Interparental Relational Mismatch: Implications for Children's Non-Cognitive Development

Topic and Theoretical Focus

Family structures and relationships are central to children's development, with long-term implications. The Personal Relationships Perspective (Hinde, 1997) and the Family Systems Perspective within the Transactional Model of Development (Sameroff, 1994), stress this centrality. The former promotes the integration of this topic into research on child development, while the latter recognizes children as an integral part of the family system, described by Bowen in the Family Systems Theory (1978) as an emotional unit whose members interact and influence each other, and thus not to be studied in isolation.

While the influence of family relationships has been widely studied (Carlson & Corcoran, 2001; Goldberg & Carlson, 2014), both theoretically and empirically, and clear differences have been demonstrated between harmonious and conflictual family environments (Musick & Meier, 2010; Sarrazin & Cyr, 2007; Troxel & Matthews, 2004), highlighting the importance of overall couple's happiness for children's development, certain subtle and less visible dynamics are often overlooked. What remains largely unexplored is what occurs within seemingly typical families, where two parents live together, raising their children, yet experience unequal levels of relationship happiness. This research aims to help fill this gap by introducing the concept of *Interparental Relational Mismatch*, defined as a discrepancy in reported relationship happiness between parents within a couple.

Addressing this issue, and its broader implications, represents the core aim of this research and its contribution to existing literature. In particular, the study seeks to determine whether dynamics that may appear imperceptible are nevertheless perceived by children and can negatively impact their development. Ultimately, the findings aim to promote support policies designed to assist parents with relational difficulties, thereby fostering the realization of children's full developmental potential.

Data and Methods

This research aims to investigate how interparental relational mismatch affects the development of non-cognitive skills from childhood through adolescence, with attention to variations by developmental stage and by the gender of the parent.

Using all seven currently available waves of the Millennium Cohort Study, covering ages from 9 months to 17 years, the analysis focuses on the five dimensions from the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997): emotional symptoms, conduct problems, hyperactivity, peer relationship problems, and prosocial behavior; while interparental relational mismatch is categorized based on whether a mismatch exists and which parent reports lower happiness.

To estimate both associations and more causal effects, the research combines lagged panel regression models and fixed-effects models.

First, the association between relational mismatch in the preceding wave and children's non-cognitive skills in the subsequent wave is evaluated, further developing the analysis through cumulative models that, for each wave, consider the effect net of the same skill investigated in all previous waves. In the case of the fixed-effects method, the aim is to explore the causal nature of the relationship, assessing how changes in mismatch value within the same parental couple determine changes in the child's non-cognitive skills, net of any unobserved individual characteristics constant over time and of observable time-varying covariates included in the model.

From these analyses, it is expected that the presence of interparental mismatch will be associated with lower non-cognitive skills in children. Specifically, it is hypothesized that the mother's happiness will have a greater impact, especially in the early years of the child's life.
In general, the effect of family dynamics is expected to decrease as children grow older and become more independent.

Initial Findings

An initial descriptive analysis was conducted on the dependent and independent variables. The interparental relational mismatch was constructed across all analyzed waves, except the most recent one, as later questionnaires increasingly focus on the cohort members themselves rather than the parents. Based on the difference between the mother's and the father's reported happiness, measured on a scale from 1 ("very unhappy") to 7 ("very happy"), a categorical variable was created to represent four distinct situations. The first two categories refer to the absence of mismatch (difference < 2), further divided into absence of mismatch with high couple happiness (both ≥ 6), and absence of mismatch but medium-low couple happiness (all other cases). The second two categories refer to the presence of mismatch (difference ≥ 2), further divided into mismatch with lower happiness reported by the father, and mismatch with lower happiness reported by the mother. Categories were defined based on analyses that helped identify appropriate thresholds for happiness levels.
Moreover, to avoid sample selection bias, non-couples were also included as additional categories of the independent variable, identified based on the absence of one parent (single parent) or the presence of a different parent than the biological one or the one present in the first wave (different parent). These last two categories, as expected, increase as children grow older, from about 18% of single parents in the child's first year of life to about 34%, combining single and different parent, by age 14. Regarding mismatch, this follows an opposite trend: starting from about 61% of couples showing no mismatch, the majority of whom report a high level of happiness, this proportion decreases to just under 44% by the time children reach age 14, mainly due to a decline in couples without mismatch but with medium-low happiness, and an increase in mismatch cases.
As for differences between mothers and fathers, mismatch percentages start at about 11% for both, then diverge slightly, with mothers consistently reporting higher mismatch levels than fathers, before converging again, with less than a one-percentage-point gap when children reach age 14.
Regarding non-cognitive skills, all five dimensions were constructed from questions posed to one parent, almost always the mother, about the child's behaviors and attitudes starting at age 3. For each question, responses ("Not true", "Somewhat true", "Certainly true") were scored 0–2 and summed to create scores ranging from 0 to 10 for each dimension.
The descriptive analyses confirmed expected trends: as children grow older, emotional symptoms increase slightly, conduct problems and hyperactivity decrease substantially, peer relationship problems fluctuate, and prosocial behavior remains relatively stable over time after an initial increase.
Moving to the main regression analyses, lagged panel models were estimated separately for each developmental stage of children, with the mismatch variable lagged to the wave preceding that of the dependent variable, isolating the effect for the same non-cognitive skill across previous waves (along with numerous controls). Preliminary results show a positive association (negative for prosociality) between at least one category of parental relational mismatch at time t–1 and nearly all non-cognitive skills, relative to couples with no mismatch and high relational happiness (reference category).
Table 1 presents the corresponding results for all skills at age 17, representing the most complete models since they include the same set of skills across all available waves.

Table 1 Association between lagged interparental relational mismatch (t-1) and non-cognitive skills at age 17

	Emotional Symptoms	Conduct Problems	Hyperactivity	Peer Problems	Prosocial Behavior
Interparental Mismatch (Ref: No Mismatch (High))					
No Mismatch (Low)	0.251***	0.122**	0.110	0.068	-0.188***
	(0.086)	(0.052)	(0.072)	(0.068)	(0.067)
Mismatch Father	0.102	0.042	0.066	0.017	-0.094
	(0.076)	(0.046)	(0.070)	(0.062)	(0.064)
Mismatch Mother	0.159**	0.098**	0.042	0.083	-0.109*
	(0.074)	(0.050)	(0.071)	(0.066)	(0.061)
No Couple (Different Parent)	0.221**	0.034	0.028	0.074	-0.126
	(0.110)	(0.074)	(0.099)	(0.084)	(0.090)
No Couple (Single Parent)	0.098	0.056	0.372	0.059	-0.341
	(0.277)	(0.201)	(0.282)	(0.221)	(0.269)
SDQ Lag 1	0.456***	0.411***	0.433***	0.440***	0.434***
	(0.019)	(0.019)	(0.018)	(0.019)	(0.018)
SDQ Lag 2	0.148***	0.170***	0.172***	0.156***	0.225***
	(0.022)	(0.021)	(0.019)	(0.022)	(0.023)
SDQ Lag 3	0.050**	0.057***	0.057***	0.095***	0.070***
	(0.023)	(0.020)	(0.017)	(0.022)	(0.019)
SDQ Lag 4	0.039	0.034*	0.030*	0.069***	0.032*
	(0.025)	(0.019)	(0.017)	(0.021)	(0.018)
SDQ Lag 5	0.018	0.012	0.022	-0.000	0.018
	(0.025)	(0.011)	(0.014)	(0.016)	(0.013)

Notes: Each column corresponds to a lagged panel regression model (interparental mismatch measured at time t-1). In each regression, SDQ Lag k indicates the same strength/difficulty as the dependent variable, measured k waves earlier. Robust standard errors are reported in brackets. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Variations are observed in how each mismatch category influences different non-cognitive skills depending on the developmental stage considered, with two categories remaining consistently relevant across all skills and nearly all time periods.

The absence of mismatch with medium-low couple happiness tends to become more relevant with age for emotional symptoms, with coefficients increasing from 0.15 at age 3 to 0.25 at age 17, but less so for conduct problems, where coefficients decrease from 0.47 to 0.12 over the same period, while other non-cognitive skills show fluctuating patterns.

The presence of mismatch with lower happiness reported by the mother decreases in relevance for peer problems as children grow older, with coefficients declining from 0.28 to 0.08, but displays a fluctuating pattern for other skills, with a stronger influence during early childhood that tends to diminish and rise again alternately through adolescence, remaining significant in most cases.

These two categories generally emerge as the most relevant in terms of coefficient magnitude and significance, leading to greater difficulties and lower prosociality compared to families where both parents are happy and no mismatch is present.

Mismatch with lower happiness reported by the father, by contrast, appears to be associated only with certain non-cognitive skills, particularly emotional symptoms (coefficients ranging from 0.09 to 0.22) and conduct problems (from 0.04 to 0.15), showing a generally smaller and less significant impact than mismatch reported by the mother, suggesting a protective effect of maternal happiness.

An equally interesting aspect emerges when examining the two non-couple categories: single parents, or those with a partner different from the biological parent or the originally present parent.

Being a single parent yields significant and, in absolute terms, higher values than all other categories, but only in very few circumstances; it is generally not statistically significant for most skills and

developmental stages. Being with a different partner, on the other hand, appears influential in more periods and on more skills than being a single parent, especially for peer problems, showing larger coefficients (in absolute terms) than almost all other categories when significant.
These preliminary analyses suggest several interesting findings: being in a couple, whether with the child's biological parent or with the one who has acted as such since birth, but experiencing generally low relationship satisfaction or differing happiness levels, represents a negative circumstance for children. They not only perceive and are affected by it, but it may be even more detrimental than ending the relationship altogether. Furthermore, childhood emerges as the period when family relationship dynamics most strongly influence development, though several effects also appear during adolescence. Finally, although paternal unhappiness is also relevant, maternal unhappiness seems to have a stronger impact, almost suggesting a protective effect of maternal well-being on children.
Preliminary robustness checks for causality using fixed-effects models, which jointly consider all available waves, seem to confirm, albeit with smaller and less significant coefficients, the conclusions already reached through the lagged models.
Additional analyses will aim to improve the accuracy and robustness of the results, further clarifying the underlying mechanisms.

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