancies. Migrant parents significantly overestimated children's self-control ($M_{\text{parent}} = 73.9$ vs. $M_{\text{child}} = 29.6$; $t(119) = 12.14$, $p < .001$; $d_z = 1.11$, a large effect), with 83% of cases classified as overestimated. Parents also overestimated peer interaction ($t(119) = 4.54$, $p < .001$; $d_z = 0.41$; 44% overestimated), autonomy ($t(119) = 7.33$, $p < .001$; $d_z = 0.67$; 73% overestimated), and prosocial behavior ($t(119) = 2.28$, $p = .024$; $d_z = 0.21$; 45% overestimated), and significantly underestimated rule awareness ($M_{\text{parent}} = 84.6$ vs. $M_{\text{child}} = 94.2$; $t(119) = -3.59$, $p < .001$; $d_z = -0.33$; 62% underestimated). The total-score discrepancy was also significant in the direction of overestimation ($t(119) = 11.51$, $p < .001$; $d_z = 1.05$; 88% overestimated). Full results, including 95% confidence intervals for the correlations and effect sizes for the paired comparisons, appear in Table 3. It is important to note that the Pearson r and the paired t -test in each row of Table 3 index conceptually distinct properties of the parent-child relationship: r captures whether parents and children agree

on which children score relatively higher or lower than others (rank/linear consistency), whereas the paired t-test captures whether parents' evaluations are, on average, systematically higher or lower than children's directly observed scores (mean-level bias). A dimension can therefore show both a near-zero

correlation and a large, significant mean-level discrepancy simultaneously, as observed here for self-control and rule awareness; the two statistics are not expected to be numerically related and should not be interpreted as inconsistent with one another.

Table 3. *Dual-Source Consistency and Paired-Sample Discrepancy by Dimension (N = 120)*

Dimension	r [95% CI]	rho	tau	ICC(2,1)	t(119)	p	dz [95% CI]	% Over	% Under
Peer interaction	-.10 [-.28, .07]	-.10	-.09	-.12	4.54***	< .001	0.41 [0.23, 0.60]	44	50
Prosocial behavior	-.10 [-.27, .08]	-.09	-.08	-.10	2.28*	.024	0.21 [0.03, 0.39]	45	45
Self-control	-.03 [-.21, .15]	-.06	-.05	-.23	12.14***	< .001	1.11 [0.88, 1.34]	83	14
Rule awareness	.00 [-.18, .18]	.04	.04	-.05	-3.59***	< .001	-0.33 [-0.51, -0.14]	6	62
Autonomy	.03 [-.15, .21]	.01	.00	-.12	7.33***	< .001	0.67 [0.47, 0.87]	73	23
Total score	-.06 [-.24, .12]	-.11	-.08	-.24	11.51***	< .001	1.05 [0.83, 1.27]	88	12

Note. All values computed directly from matched case-level data (N = 120). r = Pearson correlation between each child's parent-report subscale mean and the corresponding child-side pass rate, with 95% CI in brackets (Fisher r-to-z transformation); rho = Spearman's rho; tau = Kendall's tau; ICC(2,1) = two-way random single-rater absolute-agreement intraclass correlation. t(119) = paired-samples t test on common 0-100 scale scores; dz

= Cohen's dz (standardized mean difference); % Over / % Under = percentage of children whose parent rated them higher / lower than their directly observed score. r and t index conceptually distinct properties: r captures rank/linear consistency, whereas t captures mean-level (systematic) bias; a dimension may show both a near-zero r and a large, significant t simultaneously. Negative ICC values were retained as estimates rather than

truncated to zero. For each dimension, % Over and % Under may sum to less than 100% because children with exact parent-child score ties are classified as neither. * $p < .05$. ** $p < .01$. *** $p < .001$.

Heterogeneity by Family Migration Structure, Caregiver Type, and Age

Migration structure. Comparing the two larger migration-structure subgroups, families in which both parents had migrated showed significantly greater parental overestimation of self-control than families with only the father migrated (both parents: $M = 55.1$ vs. father-only: $M = 34.2$; $t(115) =$

2.89 , $p = .005$), as well as greater overestimation on the total score ($M = 33.6$ vs. $M = 22.9$; $t(115) = 2.18$, $p = .031$). The mother-only-migrated subgroup ($n = 3$) showed descriptively large deviations across dimensions (Table 4) but was too small for inferential comparison. Because daily caregiving in both-parents-migrated households depends entirely on grandparents or other relatives, the migrant parent's channel for learning about the child's authentic behavior is more indirect, plausibly fostering a generalized, insufficiently differentiated impression that "the child is doing fine."

Table 4. Mean Deviation Scores by Family Migration Structure

Migration structure	n	Peer interaction	Prosocial behavior	Self-control	Rule awareness	Autonomy	Total score
Father only	64	17.4	5.8	34.2	-8.9	24.1	22.9
Mother only	3	30.0	0.0	68.3	-29.2	41.3	33.5
Both parents	53	28.4	11.4	55.1	-9.3	25.7	33.6

Note. Deviation scores are on a common 0-100 scale (parent score - child score). Mother-only migration ($n = 3$) is a very small subgroup; its values are reported descriptively and were not included in inferential comparisons. Independent-samples t tests (equal variances assumed) compared both-parents vs. father-only migration on self-control ($t(115) = 2.89$, $p = .005$) and total score ($t(115) = 2.18$, $p = .031$).

Primary caregiver type. Families in which grandparents were the primary caregiver

showed significantly greater parental overestimation of self-control than families in which the mother was the primary caregiver (grandparent: $M = 53.2$ vs. mother: $M = 31.7$; $t(114) = 2.90$, $p = .005$), as well as greater overestimation on the total score ($M = 32.0$ vs. $M = 21.6$; $t(114) = 2.07$, $p = .041$). Father-as-primary-caregiver ($n = 3$) and other-relative-as-primary-caregiver ($n = 1$) subgroups are reported descriptively in Table 5 but were too small for inferential testing.

Table 5. Mean Deviation Scores by Primary Caregiver Type

Primary caregiver	n	Peer interaction	Prosocial behavior	Self-control	Rule awareness	Autonomy	Total score
Grandparent(s)	72	22.8	7.9	53.2	-7.9	26.9	32.0
Mother	44	22.0	9.5	31.7	-10.6	22.0	21.5

Note. Deviation scores are on a common 0-100 scale (parent score – child score). Father as primary caregiver ($n = 3$) and other relative as primary caregiver ($n = 1$) were too small for inferential comparison; their descriptive values are omitted from this table. Independent-samples t tests (equal variances assumed) compared grandparent vs. mother caregivers on self-control ($t(114) = 2.90, p = .005$) and total score ($t(114) = 2.07, p = .041$).

Age/class group. The largest discrepancies were observed among children in the small classes. One-way ANOVA showed significant class differences for peer interaction ($F(2, 117) = 31.45, p < .001$), prosocial behavior ($F(2, 117) = 22.27, p < .001$), self-control ($F(2, 117) = 12.65, p < .001$), autonomy ($F(2, 117) = 43.71, p < .001$), and the total score ($F(2, 117) = 33.16, p < .001$), whereas rule awareness did not differ significantly by class ($F(2, 117) = 0.36, p = .701$). This pattern suggests that parental ratings diverged more from direct child scores among younger children. One possible explanation is that younger children have less ability to describe conflicts or setbacks to a parent who lives away, while caregivers may also give shorter or less differentiated accounts of their behavior. As children become more communicatively capable, migrant parents may receive somewhat richer first-hand information, although the discrepancy remained in the oldest group. By comparison, gender, only-child status, and kindergarten type (public vs. private) were not strongly related to deviation magnitude.

Table 6. Mean Deviation Scores by Class / Age Group

Class / age group	n	Peer interaction	Prosocial behavior	Self-control	Rule awareness	Autonomy	Total score
Small class	40	67.8	36.9	66.0	-6.7	57.5	48.9
Middle class	40	3.4	-3.9	41.8	-12.2	20.3	24.2
Large class	40	-3.4	-8.6	25.1	-9.9	-2.1	10.5

Note. Deviation scores are on a common 0-100 scale (parent score – child score). One-way ANOVA by class/age group was significant for peer interaction ($F(2, 117) = 31.45, p < .001$), prosocial behavior ($F(2, 117) = 22.27, p < .001$), self-control ($F(2, 117) = 12.65, p < .001$), autonomy ($F(2, 117) = 43.71, p < .001$), and total score ($F(2, 117) = 33.16, p < .001$); rule awareness did not differ significantly by class ($F(2, 117) = 0.36, p = .701$).

Discussion

We began the discussion with a direct comparison: for the same 120 children, how closely did the ratings of parents living away from home track the children's on-site performance? The answer was weak

agreement. Parent-child correlations were close to zero for all five domains and the total score. At the same time, the paired comparisons showed a consistent directional pattern. Parents tended to give higher ratings for self-control, followed by autonomy, peer interaction, and prosocial behavior, whereas rule awareness received lower parental ratings than the direct child assessment. Thus, the two sources differed not only in how strongly they were associated but also in their average level.

These results fit the broader literature on informant discrepancies (Achenbach et al., 1987; De Los Reyes & Kazdin, 2005), but in the present setting the reason for the mismatch is fairly concrete: migrant parents usually do not see the child in the situations

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in which these behaviors occur. They depend on calls, video contact, and reports from the resident caregiver, all of which provide only selected glimpses of everyday behavior. Behaviors that require time, frustration, conflict, or persistence are especially difficult to judge from such brief exchanges. A parent may therefore come away with a favorable impression of self-control or autonomy without ever seeing how the child responds to a frustrating task or manages a disagreement. Rule awareness, by contrast, is behaviorally visible and more likely to generate discrete, reportable incidents (e.g., a specific instance of misbehavior); a caregiver's relay of isolated negative incidents may lead migrant parents to weight infrequent violations more heavily than the child's typical, on-site conduct warrants, while children's directly observed compliance may be inflated by the novelty and structure of the assessment setting itself. Prosocial behavior showed comparatively small deviation, plausibly because sharing and helping behaviors are more visibly episodic and more readily observed and relayed by caregivers than internally regulated states.

The heterogeneity findings help specify the mechanism further. Overestimation of self-control was significantly larger when both parents, rather than only one, had migrated, and when grandparents, rather than mothers, served as the primary caregiver. When both parents are absent, no parent is present locally to supplement or verify caregiver reports, and information passes through a single relay channel; if that channel is itself biased toward reassurance, for reasons of habit, or out of concern for the emotional burden that unfavorable news might place on migrant parents and children alike, discrepancy is amplified. This is broadly consistent with qualitative accounts describing intergenerational obligation norms and preferential framing in grandparent caregiving of left-behind children (Chen et

al., 2011; Zhang et al., 2016) and with evidence that resource and attentional constraints on aging caregivers may limit their sensitivity to subtler, internally regulated child behaviors (Silverstein & Xu, 2022). Notably, discrepancy did not fully disappear even when the mother remained the primary local caregiver, indicating that co-residence with one parent attenuates, but does not eliminate, the information gap created by the other parent's absence. The age pattern should be interpreted in the same context: discrepancies were larger for younger children, who may have less ability to explain their own experiences to a distant parent. As children's communication skills improve, parents may receive more direct information from the child, even though that access remains incomplete.

Two implications are worth emphasizing. First, the discrepancy should not be dismissed as statistical noise. Following De Los Reyes and Kazdin (2005), the difference itself tells us something about the information available to each informant, including the limits imposed by long-distance caregiving and the family arrangements through which information is passed. Second, because the problem appears to lie mainly in how information is generated and transmitted, interventions should focus on improving the quality of those exchanges rather than simply telling parents to pay more attention. Concrete, situation-based records from caregivers and kindergartens may be more useful than general assurances. Recent latent-class analyses of parent-child communication among left-behind children further underscore that communication frequency, channel diversity, and quality systematically shape both relational fidelity and child outcomes (Xie et al., 2024).

Several practical responses follow from these findings. Kindergartens could give migrant parents short, concrete records of situations that reveal self-control, autonomy, and peer

behavior, using brief photographs, video clips, or structured notes when appropriate. Such information could be used more deliberately with families in which both parents are away, grandparents provide daily care, or the child is in a younger age group. A brief comparison of parent ratings with recent school observations could also show families where the largest gaps occur. Training for grandparent caregivers could focus on describing specific social-emotional behaviors rather than giving broad judgments such as whether a child is doing well. At the family level, migrant parents, where feasible, might prioritize local employment; where both parents must migrate, establishing consistent, substantive communication routines, focused on emotional experiences, peer relationships, and coping with setbacks rather than only academic or material topics, and shifting from generic questions (e.g., "were you good today?") toward specific, scenario-based questions, may improve the fidelity of the information they receive; visits home offer a valuable opportunity for direct, on-site observation to recalibrate parental beliefs. At the policy level, expanding local employment opportunities and rural industry could reduce the structural pressure that forces both parents to migrate; sustained investment in rural preschool staffing would strengthen kindergartens' capacity to support both children's social development and home-kindergarten communication; and community-based programs (e.g., children's centers, civic practice stations) could supplement caregiving households' capacity to provide developmentally appropriate social experiences and to disseminate practical caregiving guidance to grandparent and other substitute caregivers.

Limitations

Several limitations qualify these conclusions. First, the child and parent measures used different response formats (pass/fail

structured tasks versus five-point Likert ratings). Although both were transformed to a common 0-100 scale, this operation puts the two measures on a comparable metric but does not make them formally equivalent, so residual scaling effects cannot be excluded. The rank-based association statistics (Spearman, Kendall) are unaffected by this choice, whereas the mean-level deviation and paired t-test results depend on the common-scale conversion. Second, the cross-sectional, single-region design (one township in Shaanxi Province) limits generalizability to other rural regions of China and to left-behind children more broadly; migration patterns, caregiving norms, and kindergarten resources vary across provinces. Third, several subgroup comparisons of substantive interest, mother-only migration ($n = 3$), father as primary caregiver ($n = 3$), and other relative as primary caregiver ($n = 1$), involved very small cell sizes and are reported descriptively only; they should not be interpreted as statistically confirmed effects. Fourth, the subgroup inferential tests were conducted on child-level common-scale deviation scores and, given the number of comparisons performed across dimensions and subgroups, should be interpreted as exploratory pending confirmation with multiple-comparison correction and larger, multi-site samples. Fifth, the near-zero parent-child correlations indicate a lack of linear or rank association but do not by themselves establish the cause of that dissociation; although the findings are interpreted as reflecting a structural information gap in long-distance caregiving, the cross-sectional design cannot rule out alternative explanations such as measure-specific method variance or rater-context effects. Finally, informant discrepancy was interpreted here relative to children's directly observed performance as a criterion; direct assessment itself is not free of measurement error and may not fully capture the child's

functioning in the parent's home environment. Future work would benefit from case-level, longitudinal data collected across multiple rural regions, ideally including a third informant (e.g., the co-resident caregiver) to help disentangle information relay from migrant parents own inferential processes.

Conclusion

In this sample of 120 rural left-behind preschoolers in Shaanxi Province, parents who lived away for work gave ratings that were largely unrelated to the children's directly observed social-development scores. The discrepancy was not uniform across

domains: self-control showed the largest parental overestimation, whereas rule awareness was rated lower by parents than by direct assessment. The gaps were greater when both parents had migrated and when grandparents were the child's main caregivers. These patterns point to a problem of limited information in long-distance caregiving rather than simple parental disengagement. Practical responses should therefore make the child's everyday behavior more visible to migrant parents through concrete kindergarten records, more substantive family communication, and, where possible, policies that strengthen local employment and preschool resources in rural communities.

Author Contributions

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Declaration of Conflicting Interest

The authors declared no potential conflicts of interest with respect to research, authorship, and or publication of this article.

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