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Abstract

This paper adopts a child-centered perspective to study how children perceive their family's economic situation. Using linked survey and administrative data for all children aged 8 to 12 living in Luxembourg, we compare children's self-reported assessments of financial hardship with objective monetary indicators. While child-perceived and income-based financial situations are positively associated, there are substantial discrepancies. At a given level of monetary poverty, children living in single-parent households or in migrant families report higher levels of financial concern. Conditional on socio-demographic characteristics, monetary poverty and income insecurity explain little of the variation in perceived financial hardship. In contrast, the relative income position within schools and child-specific deprivation—particularly limitations in shared family activities—are strongly associated with higher level of financial worries.

An analysis of discordance reveals an asymmetry. Overestimation of hardship among non-poor children is more likely for non-natives, those growing up in a lone family or who are poorer than their schoolmates, whereas underestimation among poor children shows weaker and less systematic correlates. These perception gaps matter: children who report perceived financial hardship display lower life satisfaction and worse self-rated health even when they are not monetarily poor, whereas poor children who do not report perceived hardship show well-being levels closer to those of non-poor peers. Overall, the findings indicate that children's perceptions of economic hardship extend beyond their material living conditions and also reflects their social and emotional environment.

Keywords: Child, Poverty, Income, Child well-being; Social comparison; Economic insecurity

JEL codes: I32, I31, J13, D13, D31

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1. Introduction

A large body of research documents the association between childhood poverty and a wide range of cognitive, social, and health outcomes (Duncan et al., 2017; Mayer, 1997). Childhood poverty relies on household income or material deprivation indicators that capture central aspects of material living conditions. Yet these indicators provide limited insight into how children themselves evaluate their family's situation. In this paper, we refer to children's perceived financial hardship as children's self-reported concerns about their family's financial situation. Children may worry about household finances even when resources are adequate, or they may not perceive hardship despite living in low-income households. Understanding these subjective assessments is important because perceptions form a distinct dimension of well-being.

A substantial literature in economics and psychology shows that subjective evaluations influence well-being, aspirations, and behaviour beyond objective circumstances (Kahneman and Tversky, 1979; Clark et al., 2008; Luttmer, 2005; Genicot and Ray, 2020). Among adults, perceived financial strain predicts mental health and subjective well-being beyond income (Adler et al., 2000; Ferrer-i-Carbonell, 2005). Evidence further links exposure to financial strain and income instability to children's socio-emotional outcomes (Currie and Stabile, 2006; Conger et al., 2010). Yet little is known about how children form such perceptions or how they relate to income-based measures of poverty.

Existing studies rely on parental assessments of financial hardship, which prevents identifying children's own interpretations of their economic environment. This gap contrasts with child-centered approaches that view children as active interpreters of their social and economic context (Ben-Arieh, 2008; Ben-Arieh et al., 2014; Leturcq and Panico, 2019). From this perspective, income-based indicators provide only a partial picture of children's lived experiences. While research on adults suggests frequent divergence between subjective and objective indicators (Adler et al., 2000; Clark et al., 2008), comparable evidence for children, particularly in middle childhood, remains scarce (Main, 2019).

This paper adopts a child-centered perspective to study whether children's perceptions of economic hardship align with objective measures of household poverty. Using large survey data directly collected from children and linked administrative records, we address four research questions: (1) How do children's perceptions of their family's financial situation correspond to their household's monetary poverty status? (2) Through which mechanisms such as material deprivation, social comparison and income insecurity are children's financial worries shaped? (3) What factors are associated with discordance between subjective and

objective indicators? (4) Are these perception gaps associated with differences in children's subjective well-being, in terms of life satisfaction and perceived health?

The Luxembourg context provides an informative setting to address these questions. First, despite being the wealthiest country in the world in terms of GDP per capita, the country faces substantial and persistent levels of child poverty: in 2022, 24% of minor children lived below the relative poverty threshold. Within OECD, Luxembourg ranks 35th of 39 countries for child poverty risk. The coexistence of wealth and widespread child poverty raises important questions about children in affluent contexts perceive and experience economic hardship. Second, Luxembourg provides a unique data source: a survey on children's perception linked to detailed administrative records making possible to enable precise measurement of household disposable income and relative income position within the child's school. The linked data thus enable a systematic comparison between children's subjective assessments and multiple objective indicators of economic resources at different levels of observation.

This paper makes four contributions. First, it integrates children's perspectives into poverty measurement by documenting how children classify their economic position relative to income-based thresholds. Second, it extends research on subjective poverty by showing that children's perceptions of hardship are only weakly related to household income once socio-demographic characteristics are controlled for. Instead, perceptions align more strongly with social comparison and deprivation. Third, it identifies distinct patterns of discordance between perceived and objective poverty and examines their observable correlates. Fourth, it analyses whether these perception gaps are associated with differences in subjective well-being, contributing to an improved understanding of how subjective and objective indicators jointly capture children's economic experiences.

2. Related literature

The multidimensional nature of poverty is now widely recognised. Beyond income, poverty encompasses deprivations in housing, education, and social participation (Townsend, 1979; Alkire and Foster, 2011). Empirical studies show that monetary and non-monetary indicators capture only partially overlapping populations, suggesting that material, financial, and multidimensional measures capture different aspects of deprivation (Whelan et al., 2014). Recent work also highlights subjective perceptions of economic hardship as an additional dimension of disadvantage that does not always align with conventional thresholds (Richard,

2025). In this perspective, poverty measurement increasingly combines objective indicators with self-reported assessments of financial strain or perceived economic status.

Standard poverty measures operate at the household level and assume equal sharing of resources among members. Research in feminist and intra-household economics questions this assumption, showing that individuals with limited bargaining power may experience scarcity even in households that are not classified as poor (Ponthieux and Meurs, 2015; Berthonnet, 2022). The logic extends to children, whose access to resources may differ from that of adults, and who may be either protected from or exposed to economic strain depending on household dynamics (Ben-Arieh, 2008; Ben-Arieh et al., 2014).

A related strand of research examines subjective poverty, that is, whether individuals feel poor or report financial hardship given their income and living conditions. Studies on adults show that subjective and objective poverty often diverge and that transitions into subjective poverty are associated with changes in well-being that are not fully explained by income movements (Ravallion, 2012; Filandri et al., 2020; Richard, 2025). Perceived financial strain also predicts mental health and life satisfaction over and above objective indicators (Adler et al., 2000; Ferrer-i-Carbonell, 2005). This evidence suggests that subjective poverty captures aspects of insecurity, unmet expectations, and social comparison that are not reflected in conventional income thresholds.

For children, the literature is more limited and often relies on adult reports. Studies of child material deprivation develop indices that reflect the lack of items and activities considered necessary for children's daily life and show robust associations with child well-being (Main and Bradshaw, 2012; Guio et al., 2021; Knies, 2022). A smaller number of studies use children's own reports and show that children are aware of economic differences and that perceived deprivation is associated with lower life satisfaction (Hakovirta and Kallio, 2016; Rees et al., 2020; Western et al., 2012). However, most existing work does not link children's perceptions to administratively measured income or to standard poverty lines, which limits our understanding of how children map objective circumstances into subjective assessments.

Several mechanisms may link objective conditions to children's perceptions of financial hardship. A first mechanism is *material deprivation*. Child-specific deprivation captures the lack of goods, activities, or living conditions that are salient in children's everyday life. Evidence shows that such deprivation is associated with lower subjective well-being and socio-emotional difficulties (Main and Bradshaw, 2012; Knies, 2022). Concrete experiences

of exclusion, such as being unable to participate in common leisure activities or school-related events, may be more salient for children than abstract information about household income.

A second possible mechanism is social comparison. Building on theories of relative deprivation and reference-dependent preferences (Clark and Oswald, 1996; Senik, 2009), children may evaluate their situation relative to peers, in their immediate environment, especially in schools where consumption norms and status signals are visible. Research on adults shows that relative income within a reference group is strongly associated with subjective well-being (Luttmer, 2005; Clark et al., 2008). Studies on children also point to the role of peer groups and local contexts in shaping satisfaction and aspirations (Sacerdote, 2011; Rees et al., 2020). In affluent settings, perceived poverty may therefore reflect relative, rather than absolute, disadvantage (Hakovirta and Kallio, 2016; Guio et al., 2018). We do not aim to estimate social effects; relative income is treated as a correlational measure.

A third mechanism is *economic insecurity*, defined as exposure to income volatility or the risk of resource loss. Work on adults shows that income instability and perceived insecurity are negatively associated with well-being, even at given income levels (Bossert and D'Ambrosio, 2013; D'Ambrosio et al., 2020). Children may struggle to interpret such instability but may nevertheless internalise signals from their environment, especially negative cues (Loewenstein, 2000).

Overall, the literature suggests that subjective poverty reflects multiple experiences that extend beyond income itself. This study contributes by linking children's perceptions to objective measures of income, deprivation, and relative position using rich survey-administrative data, and by analysing how these mechanisms relate to perceived hardship and mismatches between subjective and objective indicators.

3. Data and variables

3.1. Data sources

We use data from a nationally representative survey of all children aged 8, 10 and 12 living in Luxembourg, linked to administrative records from the National Insurance System. The survey collects information on children's perceptions, daily experiences, and socio-emotional well-being, alongside socio-demographic characteristics. Administrative records provide

precise measures of disposable household income and social transfers for all household members

A key feature of the administrative system is that it includes income information for all children enrolled in public schools (around 90 percent of the school-age population). By linking children to their school identifier, we reconstruct the full income distribution of peers and derive indicators of their relative income position.

3.2. Sample selection

The analytical sample is constructed sequentially. We start from the sample of the 2019 survey wave (6082 children), which covers approximately 40% of the population of children aged 8-12 residing in Luxembourg. Then we append observations from the 2021 wave (1,607 children). We subsequently exclude observations with missing values on the variables of interest. Because some children are observed in both survey waves, the final pooled dataset contains 6,972 child-wave observations corresponding to 6,082 unique children.

Survey weights (calibrated on 2019 population and that corrected for lower response rate in 2021) are used to ensure representativeness in descriptive statistics but are not applied in regression analyses, as the variables underlying the weighting scheme are included as control variables. Although attrition between waves is substantial, it is largely unrelated to key socioeconomic characteristics.¹

3.3. Key variables

Child's poverty perceptions

Children report how often they worry about their family's income on a four-point scale (never-always). About 59% of the children declare that they are never worried about family's income while 32% report occasional concern and the remaining 9% answer they are either often (5%) or always (4%) worried (Table A- 2). This measure captures children's perceived financial hardship throughout the paper.

At risk of monetary poverty

We construct equivalised disposable household income using after-tax labour income and social transfers, adjusted by the square-root scale to take into account family size. Following

¹ Appendix Table A- 1 compares the child characteristics in the two waves.

Eurostat, children are at risk of poverty if household income falls below 60% of the median. Around 20% of children in our sample are classified as poor.²

Child deprivation

The survey includes 16 deprivation items covering material goods, digital access, household infrastructure, and family leisure. We summarize these items using a deprivation count (number of deprivations) as discussed by Atkinson (2003) and a binary indicator for experiencing at least one deprivation. To explore the domain of deprivation, we extract four dimensions through Principal Component Analysis (PCA): basic material, infrastructure, digital, and family leisure. Full item lists and loadings appear in Appendix Table A- 3 and Table A- 4.

Social comparisons

Using administrative income data from all enrolled school peers, we compute each child's relative income position within their school-year cell. We use binary indicators for being below the school mean or median and continuous log-gap measures capturing the distance to the reference income. These indicators reflect children's relative, rather than absolute, economic position.

Income insecurity

We measure income instability using the dynamic index of Bossert and D'Ambrosio (2013, 2024), based on income changes over a five-year window and weighting recent losses more heavily than older ones. Negative values denote stable or improving income trajectories. Further details are provided in the Appendix.

Child well-being outcomes

We consider two well-being outcomes on a 0–10 scale: overall life satisfaction and perceived health. These indicators capture evaluative and physical dimensions of children's well-being.

4. Empirical framework

The empirical analysis proceeds in three steps. First, we examine the correlates and mechanisms underlying children's perceptions of financial hardship. Second, we analyse the correlates of discordance between perceived financial hardship and objective poverty. Third,

² Alternative threshold (50%) is examined in robustness checks.

we assess whether perception gaps are associated with differences in children's subjective well-being. Throughout, we interpret coefficients as associations rather than causal effects.

4.1. Correlates of Children's perceptions

We begin by examine how children's reported financial hardship relates to household poverty status and to three mechanisms highlighted in the literature: child deprivation, relative income within the school, and income insecurity. We estimate an ordered logistic model to capture the ordinal nature of the dependent variable, the financial worry scale of child i in year t , of this form:

$$W_{it} = f(P_{it}, X_{it}, M_{it}, \delta_t)$$

P_{it} is the risk of monetary poverty, X_{it} is a set of child and household characteristics, and M_{it} captures the mechanisms tested. We include survey year fixed effect (δ_t) to control for economic fluctuation such as COVID-19 period, that could affect child's perceptions, and cluster standard errors at the child level to account for repeated observations.

4.2. Discordance between objective poverty and child's perceptions

We next examine how children's perceptions diverge from their objective poverty status. Children are defined as *worried* if they report being *often* or *always* concerned about family income. Combining this indicator with monetary poverty yields four groups:

- concordant non-poor (CNP): not poor and not worried
- overestimator (OP): not poor but worried
- underestimator (UP): poor but not worried
- concordant poor (CP): poor and worried.

We estimate the probability that a child belongs to each group using the following multinomial specification and multinomial logistic model:

$$\Pr(G_{it} = g) = h(X_{it}, M_{it}, \delta_t)$$

where G_{it} is a categorical variable taking values {CNP, OP, UP, CP} and δ_t again captures year fixed-effect. Standard errors are clustered at the child level. In order to describe observable correlates of discordant perceptions, this specification compares non-poor children who overestimate their poverty risk with concordant non-poor peers, and poor children who underestimate their status with concordant poor peers.

4.3. Consequences of discordance for child well-being

Finally, we assess whether perception gaps are associated with differences in children's subjective well-being. We estimate:

$$WB_{it} = \alpha + \sum_{k=1}^4 \delta_k G_{it}^k + X'_{it}\beta + Z'_{it}\gamma + \varepsilon_{it}$$

where WB_{it} denotes well-being (overall life satisfaction, self-esteem or perceived health) and μ_{ct} represents commune-year fixed effects to capture local and temporal heterogeneity. The coefficient of interest is δ_k : it measures the mean difference in well-being among groups relative to the reference group of concordant children. We estimate this model using ordinary least square regressions (OLS) on the two indicators of child well-being to show whether discordant perceptions coincide with systematic differences in children's well-being.

5. Results

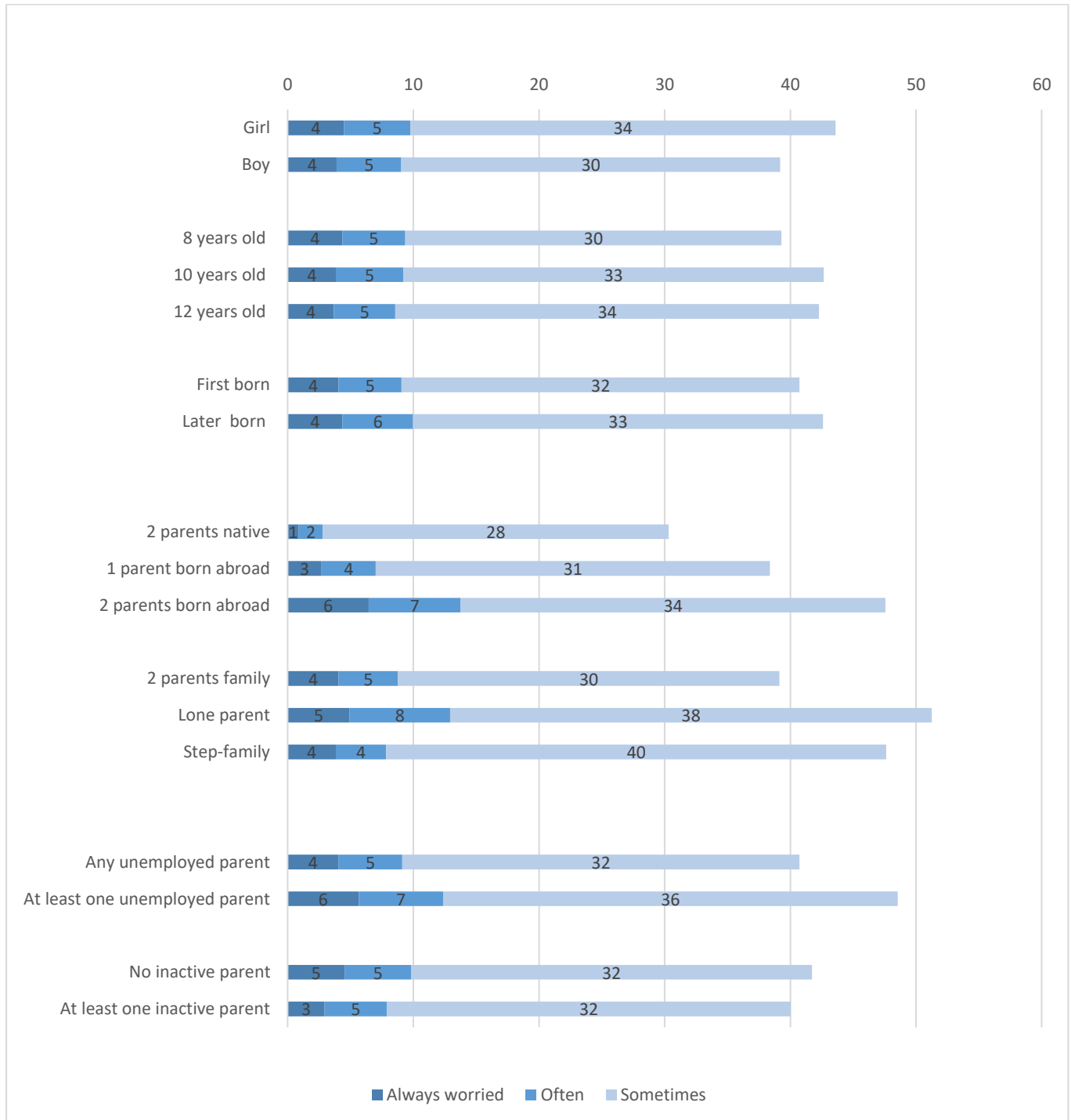
5.1. Descriptive

Figure 1 shows the distribution of financial concern across child and family characteristics. Differences by child's characteristics (age, gender, and number of siblings) are modest and not statistically significant. In contrast, family background matters. Children from migrant households are more likely to report financial concerns. Household structure also plays a role: children living with a single parent or, to a lesser extent, in stepfamilies report higher levels of worry than those living with both biological parents. These patterns are consistent with the idea that children's perceptions partially reflect the material constraints of their family environment.

To assess how children's perceptions align with objective poverty, we now examine reported worry levels by risk of poverty and income quintile (Figure 2). As expected, children from low-income family report higher levels of financial concern. A clear gradient emerges: the likelihood of worry decreases with household income.

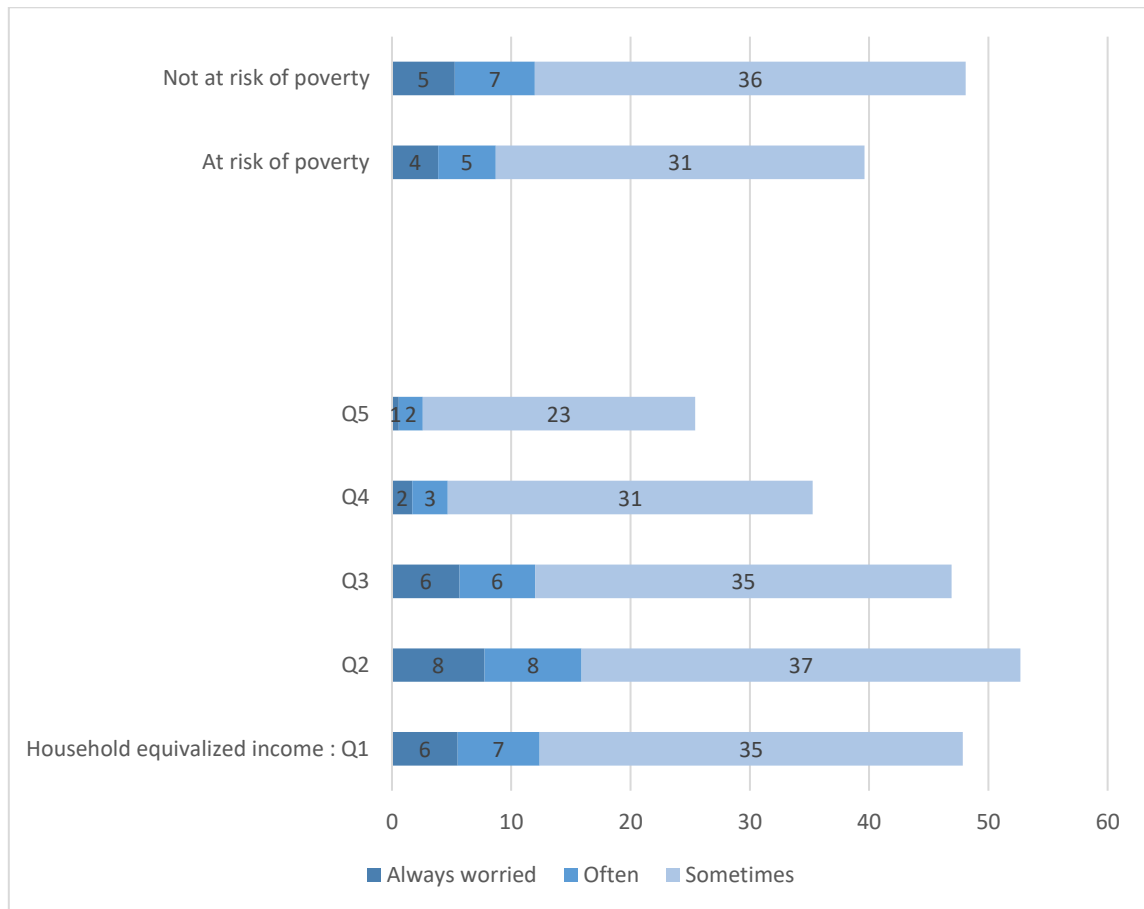
However, the association is not deterministic. Nearly 30% of children in the highest income quintile report occasional worry about family income. Conversely, about half of all children in the bottom two quintiles say they *never* worry. These mismatches suggest that children's perceptions are not solely driven by their objective economic conditions.

**Figure 1. Child's concern about family income,
by Child and Household's characteristics**



Notes: The figure shows the proportion of children reporting financial worries across subgroups defined by child characteristics and household characteristics. Estimates use administrative-linked sample from the 2019–2021 Child Well-Being Survey.

**Figure 2. Child's concern about family income
by poverty status and quintiles of household equivalized income**



Notes: The figure shows the proportion of children reporting financial worries across subgroups defined by household income and poverty risk. Estimates use administrative-linked sample from the 2019–2021 Child Well-Being Survey.

5.2. Regression results

We begin by examining how children's perceived financial hardship correlate with monetary risk of poverty. Table 1 reports ordered logistic regressions in which controls are introduced sequentially. Across specifications, the estimated odds ratios for poverty risk decrease once we add sociodemographic controls. In Models (1) and (2), poverty risk is positively associated with higher levels of reported worries. Children living in poor households have 36 percent higher odds of reporting greater financial worry. Model 3 that adjusts for migration background and family structure confirms descriptive results about a higher concern from children with a foreign parent or growing up in a lone-parent family. The coefficient of economic poverty loses statistical significance and its magnitude declines, suggesting that part of the raw association reflects compositional differences across households. Introducing school fixed effects in Model (4) yields similar conclusions.

Overall, the results indicate that once major sociodemographic factors are held constant, children's perceived financial hardship does not vary systematically with monetary poverty. In the next step, we add potential mediating mechanisms—material deprivation, social comparison and economic insecurity—to explore the channels through which monetary poverty may influence children's perceptions of financial hardship.

Table 1. Child perceived financial hardship: Ordered logit, stepwise specifications

	(1)	(2)	(3)	(4)
Poverty risk	1.365*** (0.092)	1.351*** (0.091)	1.124 (0.084)	1.143 (0.104)
Girl		1.099* (0.056)	1.123** (0.058)	1.079 (0.066)
Age		1.017 (0.016)	1.011 (0.016)	1.037* (0.023)
First born		0.932 (0.051)	0.852*** (0.049)	0.904 (0.062)
<i>Migration background</i>				
2 Parents native			<i>Ref.</i>	<i>Ref.</i>
1 parent native			1.472*** (0.111)	1.445*** (0.133)
2 parents born abroad			2.276*** (0.139)	2.323*** (0.180)
<i>Type of family</i>				
2 parents family			<i>Ref.</i>	<i>Ref.</i>
Lone parent			1.639*** (0.130)	1.682*** (0.163)
Step family			1.163 (0.175)	1.173 (0.224)
At least 1 parent unemployed			0.685** (0.116)	0.588*** (0.117)
At least 1 parent inactive			0.805*** (0.053)	0.811*** (0.064)
Mothers' age at birth			0.958*** (0.005)	0.971*** (0.006)
School FE	NO	NO	NO	YES
Log likelihood	-6757.554	-6747.157	-6578.471	-4754.070
Observations	6972	6972	6972	5035

Notes: The table reports exponentiated coefficients from ordered logit models estimating children's perceived financial worry. Controls are added sequentially: Column (1) includes poverty risk only; Column (2) adds child characteristics; Column (3) adds parental employment, education, and family structure; and Column (4) includes school fixed effects. Standard errors clustered at the child level are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Material deprivation is strongly associated with perceived financial hardship (see Table 2). Both the presence of at least one deprivation item and the number of deprivations increase the likelihood of reporting higher worries. Table A- 6 in the appendix reports average marginal effects from the ordered logit model. Having at least one deprivation significantly

reduces the probability of reporting *never worrying* (by 7 percentage-points) and increases the probability of reporting any level of financial worry (by 1 ppt both the answers *always* and *often*).

Using the four PCA-derived domains of deprivation shows that family leisure deprivation is the only robust correlate in fully controlled models, whereas basic material, digital, and infrastructure deprivation are not. This pattern suggests that relational aspects of deprivation are more salient for children than material shortages alone.

Social comparison also matters (Table 3). Relative income within schools emerges as a key correlate. Children whose household income is below the school mean show 46% higher odds of reporting higher level of financial worry (OR=1.46), with similar magnitudes using the - school below the median indicator instead of school below the mean. Almost 9 percentage points less children report being *never* worried when they family income if below the school average income. The continuous log income gap confirms this gradient: a one-standard deviation increase in relative disadvantage is associated with a 17% increase in the odds of worry (OR=1.17).

These patterns highlight the importance of school-level reference groups in shaping children's perceptions. Marginal effects show that a one-standard deviation increase in relative disadvantage reduces the probability of being in the lowest worry category by roughly 3 percentage points. The increase is even stronger for higher worry categories, with relative disadvantage reducing the probability of never being worried by about 3 percentage points and increasing the likelihood of reporting frequent or constant worry (Table A- 6).

Economic insecurity, by contrast, is only weakly associated with perceived hardship (Table 4). The absolute index is statistically significant, but the odds ratio is extremely close to one, indicating an economically negligible effect. The relative index is not statistically significant. These effects are much smaller than those obtained for the other mechanisms, such as social comparison or parental stress.

When all mechanisms are included simultaneously (Table 5), the results remain consistent: material deprivation in family leisure domain, and relative income within schools continue to be significantly associated with children's financial hardship, whereas income insecurity does not.

Overall, these findings suggest that children's perceptions of financial difficulty align more closely with tangible aspects of their environment such as deprivation and local social comparison, than with income levels or income volatility alone.

We now turn to the second step of the analysis, which examines mismatches between perceived and objective poverty. Understanding the factors associated with overestimation and underestimation provides insight into how children interpret their family's economic situation and helps contextualise the subsequent analysis of well-being differences.

Table 2. Child perceived financial hardship: Ordered logit with alternative definitions of deprivations

	(1)	(2)	(3)
Poverty risk	1.104 (0.083)	1.115 (0.084)	1.100 (0.082)
Number of deprivations	1.100*** (0.023)		
At least one deprivation		1.339*** (0.082)	
Deprivation			
Basic material deprivation			1.040 (0.038)
Household infrastructure deprivation			0.969 (0.025)
Technological deprivation			1.005 (0.029)
Family leisure deprivation			1.227*** (0.033)
Child and Family controls	YES	YES	YES
Log likelihood	-6566.117	-6566.351	-6542.003
Observations	6972	6972	6972

Notes: The table reports exponentiated coefficients from ordered logit models estimating children's perceived financial worry. All models include poverty risk, as well as child and family controls. Columns (1)–(3) use alternative definitions of deprivation: the total number of deprivations, a binary indicator for at least one deprivation, and the four deprivation domains (basic material, household infrastructure, technological, and family leisure), respectively. Standard errors clustered at the child level are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 3. Child perceived financial hardship: Ordered logit with alternative definitions of social comparisons

	(1)	(2)	(3)	(4)
Poverty risk	0.967 (0.075)	0.967 (0.096)	0.929 (0.076)	0.939 (0.093)
Income inferior to peer (mean)	1.458*** (0.087)			
Log relative school gap (mean)		1.171*** (0.051)		
Income inferior to peer (median)			1.415*** (0.089)	
Log relative school gap (median)				1.197*** (0.051)
Child and Family controls	YES	YES	YES	YES
Log likelihood	-6556.452	-6505.599	-6561.463	-6503.434
Observations	6972	6972	6972	6972

Notes: The table reports exponentiated coefficients from ordered logit models estimating children's perceived financial worry. All models include poverty risk, as well as child and family controls. Columns (1)–(4) use alternative definitions of social comparison: below the school mean, the log relative gap to the school mean, below the school median, and the log relative gap to the school median, respectively. Robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 4. Child perceived financial hardship: Ordered logit with economic insecurity index

	(1)	(2)
Poverty risk	1.104 (0.083)	1.130 (0.086)
Economic insecurity (absolute)	1.000** (0.000)	
Economic insecurity (relative)		0.991 (0.019)
Child and Family controls	YES	YES
Log likelihood	-6576.413	-6578.338
Observations	6972	6972

Notes: The table reports exponentiated coefficients from ordered logit models estimating children's perceived financial worry. Both columns include child and family controls; column (1) uses the absolute economic insecurity index, and column (2) the relative index. Robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 5. Child perceived financial hardship: with three mechanisms

	(1)
Poverty risk	0.954 (0.075)
Deprivation (by domain)	
Basic material deprivation	1.036 (0.036)
Household infrastructure deprivation	0.969 (0.026)
Technological deprivation	1.006 (0.029)
Family leisure deprivation	1.214*** (0.033)
Social comparison	
Income inferior to peers (mean)	1.397*** (0.084)
Economic insecurity	1.000 (0.000)
Child and Family controls	YES
Log likelihood	-6523.386
Observations	6972

Notes: The table reports exponentiated coefficients from an ordered logit model estimating children's perceived financial worry. All models include the full set of child- and household-level controls used in the main specifications, as well as year fixed effects. Standard errors clustered at the child level are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

5.3. Discordance between perceptions and objective indicators

To assess the alignment between perceived and objective poverty, we combine children's reported worry with the monetary poverty indicator to construct four mutually exclusive groups: concordant non-poor, overestimators (not poor but worried), underestimators (poor but not worried), and concordant poor. In our sample, 49% of children are concordant non-poor, 33% are overestimators, 9% are underestimators, and 9% are concordant poor.

Table 6 reports estimates from the multinomial logit model comparing the two discordant groups with their corresponding concordant benchmarks: overestimators are compared with concordant non-poor children, and underestimators are compared with concordant poor children. We focus on these two contrasts because they directly relate to the mechanism of interest.

The results indicate distinct socio-demographic profiles for children who over and underestimate their poverty risk. *Overestimation* is associated with higher levels of child-specific deprivation, particularly family leisure deprivation, as well as with a lower relative income position within the school. These associations indicate that non-poor children who perceive financial difficulty tend to experience local or relational forms of disadvantage not captured by monetary poverty.

By contrast, among poor children, *underestimation* is more frequent when deprivation levels are lower. This pattern is consistent with the idea that more protective or less constrained family environments are associated with a lower likelihood of perceiving hardship among poor children.

Overall, the results point to an asymmetry in the factors associated with discordance. Overestimation is more strongly linked to social comparison and parental background, while underestimation shows weaker and less clear associations, potentially reflecting more complex or unobserved family dynamics. The repeated association between parental presence and lower overestimation (and higher underestimation) also indicates that parental support may play a role in buffering children's financial concerns.

Taken together, these findings show that perception biases are socially and contextually grounded, rather than driven solely by economic resources.

A further question is whether these misperceptions are relevant for children's well-being. Feeling poor despite not being poor may be associated with increased stress or lower life satisfaction, while not recognising one's disadvantaged position may offer some protection. In the next section, we examine whether overestimation and underestimation of poverty are associated with systematic differences in subjective well-being, focusing on life satisfaction and perceived health.

Table 6. Correlates of discordance-Multinomial Logit

	(1) Overestimate poverty Ref = concordant non poor	(2) Underestimate poverty Ref = concordant poor
Girl	1.155** (0.063)	0.869 (0.109)
Age	1.027 (0.018)	1.027 (0.041)
First born	0.922 (0.058)	1.061 (0.141)
<i>Migration background</i>		
2 Parents native	<i>Ref.</i>	<i>Ref.</i>
1 parent native	1.417*** (0.114)	1.399 (0.266)
2 parents born abroad	1.979*** (0.134)	0.789 (0.139)
<i>Type of family</i>		
2 parents family	<i>Ref.</i>	<i>Ref.</i>
Lone parent	1.408*** (0.136)	0.475*** (0.075)
Step family	1.157 (0.248)	0.738 (0.187)
At least 1 parent unemployed	0.614* (0.144)	1.698* (0.370)
At least 1 parent inactive	0.827** (0.060)	1.425** (0.189)
Mothers' age at birth	0.967*** (0.006)	1.025* (0.012)
Deprivation (by domain)		
Basic material deprivation	1.036 (0.036)	0.970 (0.059)

Household infrastructure deprivation	0.962 (0.029)	1.016 (0.055)
Technological deprivation	1.023 (0.032)	1.040 (0.071)
Family leisure deprivation	1.194*** (0.036)	0.849** (0.049)
Social comparison		
Income inferior to peers (mean)	1.338*** (0.081)	0.810 (0.047)
Economic insecurity (absolute)	1.000 (0.000)	1.000 (0.000)
Log likelihood	-6406.917	
Observations	6972	

Notes: The table reports exponentiated coefficients from a multinomial logit model estimating the correlates of discordance between perceived and objective poverty. Only the two comparisons of interest are reported: *overestimate* relative to *concordant non-poor* (column 1), and *underestimate* relative to *concordant poor* (column 2). All models include the full set of child- and household-level controls. Robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

5.4. Discordance and children's subjective well-being

We now examine whether discordance between perceived and objective poverty is associated with differences in children's subjective well-being.

Table 7 reports OLS estimates for life satisfaction and perceived health. Compared with concordant poor children, non-poor overestimators report significantly lower life satisfaction (-0.53 points on a 0-10 scale). Their perceived health score is also lower by 0.26 points. These associations appear clearly in Figure , which illustrates the lower mean well-being levels for this group.

By contrast, underestimators of poverty show higher perceived health (+0.16 points) and show no significant deficits in life satisfaction relative to the non-poor group. These patterns remain robust when we control for material deprivation, income insecurity and social comparison mechanisms.

Overall, the results indicate that subjective interpretations of economic circumstances align closely with children's well-being. Being financially insecure, even in the absence of objective poverty, is associated with lower subjective well-being, whereas not perceiving hardship appears to coincide with somewhat more positive evaluations.

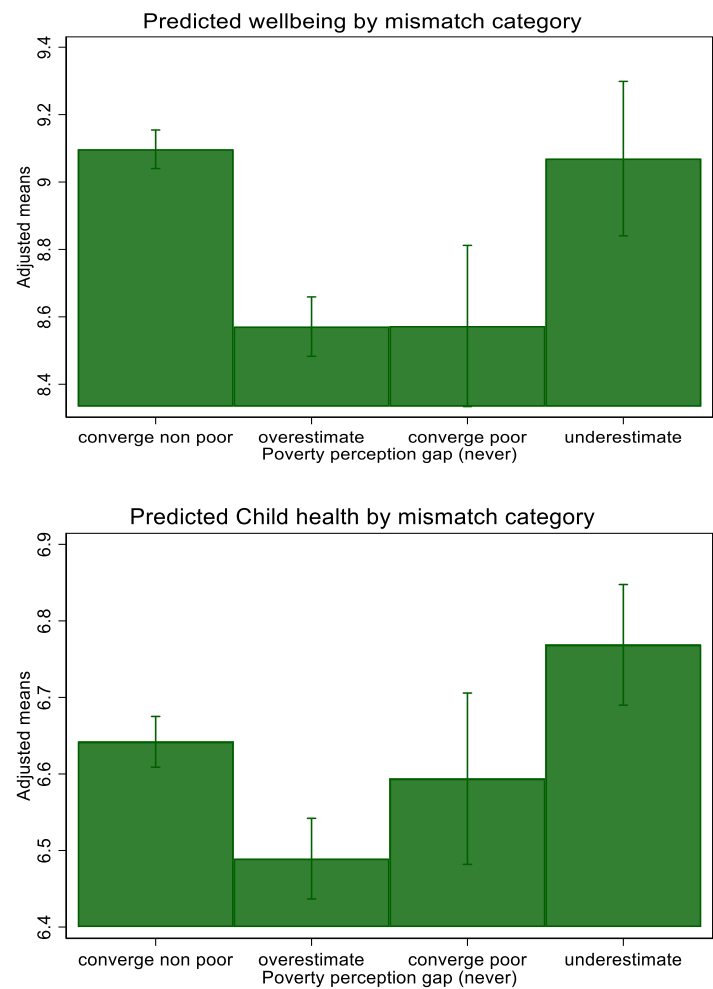
Table 7. Consequences on Child outcomes: subjective well-being and health

	(1) Overall Life satisfaction (0-10)	(2) Child health self- rating (0-10)
Girl	-0.015 (0.044)	0.062* (0.037)
Age	0.008 (0.017)	0.015 (0.012)
First born	-0.058 (0.049)	-0.045 (0.041)
<i>Migration background</i>		
2 Parents native	<i>Ref.</i>	<i>Ref.</i>
1 parent native	0.051 (0.075)	0.011 (0.061)
2 parents born abroad	0.160*** (0.059)	0.087 (0.054)
<i>Type of family</i>		
2 parents family	<i>Ref.</i>	<i>Ref.</i>
Lone parent	-0.487*** (0.092)	-0.215*** (0.066)
Step family	-0.564*** (0.182)	-0.122 (0.149)
At least 1 parent unemployed	-0.086 (0.186)	0.113 (0.127)
At least 1 parent inactive	-0.177*** (0.061)	-0.132*** (0.050)
Mothers' age at birth	-0.010* (0.005)	-0.011*** (0.004)
concordant non poor	0.514*** (0.103)	0.173* (0.092)
overestimate	0.019 (0.110)	-0.078 (0.097)

concordant poor	<i>Ref.</i>	<i>Ref.</i>
Underestimate	0.591*** (0.141)	0.337*** (0.101)
Income inferior to peers (mean)	0.036 (0.051)	-0.040 (0.044)
Economic Insecurity	-0.000 (0.000)	-0.000 (0.000)
Basic material deprivation	-0.029 (0.040)	-0.043 (0.028)
Household infrastructure deprivation	-0.016 (0.023)	0.013 (0.021)
Technological deprivation	-0.052** (0.025)	-0.055*** (0.019)
Family leisure deprivation	-0.118*** (0.023)	-0.080*** (0.021)
Commune and year fixed effect	Yes	Yes
Observations	4941	4941
R^2	0.091	0.061
<i>AIC</i>	17726.238	15842.147
<i>BIC</i>	17856.409	15972.322

Notes: The table reports OLS estimates of the associations between poverty-perception concordance groups and three child outcomes: overall life satisfaction and self-rated health (all measured on a 0–10 scale). Concordant poor is the reference category for the concordance groups (converge non-poor, overestimate, underestimate). All models include the full set of child- and household-level controls, as well as commune and year fixed effects. Robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Figure 2. Predicted children well-being outcomes by mismatch category



Notes: Predicted values for life satisfaction and perceived health are plotted by discordance category: concordant non-poor (CNP), overestimating poverty (OP), underestimating poverty (UP), and concordant poor (CP). Estimates control for child and family characteristics and commune-year fixed effects.

5.5. Robustness checks

We assess the robustness of the results using several alternative specifications.

First, we replace the 60% median-income poverty line with threshold set at 50%. As shown in Appendix Table A- 8, the estimates remain largely unchanged: monetary poverty continues to show small and statistically insignificant associations with children's financial worry once child and family characteristics are included.

Second, we replace the binary poverty-risk indicator with a continuous distance to the poverty threshold. Appendix Table A- 9 shows that the coefficient remains small and not statistically significant, confirming that children's perceptions are not systematically related to their proximity to the poverty line.

Third, we re-estimate all main models using income quintiles of equivalent income (Appendix Table A- 10). Relative to children in the bottom income quintile, those in the second quintile exhibit slightly higher levels of financial worry in the baseline specification, although this difference is no longer statistically significant once child deprivation and relative income within schools are accounted for. In contrast, children in the top income quintiles consistently report substantially lower levels of financial worry across all model specifications. The persistence of this gradient at the top of the income distribution, alongside the attenuation of differences at the lower end, suggests that the mechanisms considered (material deprivation, social comparison, and income insecurity) operate asymmetrically across the income distribution.

Taken together, these checks confirm that the main findings are not sensitive to the choice of poverty threshold or the measurement of household income. The results consistently indicate that children's financial worries are more strongly associated with observable aspects of their material and social environment than with income levels alone.

6. Discussion and conclusion

This paper examines how children perceive their family's financial situation and how these perceptions relate to objective income-based measures of poverty. Using linked survey and administrative data for children aged 8 to 12 living in Luxembourg, the analysis documents substantial gaps between subjective assessments of financial hardship and standard monetary indicators. Once basic sociodemographic characteristics are taken into account, household income and income insecurity explain little of the variation in children's reported financial

worry. In contrast, relative disadvantage within schools and child-specific forms of deprivation emerge as key correlates of perceived hardship.

The results show, first, that children's immediate social environment plays a central role in shaping perceptions. Children growing up in single-parent families or with a migrant background report higher levels of financial worry at a given level of monetary resources. In addition, relative income position within the school context strongly predicts perceived hardship: children whose household income lies below that of their school peers are significantly more likely to report frequent or constant financial concern. This pattern is consistent with evidence that subjective evaluations of economic status are shaped by reference groups rather than absolute income levels (Luttmer, 2005; Rees et al., 2020), and with research suggesting that, in relatively affluent contexts, perceived poverty reflects social comparison processes more than material deprivation alone (Hakovirta and Kallio, 2016; Guio et al., 2018). The school environment thus appears to constitute a salient reference frame through which children interpret their family's economic situation.

Second, among the different deprivation domains considered, restrictions in shared family leisure activities stand out as the only dimension consistently associated with perceived financial hardship. This finding suggests that children are particularly sensitive to limitations affecting participation, joint activities, and time spent together—elements that are directly observable and meaningful in everyday life. Other forms of material deprivation display weaker or null associations, indicating that not all deprivations carry the same weight in children's subjective assessments.

Third, the analysis of discordance between perceived and objective poverty reveals a marked asymmetry. Overestimation of financial hardship among non-poor children is strongly associated with relative disadvantage and family structure, whereas underestimation among objectively poor children shows weaker and less systematic correlates. This pattern suggests that perception gaps do not simply reflect random misreporting. Instead, they capture meaningful social and relational conditions, consistent with evidence that subjective poverty responds to instability, insecurity, or perceived constraints rather than income levels alone (Filandri et al., 2020).

Fourth, these perception gaps coincide with substantial differences in subjective well-being. Children who perceive their family as financially strained report lower life satisfaction and worse self-rated health even when they are not objectively poor. This result aligns with research showing that subjective well-being reflects both situational information and broader cognitive evaluations of life circumstances (Schimmack et al., 2002), and that children's

well-being is closely linked to everyday experiences and deprivation rather than income alone (Knies, 2022). Conversely, objectively poor children who do not perceive hardship display well-being levels closer to those of non-poor peers, underscoring the potential protective role of perceptions.

Several limitations should be acknowledged. The analysis relies on observational data, and unobserved factors may jointly influence perceptions and well-being. In addition, the availability of only two survey waves limits the ability to study dynamic processes in children's subjective assessments. Accordingly, the results should be interpreted as associations rather than causal effects.

Overall, the findings indicate that children's perceived financial hardship captures dimensions of lived experience that standard income-based measures do not fully reflect. Incorporating children's own perspectives provides a complementary lens for understanding economic vulnerability and well-being during childhood. Future research could examine how these perceptions evolve over time and how children integrate information from family circumstances, peer environments, and broader social contexts when forming economic judgments.

Conflict of interest: The authors have no competing interests to declare that are relevant to the content of this article.

Data availability statement: The linked survey and administrative microdata used in this study are not publicly available due to privacy and confidentiality restrictions. The data are stored on a secure server of the data holder (IGSS) and can be accessed only upon formal request and approval. The authors are willing to support researchers in the access request procedure.

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Appendix

A.1. Additional Tables

Table A- 1 Descriptive statistics- by waves and

Variable	2019	2021	Difference between 2019 and 2021	Analytical sample
Girl	0.493	0.499	-0.004	0.494
Age	9.094	11.928	-1.987***	10.839
Nb of siblings	0.808	0.764	0.041	0.775
First born	0.673	0.697	-0.023	0.691
Family type :				
2 parents	0.807	0.808	0.001	0.839
Only one parent	0.158	0.148	0.007	0.133
Step family	0.035	0.044	-0.008	0.027
Migration background				
2 parents native	0.278	0.302	-0.028*	0.301
1 parent born abroad	0.179	0.204	-0.024*	0.191
2 parents born abroad	0.543	0.494	0.052**	0.508
Any unemployed parent	0.076	0.075	0.001	0.032
Any inactive parent	0.237	0.239	0.00	0.233
Mother's age at birth	30.932	31.841	-0.878**	31.393
Separation	0.085	0.113	0.028***	0.083
At risk of poverty	0.189	0.214	-0.023	0.170
Number of observations	6082	1607	7689	6972

Notes: The table reports descriptive statistics for the first wave (2019) and the second wave (2021). Values correspond to sample means. Differences refer to the 2021 value minus the 2019 value, with statistical significance based on two-sample mean comparison tests. Source: Child Well-Being Surveys (2019 and 2021) linked to administrative records from the National Insurance System.

Table A- 2 Child poverty perceptions

Do you worry about family's income ?	Analytical sample
Never	0.59
Sometimes	0.32
Often	0.05
Always	0.04
Number of observations	6972

Notes: The table reports the raw distribution of children's responses to the question "Do you worry about your family's income?" for the analytical sample..

Table A- 3 Deprivation items (=1 if the child does not have, 0 otherwise)

Category	Item	Share deprived
Household equipment	Computer, tablet	0.33
	Television	0.02
	Radio	0.03
	Telephone	0.04
	A car	0.05
	Game console	0.25
Child deprivation items	Has clothes in good condition	0.00
	Internet access at home	0.05

Category	Item	Share deprived
	Things needed for sports/leisure	0.20
	Two good pairs of shoes	0.01
	Books	0.02
	A cell phone	0.50
	Things needed for school	0.07
	Family vacations (at least once/year)	0.21
	Family outings	0.30
	Pocket money / spending money	0.50

Notes: The table reports the share of children deprived of each item, defined as a binary indicator equal to one when the child reports not having access to the listed good or activity. Source: Child Well-Being Surveys (2019 and 2021). N = 6,972.

Table A- 4 Principal component (PC) loadings of deprivation

Item	Material deprivation	Digital/technology deprivation	Household infrastructure deprivation	Family's leisure deprivation
A PC, a tablet	0.041	0.570	0.056	-0.006
A TV	0.059	0.539	0.048	-0.208
A radio	-0.027	0.364	-0.099	0.419
A phone	-0.023	0.701	0.062	0.049
A car	-0.069	0.722	-0.145	0.143
A video game	0.035	0.257	0.421	-0.146
Clothes in good conditions	0.761	0.009	-0.032	-0.105
Access to internet	0.204	-0.017	0.461	-0.061
Sport/leisure equipment	0.425	0.056	0.029	0.192
2 pairs of shoes	0.539	-0.009	0.056	0.036
Books	0.468	0.047	-0.034	0.240
A mobile phone	-0.090	-0.011	0.740	-0.059
School equipment	0.772	-0.064	-0.038	-0.095
Holidays once/year	0.130	-0.002	0.096	0.570
Outdoor Family's outings	0.086	-0.049	-0.103	0.628
Pocket money	-0.124	-0.077	0.627	0.416

Notes: Values are loading factors obtained from PCS of the 16 deprivation items, with oblique rotation of the Kaiser-normalised loading matrix. Source: Child well-being surveys (2019, 2021). N= 6972 observations

A.2. The economic insecurity index

We compute the household-level index of economic insecurity following Bossert and D'Ambrosio (2013, 2024), using the Stata routines developed by De Sandi and Fiorani (2025). The measure summarizes the cumulative effect of income fluctuations within a defined time window, giving asymmetric weights to losses and gains and discounting past events.

Formally, for each household i observed over T periods, the index is defined as:

$$I_T(x_i) = \sum_{t=1}^T \delta^t g\left(\frac{x_{i,t}}{x_{i,t-1}}\right)$$

Where $x_{i,t}$ denotes equivalized disposable income in period t and $0 < \delta < 1$ is a discount factor that gives more weight to recent changes. The function $g(\cdot)$ captures asymmetric reactions to income variations:

$$g(y) = \begin{cases} y - 1, & \text{if } y < 1 \\ \ln(y) & \text{if } y \geq 1 \end{cases}$$

When income decreases (insecurity rises linearly with the relative shortfall. When income increases, the gain enters logarithmically, reflecting diminishing sensitivity to improvements. The index is scale invariant and decomposable over time.

We operationalize the measure using annual equivalized disposable income from administrative data. Following standard practice, we set the loss and gain parameters to 1 and 0.9, respectively, and apply a discount factor of 0.9 over a rolling five-year window. Missing income observations are handled conservatively: if a gap is detected, we recompute the index within contiguous sequences to avoid artificial smoothing of volatility.

The resulting variable increases with the frequency and severity of income losses, and it captures ex ante exposure to economic instability rather than current living standards. It thus complements the poverty indicator by distinguishing structural low income from perceived vulnerability to income shocks.

In our sample, the correlation between absolute economic insecurity and equivalized disposable income is -0.44 , indicating that households with higher income levels tend to experience lower exposure to past income losses. While the two dimensions are related, the moderate correlation confirms that economic insecurity captures an independent source of vulnerability beyond current income. Table A- 5 shows the average level of absolute and relative economic insecurity over time in our sample.

Table A- 5. Economic Insecurity-Summary statistics

	Mean	Std. Err.	Upper(95% CI)	Lower(95% CI)
EI Absolute	-0.5934	.0044	-.0680	-.0507
EI Relative	-0.0071	.0001	-.0082	-.0006

Notes: The table reports summary statistics for the absolute and relative economic insecurity indices, computed using annual equivalized disposable household income over a five-year window. EI Absolute and EI Relative follow the Bossert and D'Ambrosio (2013, 2024) formulation, where negative values indicate stable or improving income trajectories. Standard errors and 95% confidence intervals are shown. Source: Child Well-Being Surveys (2019 and 2021) linked to administrative records from the National Insurance System. N = 6,972

Table A- 6 Average Marginal Effects from Ordered Logit Model*Dependent variable: Child Financial worry (1 = never ... 4 = always)*

Variables	Never	Sometimes	Often	Always
Deprivation				
At least one deprivation	-0.067*** (0.013)	0.041*** (0.009)	0.013*** (0.003)	0.012*** (0.003)
Nb of deprivation	-0.022*** (0.005)	0.014*** (0.003)	0.004*** (0.001)	0.004*** (0.001)
Domain of deprivation				
Basic material deprivation	-0.010 (0.008)	0.006 (0.005)	0.002 (0.002)	0.002 (0.002)
Household infrastructure deprivation	0.007 (0.006)	-0.005 (0.004)	-0.001 (0.001)	-0.001 (0.001)
Technological deprivation	-0.001 (0.006)	0.001 (0.004)	0.000 (0.001)	0.000 (0.001)
Family leisure deprivation	-0.046*** (0.006)	0.029*** (0.004)	0.009*** (0.001)	0.008*** (0.001)
Social comparison				
Below school mean	-0.086*** (0.014)	0.053*** (0.008)	0.017*** (0.003)	0.006** (0.002)
Relative income gap	-0.030** (0.009)	0.019** (0.006)	0.006** (0.002)	0.006** (0.002)

Notes: The table reports average marginal effects from different ordered logit models (presented in table 2 for deprivation and table 3 for social comparison), where the dependent variable measures the child's reported financial worry (1 = "never" to 4 = "always"). Each cell represents the marginal change in the probability of being in the corresponding response category associated with a one-unit change in the explanatory variable. Standard errors are reported in parentheses. *** p < 0.01, ** p < 0.05, * p < 0.10.

Table A- 7 Average Marginal Effects from Multinomial Logit model of discordance.

Variables	Overestimate
Deprivation	
Family leisure deprivation	0.032*** (0.006)
Social comparison	
Below school mean	-0.821*** (0.014)

Note: The table reports average marginal effects from multinomial logit models estimating the probability of overestimating poverty risk (i.e., perceiving the household as poor while not being poor). Marginal effects correspond to the change in the probability of overestimation associated with a one-unit change in each explanatory variable. Standard errors are reported in parentheses. *** p < 0.01, ** p < 0.05, * p < 0.10.

Table A- 8. Robustness check: Poverty threshold 50%

	(1) child worries about income	(2) child worries about income	(3) child worries about income	(4) child worries about income	(5) child worries about income
Poverty risk-50%	1.132 (0.092)	0.954 (0.084)	0.952 (0.084)	0.829** (0.074)	0.934 (0.082)
At least one deprivation			1.342*** (0.082)		
Income inferior to peer (mean)				1.489*** (0.087)	
Economic Insecurity					1.000** (0.000)
Log likelihood	-6761.139	-6579.645	-6567.333	-6554.108	-6577.014
Observations	6972	6972	6972	6972	6972

Notes: Each column reports results from an ordered logit model. The dependent variable is the child's reported worry about the household's financial situation. All models include the same set of child- and household-level controls as in the main specifications. Year fixed effects are included in all models except column (5), which uses the reduced sample. Coefficients are exponentiated; standard errors clustered at the child level are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A- 9. Robustness check: Poverty intensity

	(1) child worries about income	(2) child worries about income	(3) child worries about income	(4) child worries about income	(5) child worries about income
Poverty intensity	1.000 (0.002)	0.999 (0.002)	0.999 (0.002)	0.999 (0.002)	0.999 (0.002)
At least one deprivation			1.333*** (0.082)		
Income inferior to peer (mean)				1.471*** (0.084)	
Economic Insecurity					1.000** (0.000)
Log likelihood	-6696.721	-6515.381	-6503.818	-6490.155	-6512.808
Observations	6972	6972	6972	6972	6972

Notes: Each column reports results from an ordered logit model. The dependent variable is the child's reported worry about the household's financial situation. All models include the same set of child- and household-level controls as in the main specifications. Year fixed effects are included in all models except column (5), which uses the reduced sample. Coefficients are exponentiated; standard errors clustered at the child level are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A- 10. Robustness check: Quintiles of equivalent income

	(1) child worries about income	(2) child worries about income	(3) child worries about income	(4) child worries about income	(5) child worries about income
1 st quantile	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
2 nd quantile	1.192** (0.097)	1.116 (0.094)	1.118 (0.095)	1.111 (0.094)	1.117 (0.095)
3 rd quantile	0.969 (0.079)	0.996 (0.085)	1.001 (0.085)	0.929 (0.084)	0.997 (0.085)
4 th quantile	0.547*** (0.044)	0.653*** (0.058)	0.662*** (0.059)	0.552*** (0.065)	0.654*** (0.059)
5 th quantile	0.367*** (0.031)	0.461*** (0.044)	0.467*** (0.045)	0.380*** (0.049)	0.462*** (0.045)
At least one deprivation			1.307*** (0.081)		
Income inferior to peer (mean)				1.821*** (0.072)	
Economic Insecurity					1.000 (0.000)
Log likelihood	-6599.142	-6510.501	-6500.437	-6507.744	-6510.495
Observations	6972	6972	6972	6972	6972

Notes: Each column reports results from an ordered logit model. The dependent variable is the child's reported worry about the household's financial situation. All models include the same set of child- and household-level controls as in the main specifications. Year fixed effects are included in all models except column (5), which uses the reduced sample. Coefficients are exponentiated; standard errors clustered at the child level are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Data flow process

Our analytical sample is constructed using data from the Luxembourg children's well-being survey combined with administrative records. The initial dataset includes all children observed in 2019 (7,738) and 2021 (2,119).

Survey data are matched to administrative records using the LOGIN identifier, and non-matched observations are excluded.

The data are then cleaned by excluding individuals with incomplete information on key outcome variables, socio-economic characteristics of the household, and individual controls.

The final analytical sample is made of 6972 observations. Survey weights are adjusted to account for differential response rates, with initial weights calibrated on the 2019 population structure and corrected for the lower response rate observed in 2021.

Figure A- 11. Construction of the analytical sample

Initial survey sample Luxembourg children's well-being survey 2019: 7,738 children interviewed 2021: 2,119 children interviewed
<i>Data linkage</i> Matching survey data with administrative records using the unique identifier LOGIN for those who gave consent Exclusion of non-matched observations 2019: 6,081 children 2021: 1,607 children
<i>Data cleaning</i> Exclusion of observations with missing information on: - Children's perceptions - Household socio-economic characteristics - Individual control variables
<i>Final analytical sample</i> 6,972 observations
<i>Weight adjustment</i> Initial survey weights calibrated on 2019 population Correction for lower response rate in 2021