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Research Article

The effect of financial strain and parental depression on child behavioral difficulties during the Great Recession in Ireland: A fixed effects analysis

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Contents

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Abstract

BACKGROUND
Research has long identified class differences in the development of child behavioral difficulties; however, adjudicating between competing subcultural and resource-based explanations has been problematic because of the difficulty in separating mechanisms from pre-existing risk factors.

OBJECTIVE
We use variation in financial strain, experienced by households in Ireland during the Great Recession, to examine whether stable subcultural characteristics or dynamic resources best accounted for differences in child behavioral difficulties.

METHODS
This paper uses hybrid 'between–within' models to disentangle the effects of financial strain from existing class differences in determining child behavioral difficulties, using longitudinal data from Cohort98 of the Growing Up in Ireland study (N = 6,039; 51.2% female; ages 9–17) compiled before, during, and after the Great Recession in Ireland.

RESULTS
Analysis indicates that class differences in child behavioral difficulties are largely accounted for after adjusting for mean financial strain and parental depression. Change in financial strain is associated with increased internalized and externalized behavioral difficulties in both boys and girls.

CONTRIBUTION
Our findings militate against a purely subcultural understanding of class differences in child behavioral difficulties, given subcultural values are argued to be independent of

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changes in resources. By contrast, support is found for a resource-based explanation, with increasing financial strain associated with higher levels of behavioral difficulties.

1. Introduction

Research has long recognized social class differentials in child psychological adjustment (Bradley and Corwyn 2002; Elder 1974), with working-class children more likely to exhibit worse adjustment than their more socioeconomically advantaged peers, such as higher internalized and externalized behavioral difficulties. Sociological literature, where there is a long-standing interest in the role of social class differences in parenting, family values, and social expectations, has offered different explanations for such socioeconomic variation. One thread argues that class patterns in child psychology reflect the values and parenting styles of different classes forged through workplace experiences (Kohn 1977), and the disconnect between this and broader societal processes and values (Connell et al. 1995; Willis 1993). A second sociological literature argues that socioeconomic variation in child behavioral difficulties reflects the contrasting experiences of financial strain and its effect on family processes (Conger 1994; Conger and Conger 2002). However, adjudicating between these two explanations has proven problematic because most studies are based on cross-sectional data, making it difficult to separate the causal effect of socioeconomic pressure from pre-existing time-constant factors such as culture. To address our central research question – whether the association between class and child behavioral difficulties is driven by stable class-linked factors (such as subcultural values) or by class-correlated stressors (like financial strain) – we require sufficient variation in households' experiences of financial strain, such as is caused by a sharp society-wide economic contraction. This variation needs in turn to be paired with representative data collected longitudinally and, ideally, incorporating time points before, during, and after the stressor, to allow for the disentangling of strain 'treatment' effects from the pre-treatment baseline. The Great Recession in the Republic of Ireland (hereafter Ireland) provided such a major macroeconomic contraction, with the unemployment rate increasing from 4% in 2007 to 15% in 2011, coupled with decreasing incomes and increased relative financial strain across socioeconomic classes (Eurostat 2021; Layte and McCrory 2018; Reinhard et al. 2018; Sprong, Gibbons, and Chzhen 2022). This economic contraction coincided with the data collection of Cohort98 of the Growing Up in Ireland study, providing researchers with rich longitudinal data on children and their families before (Wave 1: 2007–2008), during (Wave 2: 2011–2012), and after (Wave 3: 2015–2016) the Great Recession in Ireland. This allows us to test whether class differences remain after adjusting for average differences in financial strain

and maternal depression, and to evaluate whether within-household changes in these stressors are associated with changes in children's behavioral difficulties during adolescence – a developmental period increasingly identified as a period of heightened sensitivity to stress (Fuhrmann, Knoll, and Blakemore 2015).

2. Theoretical perspectives

2.1 Subcultural explanations

Previous research has repeatedly observed that children from lower socioeconomic groups (hereafter SEG), i.e., characterized by parents with lower education, income, or occupational position, are more likely to exhibit challenging personal behaviors and emotional problems than their higher-SEG peers (Flouri et al. 2015; Schonberg and Shaw 2007). Lower-SEG children are, for instance, more likely to engage in antisocial and delinquent behavior (Piotrowska et al. 2015), to become disaffected with school (Skinner et al. 2008), and to develop behavioral difficulties (Kaiser et al. 2017; Mazza et al. 2017).

In sociological literature, this widespread pattern is often attributed to differences in the way in which children are socialized by parents, family, and communities, and the different values these social environments instill in their children. Paul Willis' (1993) classic ethnographic study on working-class boys in England theorizes that their problematic behavior reflects a subcultural rejection of middle-class educational values perceived as incongruent with their families' and communities' values. This rejection is therefore part of a broader working-class culture that takes pride in male, manual labor, as opposed to the less-masculine mental labor of the white-collar middle-classes who manage the factories where their parents work. To Willis, the oppositional behaviors and non-conformity of the "lads" in Hammertown Boys School represent rejection of the values of a middle-class schooling system, which seeks to control them in much the same way as the middle-class management seeks to control the "shop-floor" of the factory.

A key dimension of such subcultural explanations is the role parenting plays in child value socialization, and the disciplinary practices adopted to deal with such behavior. Kohn (1963, 1977) posits that parenting styles emerge in response to the occupations of the parents and their experience of authority and control in the workplace. For lower-SEG parents who are more likely to work in environments with less control and autonomy, parenting places emphasis on child obedience to parental wishes. By contrast, higher-SEG parents are more likely to value independence and judgement in their children and so instead employ parenting styles that develop communication skills, self-direction, and autonomy. Lareau (2000, 2003) distinguishes between engaged "concerted cultivation" parenting styles, predominantly adopted by higher-SEG parents, and the

"natural growth" approaches that lower-SEG parents are more likely to employ. While concerted cultivation imbues children with both the skills and confidence to actively engage and communicate with adult figures such as schoolteachers and coaches, a natural growth approach leaves working-class children less equipped to engage effectively with adults and school bodies, leading to underperformance and frustration. Hays (1996) outlines the prevalence of "intensive mothering" practices among primarily middle class households, as an effort to further nurture their children's potential, while Chan and Koo (2011), building on the different parenting typologies developed by Baumrind (1991), identify similar class dynamics in the adoption of the various parenting styles, with lax "permissive" forms of parenting more prevalent among lower-SEG families and engaged "authoritative" parenting styles more likely to be adopted by higher-SEG parents. While recent literature indicates that lower-SEG households increasingly adopt parenting practices traditionally associated with middle class households (Ishizuka 2019), underlying differences in intensive parenting by social background remain (Weininger, Lareau, and Conley 2015).

2.2 Resource-based explanations

Subcultural explanations that stipulate the development of parenting style as the product of class values and outlooks risk overlooking the influence of factors such as poverty and deprivation, which could provide alternative explanations of class differences in the development of child psychological adjustment. Working-class families are more likely to experience a lack of resources, live in high-risk and high-crime neighborhoods, and suffer income poverty, all of which may affect the parenting practices adopted (Kaiser et al. 2017; Leventhal and Brooks-Gunn 2004). Similarly, poverty and the associated stresses emanating from it have long been associated with harsher and more inconsistent parenting (Flouri et al. 2015; Kiernan and Huerta 2008), with strong evidence existing for an inverse association between financial stress and parenting quality (Reiss 2013).

In the Family Stress Model (1992; 2002), Conger and colleagues put forward a theoretical mechanism explaining the association between financial strain and child psychological adjustment. Initially developed to explain the effect of the economic recession in rural Iowa on family processes, the Family Stress Model (FSM) proposes that economic strain indirectly affects a child's behavior via the effects of psychological distress on parenting behaviors: Parental experience of financial hardship increases their risk of emotional distress and the likelihood of depression (Masarik and Conger 2017). This emotional distress can negatively impact marital partners' relationships through increased conflict and the withdrawal of supportive behavior, with interparental conflict and poor parental mental health resulting in the adoption of harsher and inconsistent

parenting styles and less effective involvement in the child's discipline and monitoring. These parenting behaviors can lead to the child internalizing (e.g., anxiety and depression) and externalizing (e.g., poor conduct and hyperactivity) conditions with implications for later child outcomes.

While the Family Stress Model is most often applied to the effects of economic strain, it has been suggested that parental stress, whether triggered by economic or non-economic factors, affects children's behavioral difficulties. Studies of non-economic stressors, such as the COVID-19 pandemic, document links between elevated parental stress during lockdowns and maladaptive child behavior, with parental burnout, communication, and behavior mediating such associations (Feinberg et al. 2022; Kerr et al. 2021). In literature directly looking at the effect of economic well-being, declining income is observed to hold only a limited direct effect on the behavioral difficulties of young children once potential mediators like parental stress are adjusted for (Violato et al. 2011), while analyses of the association between different measures of economic wellbeing and child behavioral difficulties indicate that increased subjective financial strain, but not changes in income, predict greater behavioral difficulties among children and adolescents (Gibbons, Sprong, and Chzhen 2023). These findings suggest that it is not purely access to economic resources that drive such associations, but rather the psychosocial effect of strain emanating from (financial) stressors experienced by parents that has a detrimental effect on child outcomes.

2.3 Resilience

The Family Stress Model posits that the stress pathway primarily operates via parental depression and its associated effect on parenting quality. However, the strength of the association likely varies across children, reflecting underlying individual or household characteristics that buffer against the detrimental effects of stressors or shape children's responses to them. Prior literature has identified that while stressful periods such as financial recessions can accentuate socioeconomic disadvantage, some children adapt better than others (Schoon and Mortimer 2017), reflecting support structures as well as more individual-level characteristics such as self-efficacy (Collishaw et al. 2016). While resilience is often conceptualized as a dynamic and relational process of adaption to changing adversities (e.g., Schoon 2021), it has also been operationalized as a stable, underlying personality disposition developed in early childhood. Adopting such an approach, Bittmann (2021) operationalizes resilience as a stable binary measure derived from three components (above average conscientiousness and extraversion, and below average neuroticism) of the Big Five Inventory, a widely used measure of core personality traits. He observes that this stable trait maintains an association with a range

of positive academic outcomes, even after adjusting for potential socioeconomic confounders. In the context of our analyses, resilient traits among children, such as personality components, could attenuate or completely negate the association between parental depression and behavioral difficulties, while, conversely, the association for children with lower levels of resilience might be strong.

3. The Great Recession in Ireland

Seminal studies have been produced that explore the effect of changing economic circumstances on family processes and child behavior following periods of economic recession. Elder's (1974) pioneering life course study, Children of the Great Depression, sheds light on the long-lasting psychological and social effects of the Great Depression on families and children many years after the economic impact of the Depression itself has subsided. Similar long-term effects of financial strain have been identified by researchers following other periods of recession, such as the Farm Belt Depression of the 1980s (Conger et al. 1994; Elder and Conger 2000) or Finland in the early 1990s (Solantaus, Leinonen, and Punamäki 2004).

The Irish experience of the Great Recession of 2009–2011 fits this framework of major macroeconomic shocks affecting social and psychological outcomes. From the period immediately preceding the recession to its height, unemployment in Ireland increased fourfold, with the majority of households reporting declines in income and increased financial adversity (Layte and McCrory 2018; Sprong, Gibbons, and Chzhen 2022). The sweeping financial shock of the Great Recession in Ireland offers a unique opportunity to examine meaningful longitudinal variation in financial strain within families. This variation allows us to effectively estimate not only differences in financial strain and parental depression between households, but also how changes within the same household are associated with changes in children's behavioral difficulties – an approach in which each child effectively acts as his or her own control, better isolating stress and parental depression treatment effects.

4. Hypotheses

We have outlined two competing theories which seek to explain socioeconomic differences in child psychological adjustment. Subcultural explanations accentuate the role of class values, norms, and aspirations in explaining SEG differences. By contrast, resource-based theories such as the Family Stress Model argue that these differences

emerge as a direct result of socioeconomic confounders such as financial strain, which disrupt family processes and parental mental health.

If subcultural values are driving the association between social class and child behavioral difficulties, then a class effect likely persists even after adjusting for average (time-constant) financial strain and parental depression. However, because household averages of financial strain and maternal depression might themselves be correlated with class-based values, between-household differences in these measures could partially reflect stable class-based cultural orientations as opposed to stress and parental depression per se.

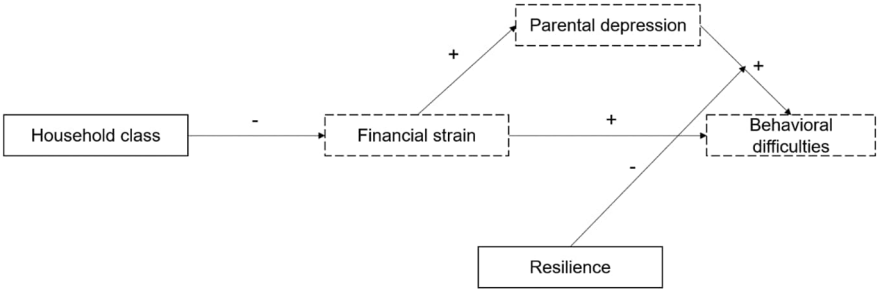
To distinguish between these explanations, we utilize the exogenous shock of the Great Recession to estimate the effect of within-household changes in economic strain, independent of families' stable subcultural values. If subcultural values are the true driver of observed behavioral difficulties, fluctuations in financial strain and maternal depression within households likely have little to no effect on behavioral difficulties, since the underlying class-based values within the family remain unchanged (H1a). Conversely, if increases in within-household financial strain and parental depression are associated with greater behavioral difficulties, this counters a purely subcultural interpretation and supports an understanding that class differences in behavioral difficulties partly reflect differences in household (economic) stressors (H1b).

The Family Stress Model stipulates that the pathway linking financial strain to children's behavioral difficulties is primarily mediated through financial strain's negative effect on parental mental health, and its associated implications for parent–child and inter-parent relationships. We therefore anticipate that the initial effect of financial strain will be partially mediated by parental depression (H2).

If resource-based hypotheses (1b and 2) are supported, we anticipate that adjusting for between-household financial strain and parental depression will substantially reduce or fully account for class differences in children's behavioral difficulties, contrary to what might be expected from a cultural explanation (H3).

Finally, we anticipate that the effect of parental depression on children's behavioral difficulties will be moderated by children's own resilience. The positive association between parental depression and behavioral difficulties will be weaker for children with high resilience than for children with lower levels of resilience (H4). Figure 1 illustrates potential pathways through which child behavioral difficulties could be effected.

Figure 1: Model pathways

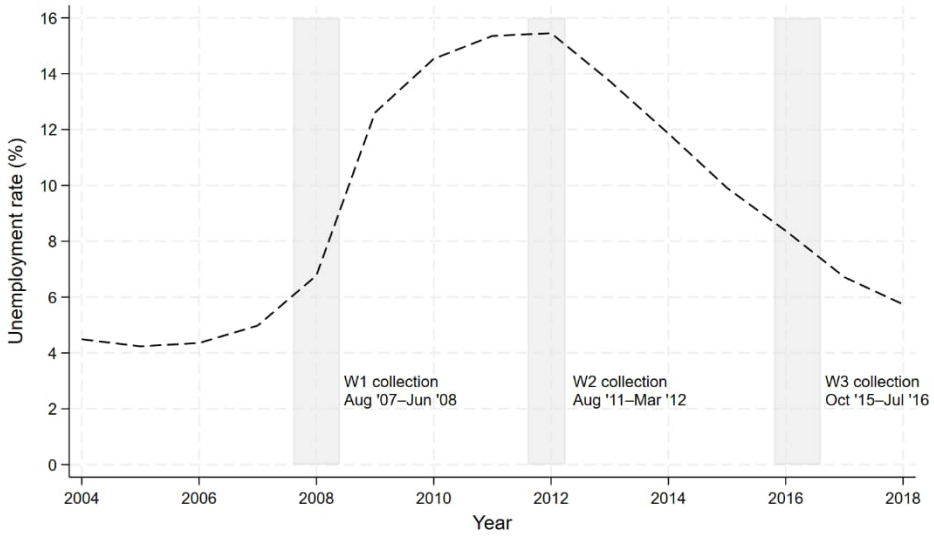


Note: If H1a is correct, change in the time variant measures (dashed boxes) should not noticeably change the outcome. If H1b is true, change in the pathways between the time variant measures should affect the outcome in the illustrated direction

5. Data and methods

This paper uses the first three waves of Cohort98 of the Growing Up in Ireland Child Cohort study, a nationally representative longitudinal study of children, their parents, and their schools in the Republic of Ireland. The data collection coincided with the period immediately prior to, during, and after the Great Recession in Ireland. Wave 1 interviews took place between the end of 2007 and the start of 2008, directly before the economic downturn, when the study children were 9 years old. Wave 2 interviews took place from late 2011 to early 2012, during the height of the Great Recession in Ireland, with study children aged 13. Wave 3 (2015–2016) coincided with a recovering economic climate, when the study children were between 17 and 18 years old (Figure 2). A sample of 8,568 9-year-olds and their families, or approximately 1 in every 7 9-years-old children registered in the 2006 census, were included in Wave 1, of which 7,525 remained in Wave 2 (88%) and 6,216 in Wave 3 (73%). 6,039 were present in all three waves, constituting the size of our analytical sample.

Figure 2: Change in Irish unemployment in the periods preceding, during, and after the Great Recession in Ireland



Note: Shaded columns mark the data collection periods for waves 1, 2, and 3 of Cohort98 of the Growing Up in Ireland study.
Source: World Bank Open Data (2026).

Study children were sampled using a two-stage process, with schools sampled in stage one and students within schools in stage two. To ensure adequate representation of key school variables, schools were systematically stratified by disadvantaged status, denomination, size, sex-mix, and geographic location. In the second stage of sample selection, up to 40 students were randomly selected in each school (Thornton et al. 2016).

Both parents or guardians (where relevant) of the study child were interviewed at home, while the study child's teachers (Wave 1 only) and principal were interviewed in schools. Parent(s) or guardian(s) were self-defined as either primary (PCG) or secondary (SCG) caregivers, with mothers self-defining as PCG in almost all instances.

5.1 Variables

Our outcome variables are internalizing and externalizing conditions in children, in Waves 1 to 3. We construct the two measures from the subscales of the Strengths and Difficulties Questionnaire (SDQ) (Goodman 1997), by summing responses to the 'Emotional symptoms' and 'Peer relationship problems' subscales as a measure of

internalized behavioral difficulties, and summing the 'Conduct problems' and 'Hyperactivity/Inattention' subscales to measure externalized behavioral difficulties (Goodman, Lamping, and Ploubidis 2010). Both scales are reverse coded, so that 0 indicates no behavioral difficulties and 20 indicates the greatest possible behavioral difficulties. In the statistical models, both internalized and externalized behavioral difficulties are z standardized across all waves, to enhance model comparability.

Previous research (Gibbons, Sprong, and Chzhen 2023; Schenck-Fontaine and Panico 2019) has observed that changes in objective measures of income have minimal effects on child behavioral difficulties, whereas changes in subjective economic strain do. This might indicate that subjective measures better capture the psychological stress associated with financial strain that might be missed by income. We therefore use subjective financial strain in Waves 1 to 3 as our measure of economic stress, measured using the primary caregiver's response to the question 'With which degree of ease or difficulty is the household able to make ends meet?', with responses given on a 6-point scale (1 = with great difficulty, 6 = with no difficulty). The scale is reverse coded, so that higher values indicate increased financial strain. Parental depression is measured through PCG responses in Waves 1 to 3 to the 8-item short version of the Centre for Epidemiological Studies Depression Scale (CES-D), a self-reported measure developed as a screening instrument for depression in the general population (Radloff 1977).

Subcultural value theories, such as those posited by Kohn (1977) and Willis (1993), premise that parenting values often develop in response to the class of the parents and the dispositions that class-associated occupations promote (e.g., obedience vs. autonomy). While subcultural theories treat class as largely time constant, occupation is susceptible to change over time, and the substantial labor market disruption associated with the Great Recession likely affected individuals' occupations over the analytical period. In order to keep the measure consistent over time and independent of recession treatment effects, we develop a measure for social class using details provided by the primary and (where appropriate) secondary caregivers on their present occupation in Wave 1, or prior occupation if PCG or SCG were economically inactive,. A dominance criterion is used, where the highest social-class category of either parent in the household (as appropriate) is taken as the overall household class. Originally categorized into 7 different categories, the 3 smallest categories – Semi-skilled, Unskilled, and All others gainfully occupied and unknown – have a combined size smaller than the next smallest category and are therefore collapsed together. The resulting 5-class categories used in the analysis are Higher Managerial and Professional, Lower Managerial and Professional, Administrative, Skilled Manual, and Semi- and Unskilled. As a robustness check, we also run models on parental education at Wave 1 (5 categories, dominance criterion), with model results included in the Appendix.

For our measure of resilience, we adapt the operationalization of the Big-Five personality dimensions used by Bittman (2021), using child responses to the Ten Item Personality Inventory (TIPI) to create a dummy variable where individuals are classified as resilient if they report above average Extraversion, Conscientiousness, and Agreeableness. As TIPI was only administered in Waves 2 and 3, we classify a child as resilient if he/she met the resilient criteria in either wave, and treat this measure as a time-invariant trait.

Both stable and time-varying household and individual characteristics could confound the association between the independent variables of interest (financial strain and maternal depression) and child behavioral difficulties. As such, all models adjust for household type (single or two-parent, number of siblings – all waves), whether the child has a long-standing illness or condition (all waves), whether the child has learning difficulties (all waves), and the employment status of the PCG (employed, unemployed, in education, home duties – all waves).

5.2 Treatment of missing values

Non-response to independent variables is low, reaching a maximum of 6.5% missing for Parental Depression in Wave 1. To minimize the loss of precision of estimation and statistical power due to missing data (Sterne et al. 2009), all variables are imputed (20 iterations) using multiple imputation by chained equations (MICE) in Stata 19, with population weights developed by the Growing Up in Ireland Study team. The imputation model includes all model variables used in the analyses, as well as a set of auxiliary variables. Results obtained using multiple imputation estimation were compared with a complete case analysis, with no major differences observed.

5.3 Weights

To account for inter-wave attrition and maintain a sample that reflects population characteristics, data is weighted using weights developed by the Growing Up in Ireland Study team. The weights use a minimum information algorithm to fit population marginals in a regression framework to adjust the sample estimates so that they match the population parameters using sixteen dimensions drawn from national census data.

5.4 The model

In order to address our hypotheses, we need to disentangle stable between-household differences, and time-variant within-household differences. While a random effects model would allow us to estimate both 'within' and 'between' effects, accurate estimation rests on the random effects assumption that unobserved time-invariant heterogeneity is uncorrelated with the regressors. Hybrid models (also known as the between–within method) (Allison 2009) allow us to circumvent the limitation of random effects (endogeneity leading to inaccurate estimation of Level 1 coefficients) and of fixed effects (the exclusion of all time-invariant characteristics) through the inclusion of variable cluster means that pick up any correlation between Level 2 error and Level 1 variables, thereby leaving unbiased Level 1 variable estimates. Cluster demeaning Level 1 variables provides identical coefficients to a fixed effects model, providing stable 'within' estimates net of any observed or unobserved time invariant confounders, while the cluster means reflect time invariant between-household effects.

A basic hybrid model, without interactions or random slopes, is stipulated below

$$Behave_{ij} = \gamma_{00} + \gamma_{01}\bar{X}_j + \gamma_{10}X_{ij} + \gamma_{02}Z_j + \mu_{0j} + \varepsilon_{ij} \quad (1)$$

where our outcome variables, internalized and externalized child difficulties, vary over time i within household j. X_{ij} is a vector of cluster demeaned variables that vary both within and between households (e.g., fluctuation in financial strain around the household average over time), while $\bar{X}_j$ is the vector of the cluster (household) means of these variables (e.g., mean strain of a household over time) providing the between, or time-constant, estimate of time-variant variables. Z_j reflect time-constant variables that vary only between households (e.g., household class). γ_{00} is the mean intercept, μ_{0j} is the random intercept, while ε_{ij} is the idiosyncratic error.

Five models are run sequentially. The first model provides a baseline estimation of changing internalizing and externalizing behavioral difficulties over time, without adjusting for any confounders. Model 2 introduces household class and the control variables, to estimate class differences in behavioral difficulties. Model 3 introduces financial strain to ascertain its effect on behavioral difficulties both within and between households, and estimates the extent to which between-household difference in income explains class differences. Model 4 includes parental depression to estimate the degree to which it accounts for the effect of financial strain on child behavioral difficulties. Lastly, Model 5 includes resilience and both a cross-level and a Level 2 interaction between maternal depression and resilience, to estimate whether child resilience moderates the association between maternal depression and child behavioral difficulties. To avoid downward bias in standard errors that can arise when a Level 1 predictor in a cross-level

interaction is modeled without a random slope (Heisig and Schaeffer 2019), we specify a random slope for maternal depression in Model 5 with covariance between the random slope and the random intercept allowed to vary.

Past research has identified sex-based differences in internalizing and externalizing conditions, with girls more likely to internalize and boys more likely to externalize behavioral difficulties (Achenbach, Dumenci, and Rescorla 2002; Conger 1994; Smyth and Darmody 2021). To better examine the associations affecting behavioral difficulties in both sexes, models are run separately by sex.

5.5 Mediation

H2 posits that a substantial proportion of the effect of financial strain on behavioral difficulties will be mediated by maternal depression. To test this, we use the product-of-coefficients approach by running separate hybrid models for maternal depression regressed on financial strain, and child behavioral difficulties regressed on maternal depression, adjusted for all covariates included in Model 4 above. We multiply the separate models' 'within' and 'between' coefficients to attain the indirect 'within' and 'between' coefficients, and use the Monte Carlo Method for Assessing Mediation (Selig and Preacher 2008), with 20,000 repetitions, to calculate the confidence intervals.

6. Results

Table 1 provides descriptive summary statistics of the analytical sample used at each wave for time-varying variables. Values for time-invariant variables are provided in Wave 1 only. Internalizing and externalizing behaviors decrease from Wave 1 to Wave 2, indicating improvement on average with age. However, while externalizing behavior difficulties decline further in Wave 3, internalizing difficulties increase to their highest level in Wave 3.

Our primary predictor, financial strain, increases strongly from Wave 1 to 2, reflecting the deteriorating economic situation in Ireland from 2007 to 2011. Financial strain declines somewhat in Wave 3 as the economy emerges from the Great Recession, albeit remaining at a higher level than in Wave 1. The mean of our secondary predictor, parental depression, increases at each time point.

Table 1: Summary statistics of analytical sample

			Wave 1			Wave 2			Wave 3		
	Min	Max	N	Mean	SD	N	Mean	SD	N	Mean	SD
Internalized behavioral difficulties	0	20	6,037	3.11	2.82	6,038	2.82	2.80	5,990	3.28	2.97
Externalized behavioral difficulties	0	20	6,037	4.13	3.23	6,038	3.55	3.17	5,990	3.17	2.96
Financial strain	1	6	6,035	2.77	1.06	6,036	3.59	1.15	5,987	3.36	1.21
Maternal depression	0	24	5,645	1.97	3.16	5,994	2.33	3.28	5,893	2.65	3.51
Household type											
Single Parent 1 or 2 children	0	1	6,039	0.07		6,039	0.08		5,993	0.12	
Single Parent 1 or 2 children	0	1	6,039	0.03		6,039	0.04		5,993	0.03	
Couple 1 or 2 children	0	1	6,039	0.38		6,039	0.46		5,993	0.58	
Couple 3 or more children	0	1	6,039	0.53		6,039	0.42		5,993	0.27	
Employment status, PCG											
Working	0	1	6,034	0.59		6,039	0.64		5,992	0.70	
Education	0	1	6,034	0.01		6,039	0.01		5,992	0.01	
Unemployed	0	1	6,034	0.01		6,039	0.03		5,992	0.02	
Home duties/retired	0	1	6,034	0.38		6,039	0.32		5,992	0.27	
Chronic illness	0	1	6,039	0.10		6,037	0.10		5,992	0.07	
Learning difficulty	0	1	6,036	0.08		6,032	0.06		6,037	0.06	
Time invariant measures											
Household class											
Higher Managerial and Professional	0	1	6,039	0.15							
Lower Managerial and Professional	0	1	6,039	0.41							
Administrative	0	1	6,039	0.19							
Skilled Manual	0	1	6,039	0.13							
Semi- and Unskilled	0	1	6,039	0.12							
Female	0	1	6,039	0.51							
Resilient	0	1	6,039	0.04							

Note: Data unweighted and unimputed.

Table 2 shows the mean internalized and externalized behavioral difficulty scores, the mean financial strain values, and the mean primary caregiver depression scores across time by household class and child sex. While all classes follow the behavior patterns outlined in Table 1, class differences are present for both internalizing and externalizing behaviors at each time point: The 'Higher Managerial and Professional' exhibit the least difficulties, with a hierarchical increase in difficulties to 'Semi and Unskilled'. Differences are also observed by child sex, with girls exhibiting higher average internalizing difficulties and boys higher average externalizing difficulties.

Table 2: Mean values and standard deviations for internalized behavioral difficulty (0–20), externalized behavioral difficulty (0–20), financial strain (1–6), and PCG depression (0–24)

	Mean (SD) internalized behavioral difficulty			Mean (SD) externalized behavioral difficulty			Mean (SD) financial strain			Mean (SD) PCG depression		
	Wave 1	Wave 2	Wave 3	Wave 1	Wave 2	Wave 3	Wave 1	Wave 2	Wave 3	Wave 1	Wave 2	Wave 3
Household class												
Higher Managerial and Professional	2.58 (2.57)	2.32 (2.52)	2.82 (2.74)	3.68 (3.05)	3.08 (2.89)	2.83 (2.75)	2.37 (1.02)	3.15 (1.26)	2.96 (1.14)	1.59 (2.53)	2.01 (2.82)	2.26 (2.89)
Lower Managerial and Professional	2.97 (2.72)	2.61 (2.66)	3.04 (2.78)	4.02 (3.04)	3.44 (2.99)	3.13 (2.93)	2.67 (1.00)	3.44 (1.07)	3.26 (1.16)	1.83 (3.02)	2.02 (2.84)	2.42 (3.26)
Administrative	3.40 (2.90)	3.02 (2.81)	3.47 (2.98)	4.78 (3.57)	4.08 (3.43)	3.48 (3.00)	2.98 (1.03)	3.81 (1.08)	3.52 (1.18)	2.22 (3.50)	2.49 (3.56)	2.92 (3.74)
Skilled Manual	3.54 (3.09)	3.53 (3.22)	3.54 (2.93)	4.74 (3.44)	4.45 (3.49)	3.51 (3.13)	3.05 (1.02)	4.08 (1.04)	3.62 (1.10)	2.16 (3.61)	2.79 (3.78)	2.72 (3.71)
Semi- and Unskilled	4.05 (3.25)	3.84 (3.24)	4.01 (3.29)	5.18 (3.53)	4.83 (3.94)	3.97 (3.44)	3.62 (1.11)	4.32 (1.12)	3.99 (1.24)	3.01 (4.19)	3.54 (4.67)	3.52 (4.52)
Child sex												
Male	3.23 (3.00)	2.94 (2.96)	2.92 (2.77)	4.89 (3.48)	4.34 (3.52)	3.72 (3.23)	2.93 (1.09)	3.71 (1.17)	3.50 (1.24)	2.12 (3.38)	2.54 (3.62)	2.86 (3.84)
Female	3.52 (2.99)	3.19 (2.93)	3.97 (3.16)	4.17 (3.28)	3.60 (3.27)	3.18 (2.98)	3.00 (1.12)	3.82 (1.17)	3.57 (1.21)	2.25 (3.56)	2.55 (3.61)	2.82 (3.72)

Note: Data weighted and unimputed.

All household class groups exhibit an increase in strain on average from Wave 1 to Wave 2, reflecting the changing economic environment as the country moves from a period of economic prosperity to severe economic contraction. Average reported levels of financial strain decrease in Wave 3 relative to Wave 2 as the economic recovery takes place, although they are still higher than the pre-recession level. Hierarchical class differences remain at all time points, with lower socioeconomic classes consistently reporting higher financial strain. Primary caregiver depression increases with time for all classes except for Skilled Manual and Semi- and Unskilled, who report slightly lower depression scores at Wave 3 relative to Wave 2. However, depression follows a similar hierarchical pattern to behavioral difficulties and strain, with Higher Managerial and Professional reporting the lowest depression scores at each time point, and Semi- and Unskilled reporting the highest.

6.1 Internalized difficulties

Table 3 show the results for internalized behavioral difficulties (standardized) for both boys and girls. Model 1 indicates different trajectories for internalizing difficulties by sex: both sexes have fewer internalizing behavioral difficulties at age 13 (Wave 2) than at age 9 (Wave 1, baseline), but girls have a substantial increase in internalizing difficulties at age 17 (Wave 3). Boys report lower internalizing difficulties at age 17. Differences by household class are also evident when adjusting for household class and

controls in Model 2, with both boys and girls from Skilled Manual and Semi- and Unskilled classes and girls from the Administrative class having higher internalized behavioral difficulties relative to the Higher Managerial and Professional baseline.

Model 3 includes financial strain as a predictor of internalizing difficulties. A 1-unit increase in within-household financial strain is associated with a similarly sized increase in internalized behavioral difficulties for both boys and girls, while higher between-household (averaged) differences in strain are also associated with higher internalized behavioral difficulties for boys and girls. Furthermore, the inclusion of average household strain appears to account for much of the class effect, with the effect size of household class reduced by more than half for most class categories relative to the Higher Managerial and Professional baseline, compared to Model 2 where average household strain is not adjusted for.

Maternal depression is added in Model 4. Both within- and between-household maternal depression is associated with internalizing difficulties for boys and girls, and accounts for some of the effect of financial strain, although the association of financial strain remains. Curiously, the inclusion of maternal depression restores part of the class effect, particularly for girls in Administrative households.

Finally, Model 5 includes both a main term for resilience, and two interactions: a cross-level interaction between resilience and cluster-demeaned maternal depression that indicates how resilience moderates the effect of fluctuations in maternal depression around the maternal depression mean, and an interaction between resilience and mean maternal depression, indicating how resilience moderates different levels of average maternal depression. While the conditional main effect of resilience is negatively associated with internalized behavioral difficulties, the cross-level interaction terms for both boys and girls, while also negative, are small, with confidence intervals overlapping zero. At the between level, a small negative interaction is observed for boys, with confidence intervals that do not overlap zero, indicating that in households with higher average levels of maternal depression, higher resilience buffers some of maternal depression's association with internalized behavioral difficulties. For girls, the between-interaction is also negative and small, with confidence intervals overlapping zero.

Table 3: Internalized behavioral difficulties

	Boys					Girls				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 1	Model 2	Model 3	Model 4	Model 5
Time (b. Wave 1)										
Wave 2	–0.100	–0.116	–0.141	–0.141	–0.122	–0.115	–0.114	–0.142	–0.140	–0.140
	(–0.135, –0.066)	(–0.151, –0.080)	(–0.180, –0.102)	(–0.180, –0.102)	(–0.161, –0.084)	(–0.154, –0.077)	(–0.153, –0.074)	(–0.186, –0.099)	(–0.184, –0.096)	(–0.184, –0.096)
Wave 3	–0.101	–0.111	–0.128	–0.131	–0.114	0.160	0.150	0.132	0.130	0.116
	(–0.136, –0.066)	(–0.150, –0.073)	(–0.167, –0.088)	(–0.172, –0.091)	(–0.154, –0.073)	(0.120, 0.199)	(0.105, 0.195)	(0.085, 0.179)	(0.083, 0.177)	(0.070, 0.162)
Household Class (b. Higher managerial and professional)										
Lower Managerial and Professional		0.057	0.016	0.016	0.017		0.073	0.023	0.040	0.042
		(–0.029, 0.144)	(–0.069, 0.102)	(–0.067, 0.099)	(–0.064, 0.098)		(–0.027, 0.173)	(–0.076, 0.122)	(–0.056, 0.136)	(–0.051, 0.136)
Administrative		0.081	–0.001	0.003	0.004		0.192	0.108	0.139	0.139
		(–0.017, 0.179)	(–0.099, 0.097)	(–0.093, 0.098)	(–0.089, 0.097)		(0.081, 0.304)	(–0.003, 0.219)	(0.031, 0.247)	(0.033, 0.244)
Skilled Manual		0.177	0.086	0.096	0.090		0.163	0.050	0.061	0.061
		(0.070, 0.284)	(–0.020, 0.193)	(–0.007, 0.199)	(–0.012, 0.191)		(0.047, 0.280)	(–0.067, 0.166)	(–0.052, 0.174)	(–0.050, 0.171)
Semi- and unskilled		0.274	0.177	0.179	0.181		0.167	0.039	0.050	0.049
		(0.153, 0.394)	(0.057, 0.296)	(0.064, 0.293)	(0.067, 0.294)		(0.043, 0.291)	(–0.084, 0.163)	(–0.070, 0.170)	(–0.069, 0.166)
Resilience (b. not resilient)										
Resilient					–0.154					–0.444
					(–0.331, 0.023)					(–0.632, –0.256)
Within										
Financial strain			0.034	0.030	0.027			0.035	0.028	0.019
			(0.013, 0.055)	(0.008, 0.051)	(0.006, 0.048)			(0.011, 0.059)	(0.004, 0.052)	(–0.005, 0.044)
Maternal depression				0.012	0.018				0.023	0.031
				(0.005, 0.019)	(0.007, 0.029)				(0.016, 0.031)	(0.020, 0.042)
Chronic illness		0.184	0.180	0.175	0.185		0.174	0.172	0.170	0.206
		(0.116, 0.253)	(0.111, 0.249)	(0.106, 0.243)	(0.117, 0.252)		(0.089, 0.258)	(0.088, 0.256)	(0.086, 0.254)	(0.120, 0.292)
Learning difficulties		–0.025	–0.030	–0.026	–0.037		0.181	0.181	0.184	0.102
		(–0.105, 0.054)	(–0.109, 0.050)	(–0.105, 0.053)	(–0.117, 0.044)		(0.075, 0.288)	(0.075, 0.287)	(0.078, 0.289)	(–0.006, 0.210)
PCG employment (b. employed)										
In education		0.240	0.220	0.216	0.207		–0.144	–0.157	–0.134	–0.068
		(0.073, 0.407)	(0.052, 0.388)	(0.046, 0.385)	(0.033, 0.380)		(–0.311, 0.023)	(–0.323, 0.008)	(–0.301, 0.032)	(–0.233, 0.096)
Unemployed		0.026	0.004	0.005	0.016		0.102	0.087	0.082	0.035
		(–0.118, 0.170)	(–0.141, 0.149)	(–0.139, 0.149)	(–0.128, 0.159)		(–0.025, 0.229)	(–0.040, 0.214)	(–0.047, 0.212)	(–0.089, 0.160)
Home duties/retired/other		0.267	0.253	0.238	0.087		0.048	0.032	–0.000	0.054
		(0.097, 0.436)	(0.082, 0.424)	(0.065, 0.412)	(–0.091, 0.265)		(–0.116, 0.212)	(–0.132, 0.196)	(–0.161, 0.160)	(–0.107, 0.214)

Table 3: (Continued)

	Boys					Girls				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 1	Model 2	Model 3	Model 4	Model 5
Time (b. Wave 1)										
Household type (b. Single parent, one or two children)										
Single parent, three or more children	−0.034	−0.026	−0.027	0.041		−0.208	−0.219	−0.227	−0.186	
	(−0.160, 0.092)	(−0.153, 0.100)	(−0.153, 0.099)	(−0.099, 0.182)		(−0.337, −0.080)	(−0.348, −0.091)	(−0.355, −0.099)	(−0.319, −0.052)	
Two parents, one or two children	0.203	0.221	0.235	0.238		−0.214	−0.206	−0.197	−0.183	
	(0.106, 0.301)	(0.123, 0.318)	(0.137, 0.334)	(0.131, 0.345)		(−0.323, −0.106)	(−0.314, −0.098)	(−0.305, −0.089)	(−0.295, −0.071)	
Two parents, three or more children	0.094	0.114	0.128	0.146		−0.184	−0.175	−0.160	−0.160	
	(−0.009,0.197)	(0.011,0.217)	(0.024,0.232)	(0.036,0.257)		(−0.300, −0.068)	(−0.291, −0.060)	(−0.275, −0.044)	(−0.279, −0.041)	
Resilient*Maternal depression (b. Not resilient)										
*Resilient*Maternal depression*					−0.026					−0.045
					(−0.087, 0.034)					(−0.104, 0.015)
Between										
Financial strain		0.150	0.089	0.087			0.180	0.124	0.120	
		(0.117, 0.184)	(0.055, 0.122)	(0.054, 0.120)			(0.146, 0.215)	(0.089, 0.158)	(0.086, 0.154)	
Maternal depression			0.078	0.079				0.084	0.083	
			(0.067, 0.089)	(0.068, 0.091)				(0.072, 0.095)	(0.071, 0.094)	
Chronic illness	0.731	0.702	0.638	0.635		0.756	0.707	0.642	0.637	
	(0.599, 0.863)	(0.572, 0.833)	(0.511, 0.764)	(0.510, 0.760)		(0.600, 0.912)	(0.554, 0.861)	(0.493, 0.792)	(0.491, 0.784)	
Learning difficulties	0.774	0.760	0.704	0.697		0.585	0.540	0.469	0.453	
	(0.642, 0.907)	(0.629, 0.891)	(0.577, 0.830)	(0.572, 0.822)		(0.427, 0.744)	(0.384, 0.696)	(0.318, 0.620)	(0.304, 0.602)	
PCG employment (b. employed)										
In education	0.128	0.003	−0.044	−0.048		0.722	0.602	0.512	0.508	
	(−0.280, 0.536)	(−0.401, 0.407)	(−0.431, 0.343)	(−0.435, 0.340)		(0.305, 1.139)	(0.189, 1.014)	(0.108, 0.916)	(0.105, 0.910)	
Unemployed	0.292	0.115	0.085	0.057		0.305	0.093	0.043	0.065	
	(−0.061, 0.645)	(−0.243, 0.473)	(−0.256, 0.427)	(−0.276, 0.389)		(0.030, 0.581)	(−0.182, 0.368)	(−0.217, 0.302)	(−0.195, 0.324)	
Home duties/retired/other	−0.108	−0.173	−0.233	−0.233		0.380	0.297	0.213	0.281	
	(−0.365, 0.149)	(−0.426, 0.081)	(−0.479, 0.012)	(−0.488, 0.022)		(0.114, 0.647)	(0.035, 0.560)	(−0.039, 0.465)	(0.051, 0.511)	

Table 3: (Continued)

	Boys					Girls				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 1	Model 2	Model 3	Model 4	Model 5
Time (b. Wave 1)										
Household type (b. Single parent, one or two children)										
Single parent, three or more children		0.117	0.102	0.118	0.121		–0.102	–0.151	–0.143	–0.158
		(–0.118, 0.352)	(–0.129, 0.333)	(–0.104, 0.339)	(–0.100, 0.342)		(–0.326, 0.122)	(–0.370, 0.068)	(–0.355, 0.069)	(–0.368, 0.052)
Two parents, one or two children		–0.239	–0.156	–0.080	–0.066		–0.187	–0.090	–0.005	–0.006
		(–0.359, –0.120)	(–0.275, –0.036)	(–0.196, 0.035)	(–0.181, 0.048)		(–0.309, –0.065)	(–0.211, 0.031)	(–0.123, 0.112)	(–0.122, 0.111)
Two parents, three or more children		–0.320	–0.271	–0.162	–0.148		–0.297	–0.234	–0.134	–0.138
		(–0.441, –0.200)	(–0.390, –0.152)	(–0.278, –0.046)	(–0.263, –0.034)		(–0.419, –0.174)	(–0.354, –0.113)	(–0.251, –0.016)	(–0.254, –0.022)
Resilient*Maternal depression (b. Not resilient)										
*Resilient*Maternal depression*					–0.073					–0.036
					(–0.133,–0.012)					(–0.108, 0.035)
Constant	–0.010	–0.002	–0.468	–0.519	–0.530	0.098	0.067	–0.492	–0.586	–0.546
	(–0.046, 0.026)	(–0.137, 0.134)	(–0.640, –0.296)	(–0.685, –0.352)	(–0.695, –0.366)	(0.060, 0.136)	(–0.077, 0.211)	(–0.671, –0.313)	(–0.760, –0.412)	(–0.717, –0.375)
SD(Constant)	0.674	0.605	0.593	0.563	0.577	0.674	0.629	0.613	0.584	0.593
	(0.650, 0.698)	(0.583, 0.628)	(0.571, 0.616)	(0.542, 0.586)	(0.555, 0.598)	(0.649, 0.700)	(0.605, 0.654)	(0.590, 0.638)	(0.561, 0.609)	(0.571, 0.616)
SD(Residual)	0.692	0.686	0.685	0.683	0.624	0.757	0.752	0.750	0.746	0.691
	(0.681, 0.704)	(0.674, 0.698)	(0.673, 0.697)	(0.671, 0.695)	(0.609, 0.638)	(0.744, 0.771)	(0.739, 0.765)	(0.737, 0.764)	(0.733, 0.759)	(0.677, 0.706)
SD(Maternal depression)					0.125					0.109
					(0.110, 0.142)					(0.097, 0.123)
Corr(Maternal depression, constant)					.059					0.044
					(–0.031, 0.148)					(–0.053, 0.140)
Observations	8,841	8,841	8,841	8,841	8,841	9,276	9,276	9,276	9,276	9,276
Number of groups	2,947	2,947	2,947	2,947	2,947	3,092	3,092	3,092	3,092	3,092

Note: Data weighted and imputed. 95% confidence intervals in parentheses. REML estimation used.

6.2 Externalized difficulties

Table 4 show the results of the externalizing model. In Model 1, externalizing difficulties decrease with age for both sexes relative to the baseline at age 9. As with internalizing difficulties, in Model 2 we observe that, net of controls, young people in manual social classes are more likely to exhibit externalizing difficulties relative to the Higher Managerial and Professional baseline. Financial strain, included in Model 3, is associated with increased externalizing behavioral difficulties at both the within and between levels for both boys and girls, while the inclusion of mean household financial strain also reduces class differences for boys and, in particular, girls. However, while the size of class differences in externalized behavioral difficulties in boys is reduced after adjusting for financial strain, some class differences remain, with no overlap between the confidence intervals of boys in manual households and the Higher Managerial and Professional baseline.

Maternal depression, added in Model 4, is associated with increased externalizing behavior in both boys and girls at both levels. As with internalizing behavioral difficulties, adjusting for household average maternal depression restores some of the class differences for both boys and girls. The inclusion of maternal depression also accounts for some of the within- and between-household financial strain effect on externalized behavioral difficulties.

Including resilience as a main term and in interaction with maternal depression has similar findings to the internalized behavior models: While showing a negative association in the main term, the interactions at both levels have small coefficients and wide confidence intervals overlapping zero for both boys and girls.

Table 4: Externalized behavioral difficulties

	Boys					Girls				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 1	Model 2	Model 3	Model 4	Model 5
Time (b. Wave 1)										
Wave 2	–0.174 (–0.207, –0.141)	–0.166 (–0.200, –0.132)	–0.196 (–0.233, –0.159)	–0.197 (–0.234, –0.159)	–0.200 (–0.237, –0.163)	–0.179 (–0.212, –0.147)	–0.179 (–0.213, –0.146)	–0.208 (–0.246, –0.171)	–0.207 (–0.244, –0.170)	–0.214 (–0.251, –0.177)
Wave 3	–0.365 (–0.399, –0.332)	–0.351 (–0.387, –0.314)	–0.371 (–0.409, –0.333)	–0.381 (–0.419, –0.342)	–0.373 (–0.411, –0.334)	–0.308 (–0.342, –0.275)	–0.303 (–0.341, –0.265)	–0.322 (–0.361, –0.282)	–0.322 (–0.361, –0.283)	–0.331 (–0.370, –0.293)
Household Class (b. Higher managerial and professional)										
Lower Managerial and Professional		0.044 (–0.050, 0.138)	0.014 (–0.080, 0.108)	0.014 (–0.079, 0.107)	0.015 (–0.077, 0.106)		0.046 (–0.047, 0.139)	0.009 (–0.084, 0.102)	0.022 (–0.069, 0.113)	0.024 (–0.065, 0.113)
Administrative		0.182 (0.075, 0.289)	0.122 (0.014, 0.230)	0.124 (0.018, 0.231)	0.126 (0.020, 0.231)		0.156 (0.051, 0.260)	0.093 (–0.012, 0.198)	0.116 (0.013, 0.219)	0.115 (0.015, 0.216)
Skilled Manual		0.220 (0.102, 0.337)	0.153 (0.035, 0.271)	0.160 (0.043, 0.276)	0.152 (0.036, 0.267)		0.159 (0.049, 0.268)	0.073 (–0.037, 0.184)	0.081 (–0.028, 0.189)	0.079 (–0.027, 0.186)
Semi- and unskilled		0.221 (0.089, 0.353)	0.149 (0.017, 0.282)	0.152 (0.021, 0.283)	0.155 (0.025, 0.285)		0.122 (0.006, 0.239)	0.027 (–0.091, 0.144)	0.033 (–0.083, 0.148)	0.033 (–0.081, 0.147)
Resilience (b. not resilient)										
Resilient					–0.288 (–0.490, –0.085)					–0.313 (–0.496, –0.130)
Within										
Financial strain			0.041 (0.020, 0.061)	0.032 (0.012, 0.053)	0.028 (0.007, 0.049)			0.036 (0.015, 0.056)	0.032 (0.012, 0.053)	0.032 (0.011, 0.052)
Maternal depression				0.024 (0.017, 0.031)	0.016 (0.006, 0.027)				0.012 (0.005, 0.018)	0.013 (0.004, 0.023)
Chronic illness		0.141 (0.075, 0.207)	0.136 (0.070, 0.202)	0.125 (0.059, 0.191)	0.140 (0.076, 0.204)		0.029 (–0.042, 0.101)	0.028 (–0.044, 0.099)	0.027 (–0.045, 0.098)	0.041 (–0.033, 0.115)
Learning difficulties		0.167 (0.091, 0.243)	0.163 (0.087, 0.239)	0.170 (0.094, 0.245)	0.141 (0.063, 0.220)		0.136 (0.046, 0.227)	0.136 (0.046, 0.226)	0.137 (0.047, 0.227)	0.064 (–0.028, 0.155)
PCG employment (b. employed)										
In education		0.057 (–0.131, 0.245)	0.034 (–0.155, 0.223)	0.030 (–0.155, 0.215)	–0.050 (–0.221, 0.120)		–0.039 (–0.220, 0.142)	–0.053 (–0.234, 0.128)	–0.039 (–0.218, 0.139)	0.006 (–0.166, 0.178)
Unemployed		–0.053 (–0.174, 0.067)	–0.079 (–0.202, 0.043)	–0.069 (–0.191, 0.052)	–0.096 (–0.226, 0.035)		0.021 (–0.123, 0.165)	0.007 (–0.139, 0.153)	0.005 (–0.143, 0.153)	–0.007 (–0.147, 0.133)
Home duties/retired/other		0.159 (–0.050, 0.368)	0.143 (–0.066, 0.352)	0.127 (–0.075, 0.329)	0.101 (–0.077, 0.278)		0.106 (–0.095, 0.308)	0.093 (–0.108, 0.294)	0.075 (–0.128, 0.278)	0.098 (–0.087, 0.283)

Table 4: (Continued)

	Boys						Girls					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 1	Model 2	Model 3	Model 4	Model 5
Time (b. Wave 1)										
Household type (b. Single parent, one or two children)										
Single parent, three or more children		0.125	0.134	0.137	0.160		0.092	0.081	0.077	0.098
		(0.001, 0.250)	(0.009, 0.258)	(0.013, 0.261)	(0.020, 0.300)		(–0.017, 0.201)	(–0.028, 0.190)	(–0.032, 0.186)	(–0.013, 0.210)
Two parents, one or two children		0.013	0.031	0.054	0.003		–0.045	–0.037	–0.032	0.001
		(–0.079, 0.105)	(–0.061, 0.123)	(–0.037, 0.146)	(–0.093, 0.098)		(–0.140, 0.049)	(–0.132, 0.057)	(–0.127, 0.063)	(–0.094, 0.096)
Two parents, three or more children		0.006	0.027	0.049	0.003		–0.068	–0.059	–0.051	–0.026
		(–0.092, 0.103)	(–0.071, 0.124)	(–0.049, 0.146)	(–0.098, 0.104)		(–0.169, 0.034)	(–0.161, 0.042)	(–0.153, 0.050)	(–0.127, 0.075)
Resilient*Maternal depression (b. Not resilient)										
*Resilient*Maternal depression*					0.018					–0.018
					(–0.037, 0.072)					(–0.071, 0.034)
Between										
Financial strain			0.110	0.067	0.065			0.133	0.091	0.088
			(0.073, 0.147)	(0.030, 0.105)	(0.027, 0.103)			(0.100, 0.167)	(0.057, 0.124)	(0.055, 0.121)
Maternal depression				0.054	0.056				0.063	0.063
				(0.041, 0.067)	(0.043, 0.070)				(0.052, 0.075)	(0.051, 0.074)
Chronic illness		0.431	0.410	0.365	0.359		0.359	0.323	0.273	0.263
		(0.284, 0.579)	(0.264, 0.557)	(0.220, 0.511)	(0.215, 0.503)		(0.211, 0.508)	(0.176, 0.471)	(0.128, 0.418)	(0.120, 0.406)
Learning difficulties		1.271	1.260	1.220	1.213		1.072	1.038	0.986	0.970
		(1.124, 1.418)	(1.114, 1.406)	(1.076, 1.365)	(1.069, 1.356)		(0.921, 1.223)	(0.888, 1.188)	(0.839, 1.133)	(0.825, 1.115)
PCG employment (b. employed)										
In education		0.030	–0.054	–0.104	–0.236		0.234	0.160	0.112	0.144
		(–0.516, 0.576)	(–0.594, 0.486)	(–0.629, 0.422)	(–0.754, 0.283)		(–0.234, 0.701)	(–0.303, 0.622)	(–0.341, 0.564)	(–0.311, 0.599)
Unemployed		0.121	0.001	–0.012	–0.005		0.412	0.261	0.223	0.246
		(–0.212, 0.453)	(–0.332, 0.333)	(–0.344, 0.320)	(–0.333, 0.324)		(0.148, 0.676)	(–0.007, 0.529)	(–0.041, 0.487)	(–0.010, 0.502)
Home duties/retired/other		0.208	0.154	0.089	0.078		0.057	–0.002	–0.052	–0.010
		(–0.163, 0.579)	(–0.211, 0.520)	(–0.262, 0.440)	(–0.230, 0.386)		(–0.190, 0.304)	(–0.242, 0.238)	(–0.287, 0.182)	(–0.250, 0.231)

Table 4: (Continued)

	Boys					Girls				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 1	Model 2	Model 3	Model 4	Model 5
Time (b. Wave 1)										
Household type (b. Single parent, one or two children)										
Single parent, three or more children		–0.024 (–0.288, 0.241)	–0.036 (–0.298, 0.227)	–0.025 (–0.284, 0.234)	–0.002 (–0.261, 0.256)		0.088 (–0.128, 0.304)	0.050 (–0.163, 0.264)	0.056 (–0.154, 0.265)	0.050 (–0.158, 0.258)
Two parents, one or two children		–0.318 (–0.451, –0.185)	–0.255 (–0.389, –0.122)	–0.204 (–0.337, –0.072)	–0.198 (–0.329, –0.066)		–0.258 (–0.376, –0.141)	–0.186 (–0.304, –0.068)	–0.120 (–0.236, –0.004)	–0.119 (–0.234, –0.005)
Two parents, three or more children		–0.256 (–0.389, –0.122)	–0.218 (–0.351, –0.084)	–0.143 (–0.276, –0.011)	–0.134 (–0.266, –0.002)		–0.305 (–0.423, –0.187)	–0.257 (–0.375, –0.140)	–0.180 (–0.296, –0.064)	–0.181 (–0.295, –0.066)
Resilient*Maternal depression (b. Not resilient)										
*Resilient*Maternal depression*					–0.055 (–0.125, 0.014)					–0.046 (–0.117, 0.025)
Constant	0.307 (0.269, 0.345)	0.290 (0.141, 0.439)	–0.046 (–0.235, 0.143)	–0.078 (–0.265, 0.109)	–0.067 (–0.253, 0.119)	0.081 (0.046, 0.116)	0.122 (–0.014, 0.259)	–0.287 (–0.459, –0.116)	–0.360 (–0.529, –0.191)	–0.331 (–0.497, –0.165)
SD(Constant)	0.790 (0.764, 0.816)	0.710 (0.686, 0.735)	0.705 (0.682, 0.730)	0.694 (0.670, 0.718)	0.701 (0.678, 0.725)	0.688 (0.666, 0.712)	0.636 (0.614, 0.659)	0.628 (0.606, 0.651)	0.610 (0.589, 0.633)	0.619 (0.598, 0.641)
SD(Residual)	0.664 (0.652, 0.676)	0.660 (0.649, 0.672)	0.659 (0.648, 0.671)	0.656 (0.644, 0.667)	0.614 (0.601, 0.627)	0.640 (0.628, 0.652)	0.637 (0.626, 0.649)	0.636 (0.625, 0.648)	0.635 (0.624, 0.646)	0.582 (0.570, 0.596)
SD(Maternal depression)					0.096 (0.083, 0.109)					0.101 (0.089, 0.113)
Corr(Maternal depression, constant)					0.004 (–0.091, 0.098)					0.088 (–0.002, 0.176)
Observations	8,841	8,841	8,841	8,841	8,841	9,276	9,276	9,276	9,276	9,276
Number of groups	2,947	2,947	2,947	2,947	2,947	3,092	3,092	3,092	3,092	3,092

Note: Data weighted and imputed. 95% confidence intervals in parentheses. REML estimation used.

6.3 Mediation

Table 5 shows the results of the mediation analyses. For all models, and at both within and between levels, part of the total effect of financial strain is mediated through maternal depression, with none of the confidence intervals overlapping zero. The proportion mediated also differs by sex. For internalized behavioral difficulties, only approximately 13% of the total 'within' effect is mediated by maternal depression for boys, compared to 20% for girls. Conversely, a greater proportion of 'within' externalized behavioral difficulties is mediated by maternal depression for boys (22%) than for girls (10%). For the 'between' component, however, the proportion of both internalized and externalized behavioral difficulties mediated by maternal depression is higher for boys (41% and 39%) than for girls (32% and 32%).

Table 5: Proportion of the total effect of Financial Strain on child Internalized and Externalized behavioral difficulties, mediated by maternal depression

	Indirect	LL CI	UL CI	Direct	Total	% Mediated
Internalized						
Boys						
Within	0.004	0.002	0.007	0.030	0.034	12.608
Between	0.062	0.050	0.076	0.089	0.151	41.207
Girls						
Within	0.007	0.004	0.010	0.028	0.035	19.727
Between	0.057	0.045	0.070	0.124	0.181	31.577
Externalized						
Boys						
Within	0.009	0.006	0.012	0.032	0.041	21.517
Between	0.043	0.031	0.056	0.067	0.110	38.909
Girls						
Within	0.003	0.001	0.006	0.032	0.036	9.747
Between	0.043	0.033	0.055	0.091	0.134	32.340

Note: Data weighted and imputed. 95% confidence intervals.
Monte Carlo method for assessing mediation, 20,000 repetitions.

6.4 Robustness checks

The results remain largely stable when replacing household class with parental education, with similar patterns for both parental education and household class specifications of SEG in the internalized difficulties models of boys and girls. Some differences were observed in externalized difficulties, where adjusting for financial strain and maternal depression reduced more of the parental education effect for boys compared to the comparative household class effect. For girls, conversely, a larger proportion of the

parental education effect remained after adjusting for financial strain and maternal depression than was evident for the corresponding household class categories. Full model tables are included in the Appendix (Tables A-1 and A-2).

7. Discussion

Socioeconomic variation in child and adolescent psychological adjustment has long been identified in academic research. In sociology, two major explanations have been put forward to explain this. The class sub-cultures approach argues that class differences reflect differences in parenting styles, values, and aspirations, developed as a consequence of experiences in the workplace. Conversely, resource-based theories such as the Family Stress Model focus on the role of socioeconomic differences in shaping family processes, which in turn can influence the development of child and adolescent behavioral difficulties.

We tested these competing explanations by evaluating whether class differences remained after adjusting for financial strain and maternal depression, as might be expected from a subcultural explanation, or whether adjusting for mean household financial strain and maternal depression accounted for these differences, as would be anticipated from a resource-based explanation. Furthermore, through the use of the Cohort98 dataset of the Growing Up in Ireland study that was collected during a period of severe societal-wide economic fluctuation, we were able to examine whether increasing financial strain and maternal depression within a household had a detrimental effect on child behavior – something we would anticipate seeing if the Family Stress Model were true, but not if the underlying driver of behavioral difficulties was the stable subcultural values of the household.

Our results largely support a resource-based explanation, with class differences in child behavioral difficulties reduced substantially for both boys and girls once financial strain is adjusted for. Furthermore, between-household financial strain and parental depression are strong, positive predictors of increased behavioral difficulties in both boys and girls net of household class, while within-household change in financial strain and maternal depression is likewise associated with increased internalized and externalized behavioral difficulties across sexes.

Including maternal depression in our models reduces the effect size of financial strain, and our mediation model confirms that part of the total effect of financial strain on child behavioral difficulties is mediated through maternal depression, as hypothesized in the Family Stress Model. However, a curious outcome is that once maternal depression is adjusted for in the hybrid models, some of the class effects accounted for with the inclusion of financial strain are restored. One possible explanation is that variables that

are unaccounted for in our models, such as inter-parent conflict and parent–child relationship quality, may also mediate this association. If these factors vary systematically by class background, adjusting for maternal depression alone could restore class differences that were previously masked when only financial strain was adjusted for. Unfortunately, our dataset does not contain measures of either inter-parent conflict or parent–child relationship quality in all waves to allow us to test whether this is the case.

While the main conditional effect of resilience is negatively associated with behavioral difficulties, we found minimal support for the hypothesis that children's underlying resilience could moderate the effect of maternal depression on child behavioral difficulties. This is perhaps unsurprising, given that a systematic review of child resilience to parental mental illness still accentuates the importance of family functioning and parental warmth in buffering against adverse child outcomes (Van Schoors et al. 2023), measures for which are not present in the dataset. The absence of these factors may limit the protective variance captured by our resilience measure, potentially explaining the weak moderation observed. A further explanation could reflect the unidimensional nature resilience construct, with Collishaw et al. (2016) finding that child outcomes improve substantially only with the accumulation of multiple distinct protective factors spanning family, social, and individual domains. Also of note is that only approximately 4% of our sample met the conditions for our operationalization of resilience. The small proportion of children classified as resilient could imply that our results reflected issues of limited variance, as opposed to a true absence of a moderating effect of resilience.

Lastly, while class differences in both boys' and girls' internalized behavioral difficulties and girls' externalized behavioral difficulties are largely accounted for, the majority of the underlying class effects, while reduced in size, remain for boys' externalized behavioral difficulties. This indicates that while financial strain, maternal depression and the hypothesized effect it holds on parenting mechanisms explain some of the class differences, some differences remain independent of such factors. This could potentially be explained by other Level 2 variables correlated with household class but independent of financial strain that we fail to adjust for in our analyses. For instance, factors independent of financial strain and family processes but correlated with class, such as peer bullying, could mediate some of the relationship between class and behavioral difficulties. This implies that schools that predominantly draw their student intake from disadvantaged communities, which are more likely to experience severe financial strain, may experience more behavioral difficulties in children, net of family financial strain and maternal depression. Conversely, children whose families are experiencing financial strain and depression but who attend more socioeconomically diverse schools could conceivably develop fewer behavioral difficulties owing to the

stabilizing effect of the school environment. While this could not be tested in the present study owing to the absence of appropriate school-level measures and small sample sizes within schools, further research using datasets with richer ecological measures could examine whether school and neighborhood factors moderate the effect of financial strain and parental depression on child behavioral difficulties.

Our study has some limitations that should be considered when interpreting the results. Variable quality and the absence of key variables precluded us from testing other possible pathways through which financial strain could affect child behavioral difficulties. For instance, our analyses relied on screening instruments to measure parental depression that may have inaccurately measured depression, while the absence of consistent measures of inter-parental and parent–child relationships prevented us from testing further pathways by which financial strain affected child behavior. The absence of appropriate measures of resilience across all waves also precluded us from testing a time-variant specification of resilience, leaving open the question of whether the lack of a meaningful resilience effect truly captured the absence of an effect, or rather the operationalization of the measure. Furthermore, in the absence of subcultural measures such as values and parenting styles, our testing of a subcultural explanation was indirect, resting on whether class differences remained after adjusting for household financial strain and maternal depression. Lastly, a product of the coefficients mediation approach, even when combined with Monte Carlo simulation-based estimation, still relies on the assumption of no unmeasured mediator-outcome confounding (Imai, Keele, and Tingley 2010), and this needs to be acknowledged when interpreting the findings.

Despite these limitations, the ability of the study to account for the majority of between-class differences in child behavioral difficulties, coupled with the unique within-household longitudinal variability allowing us to identify effects of financial strain and maternal depression on child behavioral difficulties, provides further support for resource-informed explanations of the development of child behavioral difficulties.

8. Declarations

Ethics approval

Work on waves 1, 2, and 3 of the GUI98 dataset was conducted with the ethical approval of a dedicated and independent Research Ethics Committee (REC) convened by the Department of Children and Youth Affairs (now the Department of Children, Equality, Disability, Integration and Youth) specifically for the Growing Up in Ireland project, and was therefore performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments.

Consent to participate

The Growing Up in Ireland team obtained informed consent from all participants in the study. Parents signed informed consent regarding the use of collected data for future research purposes.

Conflict of Interest

The authors declare that they have no conflict of interest.

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Data availability statement

The results presented in this research are based on data from the ’98 Cohort of the Growing Up in Ireland study (GUI). The authors take responsibility for the integrity of the data and the accuracy of the analysis. GUI datasets are made available to researchers on a confidential and anonymized basis through the Irish Social Sciences Data Archive, available at https://www.ucd.ie/issda/data/guichild/.

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Appendix

Table A-1: Internalized behavioral difficulties, parental education

	Boys					Girls				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 1	Model 2	Model 3	Model 4	Model 5
Time (b. Wave 1)										
Wave 2	−0.100	−0.116	−0.141	−0.141	−0.122	−0.115	−0.114	−0.143	−0.140	−0.140
	(−0.135, −0.066)	(−0.151, −0.080)	(−0.179, −0.102)	(−0.180, −0.102)	(−0.160, −0.084)	(−0.154, −0.077)	(−0.153, −0.075)	(−0.186, −0.099)	(−0.184, −0.096)	(−0.184, −0.097)
Wave 3	−0.101	−0.112	−0.128	−0.132	−0.115	0.160	0.151	0.133	0.131	0.117
	(−0.136, −0.066)	(−0.151, −0.073)	(−0.168, −0.088)	(−0.173, −0.092)	(−0.155, −0.074)	(0.120, 0.199)	(0.106, 0.195)	(0.086, 0.179)	(0.084, 0.178)	(0.071, 0.163)
Parental education (b. Postgraduate degree)										
None to lower secondary		0.261	0.153	0.129	0.131		0.340	0.201	0.212	0.199
		(0.125, 0.397)	(0.017, 0.289)	(−0.003, 0.261)	(0.003, 0.260)		(0.189, 0.490)	(0.049, 0.352)	(0.065, 0.360)	(0.055, 0.342)
Upper secondary		0.188	0.104	0.095	0.103		0.177	0.081	0.089	0.075
		(0.054, 0.321)	(−0.029, 0.237)	(−0.035, 0.224)	(−0.023, 0.230)		(0.027, 0.327)	(−0.068, 0.230)	(−0.057, 0.234)	(−0.066, 0.216)
No degree		0.132	0.074	0.066	0.078		0.165	0.082	0.092	0.084
		(−0.009, 0.273)	(−0.066, 0.214)	(−0.070, 0.202)	(−0.055, 0.211)		(0.006, 0.325)	(−0.076, 0.241)	(−0.062, 0.247)	(−0.066, 0.234)
Primary degree		0.050	0.011	−0.007	0.006		0.118	0.087	0.087	0.061
		(−0.099, 0.199)	(−0.137, 0.158)	(−0.150, 0.136)	(−0.134, 0.145)		(−0.050, 0.286)	(−0.079, 0.254)	(−0.074, 0.249)	(−0.096, 0.218)
Resilience (b. not resilient)										
Resilient					−0.156					−0.456
					(−0.333, 0.021)					(−0.644, −0.269)
Within										
Financial strain			0.034	0.030	0.027			0.035	0.028	0.019
			(0.013, 0.055)	(0.008, 0.051)	(0.006, 0.048)			(0.011, 0.059)	(0.004, 0.052)	(−0.005,0.044)
Maternal depression				0.012	0.018				0.023	0.031
				(0.005, 0.019)	(0.007, 0.029)				(0.016, 0.031)	(0.020, 0.042)
Chronic illness		0.185	0.180	0.175	0.185		0.174	0.172	0.170	0.206
		(0.116, 0.253)	(0.112, 0.249)	(0.106, 0.244)	(0.118, 0.252)		(0.089, 0.258)	(0.088, 0.256)	(0.086, 0.254)	(0.120, 0.292)
Learning difficulties		−0.025	−0.029	−0.025	−0.036		0.181	0.181	0.183	0.102
		(−0.104, 0.055)	(−0.109, 0.050)	(−0.105, 0.054)	(−0.116, 0.045)		(0.075, 0.288)	(0.075, 0.287)	(0.078, 0.289)	(−0.006, 0.210)
PCG employment (b. employed)										
In education		0.236	0.216	0.212	0.203		−0.142	−0.154	−0.131	−0.065
		(0.069, 0.403)	(0.049, 0.384)	(0.043, 0.382)	(0.029, 0.376)		(−0.308, 0.024)	(−0.319, 0.010)	(−0.297, 0.034)	(−0.229, 0.099)
Unemployed		0.026	0.005	0.006	0.016		0.100	0.086	0.081	0.034
		(−0.117, 0.170)	(−0.140, 0.150)	(−0.138, 0.150)	(−0.127, 0.159)		(−0.026, 0.227)	(−0.041, 0.213)	(−0.048, 0.210)	(−0.090, 0.158)
Home duties/retired/other		0.268	0.255	0.240	0.089		0.044	0.028	−0.004	0.050
		(0.099, 0.437)	(0.084, 0.425)	(0.067, 0.413)	(−0.089, 0.267)		(−0.120, 0.209)	(−0.136, 0.193)	(−0.165, 0.157)	(−0.111, 0.211)

Table A-1: (Continued)

	Boys					Girls				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 1	Model 2	Model 3	Model 4	Model 5
PCG employment (b. employed)										
In education		0.236	0.216	0.212	0.203		–0.142	–0.154	–0.131	–0.065
		(0.069, 0.403)	(0.049, 0.384)	(0.043, 0.382)	(0.029, 0.376)		(–0.308, 0.024)	(–0.319, 0.010)	(–0.297, 0.034)	(–0.229, 0.099)
Unemployed		0.026	0.005	0.006	0.016		0.100	0.086	0.081	0.034
		(–0.117, 0.170)	(–0.140, 0.150)	(–0.138, 0.150)	(–0.127, 0.159)		(–0.026, 0.227)	(–0.041, 0.213)	(–0.048, 0.210)	(–0.090, 0.158)
Home duties/retired/other		0.268	0.255	0.240	0.089		0.044	0.028	–0.004	0.050
		(0.099, 0.437)	(0.084, 0.425)	(0.067, 0.413)	(–0.089, 0.267)		(–0.120, 0.209)	(–0.136, 0.193)	(–0.165, 0.157)	(–0.111, 0.211)
Household type (b. Single parent, one or two children)										
Single parent, three or more children		–0.033	–0.025	–0.026	0.043		–0.210	–0.221	–0.229	–0.188
		(–0.159, 0.092)	(–0.151, 0.100)	(–0.152, 0.100)	(–0.097, 0.183)		(–0.339, –0.081)	(–0.350, –0.093)	(–0.357, –0.101)	(–0.322, –0.054)
Two parents, one or two children		0.201	0.218	0.233	0.235		–0.214	–0.205	–0.196	–0.183
		(0.103, 0.298)	(0.120, 0.316)	(0.134, 0.331)	(0.128, 0.342)		(–0.323, –0.106)	(–0.314, –0.097)	(–0.304, –0.089)	(–0.295, –0.071)
Two parents, three or more children		0.091	0.111	0.125	0.143		–0.184	–0.175	–0.159	–0.159
		(–0.012, 0.194)	(0.008, 0.214)	(0.021, 0.229)	(0.033, 0.253)		(–0.300, –0.068)	(–0.290, –0.059)	(–0.275, –0.044)	(–0.278, –0.041)
Resilient*Maternal depression (b. Not resilient)										
*Resilient*Maternal depression*					–0.026					–0.045
					(–0.087, 0.034)					(–0.104, 0.015)
Between										
Financial strain			0.147	0.087	0.085			0.170	0.113	0.109
			(0.113, 0.180)	(0.054, 0.120)	(0.053, 0.118)			(0.135, 0.205)	(0.078, 0.148)	(0.075, 0.143)
Maternal depression				0.078	0.079				0.083	0.082
				(0.067, 0.089)	(0.068, 0.090)				(0.072, 0.095)	(0.071, 0.094)
Chronic illness		0.749	0.719	0.654	0.651		0.731	0.695	0.629	0.624
		(0.617, 0.881)	(0.588, 0.849)	(0.528, 0.781)	(0.527, 0.776)		(0.575, 0.886)	(0.541, 0.848)	(0.480, 0.778)	(0.478, 0.770)
Learning difficulties		0.769	0.757	0.703	0.695		0.588	0.544	0.475	0.459
		(0.637, 0.902)	(0.627, 0.888)	(0.577, 0.830)	(0.570, 0.820)		(0.430, 0.745)	(0.389, 0.700)	(0.324, 0.626)	(0.311, 0.608)

Table A-1: (Continued)

	Boys					**Girls**				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 1	Model 2	Model 3	Model 4	Model 5
PCG employment (b. employed)										
In education		0.200	0.065	0.022	0.018		0.729	0.595	0.501	0.495
		(–0.203, 0.604)	(–0.335, 0.465)	(–0.361, 0.405)	(–0.365, 0.401)		(0.318, 1.139)	(0.188, 1.003)	(0.102, 0.901)	(0.097, 0.893)
Unemployed		0.340	0.162	0.141	0.117		0.254	0.039	–0.018	0.002
		(–0.007, 0.686)	(–0.191, 0.514)	(–0.196, 0.478)	(–0.212, 0.445)		(–0.016, 0.524)	(–0.232, 0.311)	(–0.274, 0.238)	(–0.254, 0.257)
Home duties/retired/other		–0.074	–0.138	–0.194	–0.192		0.349	0.260	0.169	0.236
		(–0.329, 0.182)	(–0.390, 0.114)	(–0.439, 0.050)	(–0.447, 0.063)		(0.084, 0.614)	(–0.001, 0.520)	(–0.081, 0.420)	(0.008, 0.465)
Household type (b. Single parent, one or two children)										
Single parent, three or more children		0.131	0.117	0.135	0.139		–0.135	–0.173	–0.169	–0.183
		(–0.103, 0.366)	(–0.114, 0.348)	(–0.087, 0.357)	(–0.082, 0.360)		(–0.358, 0.087)	(–0.392, 0.045)	(–0.379, 0.042)	(–0.392, 0.025)
Two parents, one or two children		–0.315	–0.206	–0.127	–0.112		–0.250	–0.126	–0.043	–0.042
		(–0.434, –0.196)	(–0.325, –0.086)	(–0.243, –0.011)	(–0.227, 0.003)		(–0.369, –0.132)	(–0.245, –0.007)	(–0.159, 0.072)	(–0.156, 0.072)
Two parents, three or more children		–0.375	–0.305	–0.193	–0.181		–0.347	–0.262	–0.165	–0.168
		(–0.493, –0.257)	(–0.422, –0.188)	(–0.308, –0.079)	(–0.294, –0.067)		(–0.465, –0.229)	(–0.379, –0.145)	(–0.279, –0.051)	(–0.280, –0.055)
Resilient*Maternal depression (b. Not resilient)										
*Resilient*Maternal depression*					–0.073					–0.033
					(–0.133, –0.012)					(–0.104, 0.039)
Constant	–0.010	–0.029	–0.483	–0.526	–0.546	0.098	0.018	–0.503	–0.585	–0.531
	(–0.046, 0.026)	(–0.190, 0.131)	(–0.674, –0.292)	(–0.712, –0.341)	(–0.728, –0.363)	(0.060, 0.136)	(–0.157, 0.193)	(–0.708, –0.299)	(–0.784, –0.386)	(–0.726, –0.336)
SD(Constant)	0.674 (0.650, 0.698)	0.604 (0.582, 0.628)	0.593 (0.571, 0.616)	0.564 (0.542, 0.586)	0.577 (0.556, 0.599)	0.674 (0.650, 0.700)	0.624 (0.600, 0.649)	0.611 (0.587, 0.636)	0.582 (0.559, 0.606)	0.591 (0.568, 0.614)
SD(Residual)	0.692 (0.681, 0.704)	0.686 (0.674, 0.698)	0.685 (0.674, 0.697)	0.684 (0.672, 0.696)	0.624 (0.610, 0.639)	0.757 (0.744, 0.771)	0.752 (0.739, 0.765)	0.750 (0.737, 0.764)	0.746 (0.733, 0.759)	0.691 (0.677, 0.706)
SD(Maternal depression)					0.125 (0.110, 0.141)					0.109 (0.097, 0.123)
Corr(Maternal depression, constant)					0.059 (–0.031, 0.148)					0.041 (–.055, 0.137)
Observations	8,841	8,841	8,841	8,841	8,841	9,276	9,276	9,276	9,276	9,276
Number of groups	2,947	2,947	2,947	2,947	2,947	3,092	3,092	3,092	3,092	3,092

Note: Data weighted and imputed. 95% confidence intervals in parentheses. REML estimation used.

Table A-2: Externalized behavioral difficulties, parental education

	Boys					Girls				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 1	Model 2	Model 3	Model 4	Model 5
Time (b. Wave 1)										
Wave 2	–0.174	–0.166	–0.196	–0.197	–0.200	–0.179	–0.179	–0.208	–0.207	–0.214
	(–0.207, –0.141)	(–0.200, –0.132)	(–0.234, –0.159)	(–0.234, –0.159)	(–0.237, –0.163)	(–0.212, –0.147)	(–0.213, –0.146)	(–0.246, –0.171)	(–0.245, –0.170)	(–0.251, –0.177)
Wave 3	–0.365	–0.350	–0.371	–0.381	–0.373	–0.308	–0.302	–0.321	–0.322	–0.331
	(–0.399, –0.332)	(–0.387, –0.314)	(–0.409, –0.333)	(–0.419, –0.342)	(–0.411, –0.334)	(–0.342, –0.275)	(–0.340, –0.264)	(–0.360, –0.282)	(–0.361, –0.283)	(–0.369, –0.292)
Parental education (b. Postgraduate degree)										
None to lower secondary		0.268	0.189	0.172	0.180		0.371	0.273	0.281	0.273
		(0.121, 0.415)	(0.041, 0.338)	(0.026, 0.319)	(0.035, 0.324)		(0.230, 0.512)	(0.131, 0.416)	(0.141, 0.422)	(0.137, 0.410)
Upper secondary		0.173	0.112	0.106	0.123		0.244	0.177	0.183	0.174
		(0.028, 0.318)	(–0.033, 0.258)	(–0.038, 0.250)	(–0.019, 0.265)		(0.104, 0.384)	(0.036, 0.317)	(0.045, 0.321)	(0.040, 0.309)
No degree		0.092	0.051	0.045	0.064		0.263	0.205	0.213	0.208
		(–0.060, 0.245)	(–0.102, 0.204)	(–0.106, 0.196)	(–0.084, 0.213)		(0.114, 0.412)	(0.056, 0.354)	(0.067, 0.360)	(0.066, 0.351)
Primary degree		–0.041	–0.069	–0.082	–0.064		0.102	0.081	0.080	0.065
		(–0.203, 0.120)	(–0.230, 0.091)	(–0.241, 0.077)	(–0.220, 0.093)		(–0.055, 0.259)	(–0.075, 0.237)	(–0.073, 0.233)	(–0.085, 0.214)
Resilience (b. not resilient)										
Resilient					–0.293					–0.326
					(–0.495, –0.091)					(–0.509, –0.143)
Within										
Financial strain			0.041	0.032	0.028			0.036	0.032	0.032
			(0.020, 0.061)	(0.012, 0.053)	(0.007, 0.049)			(0.015, 0.056)	(0.012, 0.053)	(0.011, 0.052)
Maternal depression				0.024	0.016				0.012	0.013
				(0.017, 0.031)	(0.006, 0.027)				(0.005, 0.018)	(0.004, 0.023)
Chronic illness		0.141	0.136	0.125	0.140		0.029	0.028	0.027	0.041
		(0.075, 0.207)	(0.070, 0.202)	(0.059, 0.191)	(0.076, 0.204)		(–0.042, 0.101)	(–0.044, 0.099)	(–0.045, 0.098)	(–0.033, 0.115)
Learning difficulties		0.168	0.163	0.170	0.142		0.136	0.136	0.137	0.064
		(0.091, 0.244)	(0.087, 0.240)	(0.094, 0.246)	(0.063, 0.220)		(0.046, 0.226)	(0.046, 0.226)	(0.047, 0.227)	(–0.028, 0.156)
PCG employment (b. employed)										
In education		0.056	0.033	0.029	–0.051		–0.038	–0.051	–0.038	0.008
		(–0.132, 0.243)	(–0.156, 0.222)	(–0.156, 0.214)	(–0.222, 0.119)		(–0.218, 0.142)	(–0.232, 0.129)	(–0.216, 0.141)	(–0.163, 0.179)
Unemployed		–0.054	–0.080	–0.070	–0.096		0.020	0.005	0.004	–0.008
		(–0.174, 0.066)	(–0.202, 0.042)	(–0.191, 0.051)	(–0.226, 0.034)		(–0.124, 0.164)	(–0.140, 0.151)	(–0.144, 0.151)	(–0.148, 0.131)

Table A-2: (Continued)

	Boys					Girls				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 1	Model 2	Model 3	Model 4	Model 5
Home duties/retired/other		0.157	0.141	0.126	0.099		0.103	0.089	0.072	0.095
		(–0.052, 0.366)	(–0.068, 0.351)	(–0.076, 0.328)	(–0.078, 0.277)		(–0.098, 0.304)	(–0.111, 0.290)	(–0.131, 0.274)	(–0.090, 0.279)
Household type (b. Single parent, one or two children)										
Single parent, three or more children		0.124	0.133	0.136	0.160		0.091	0.080	0.075	0.097
		(–0.000, 0.249)	(0.009, 0.258)	(0.013, 0.260)	(0.020, 0.300)		(–0.018, 0.200)	(–0.029, 0.189)	(–0.034, 0.184)	(–0.015, 0.209)
Two parents, one or two children		0.012	0.030	0.054	0.002		–0.045	–0.037	–0.032	0.001
		(–0.080, 0.104)	(–0.062, 0.123)	(–0.038, 0.145)	(–0.094, 0.097)		(–0.140, 0.050)	(–0.132, 0.058)	(–0.127, 0.063)	(–0.094, 0.096)
Two parents, three or more children		0.005	0.026	0.048	0.002		–0.067	–0.059	–0.051	–0.026
		(–0.093, 0.102)	(–0.072, 0.124)	(–0.050, 0.145)	(–0.100, 0.103)		(–0.168, 0.034)	(–0.160, 0.042)	(–0.152, 0.051)	(–0.127, 0.076)
Resilient*Maternal depression (b. Not resilient)										
*Resilient*Maternal depression*					0.018					–0.018
					(–0.037, 0.072)					(–0.071, 0.034)
Between										
Financial strain			0.106	0.066	0.063			0.118	0.075	0.072
			(0.069, 0.143)	(0.028, 0.103)	(0.026, 0.101)			(0.085, 0.151)	(0.041, 0.109)	(0.039, 0.105)
Maternal depression				0.053	0.055				0.063	0.063
				(0.040, 0.067)	(0.042, 0.069)				(0.052, 0.075)	(0.051, 0.074)
Chronic illness		0.439	0.417	0.373	0.367		0.333	0.308	0.257	0.247
		(0.292, 0.586)	(0.271, 0.564)	(0.227, 0.518)	(0.223, 0.510)		(0.185, 0.481)	(0.160, 0.455)	(0.113, 0.402)	(0.104, 0.389)
Learning difficulties		1.263	1.254	1.216	1.208		1.073	1.042	0.991	0.975
		(1.117, 1.410)	(1.109, 1.400)	(1.072, 1.360)	(1.065, 1.350)		(0.922, 1.223)	(0.893, 1.192)	(0.844, 1.137)	(0.830, 1.119)
PCG employment (b. employed)										
In education		0.065	–0.025	–0.072	–0.202		0.226	0.146	0.094	0.125
		(–0.477, 0.608)	(–0.561, 0.511)	(–0.594, 0.450)	(–0.715, 0.311)		(–0.239, 0.691)	(–0.314, 0.607)	(–0.356, 0.544)	(–0.328, 0.578)
Unemployed		0.117	–0.004	–0.010	0.001		0.371	0.226	0.182	0.204
		(–0.211, 0.444)	(–0.332, 0.324)	(–0.338, 0.318)	(–0.323, 0.325)		(0.112, 0.630)	(–0.038, 0.491)	(–0.077, 0.442)	(–0.047, 0.456)
Home duties/retired/other		0.203	0.149	0.086	0.077		0.032	–0.029	–0.084	–0.041
		(–0.165, 0.570)	(–0.214, 0.511)	(–0.261, 0.434)	(–0.228, 0.382)		(–0.211, 0.275)	(–0.265, 0.208)	(–0.315, 0.147)	(–0.278, 0.195)

Table A-2: (Continued)

	Boys					Girls				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 1	Model 2	Model 3	Model 4	Model 5
Household type (b. Single parent, one or two children)										
Single parent, three or more children		–0.027	–0.038	–0.026	–0.003		0.056	0.028	0.031	0.026
		(–0.290, 0.236)	(–0.300, 0.224)	(–0.284, 0.232)	(–0.260, 0.255)		(–0.159, 0.270)	(–0.184, 0.241)	(–0.178, 0.239)	(–0.180, 0.233)
Two parents, one or two children		–0.399	–0.318	–0.265	–0.258		–0.309	–0.222	–0.157	–0.155
		(–0.530, –0.267)	(–0.451, –0.184)	(–0.397, –0.133)	(–0.390, –0.126)		(–0.423, –0.195)	(–0.338, –0.106)	(–0.270, –0.043)	(–0.268, –0.043)
Two parents, three or more children		–0.314	–0.261	–0.187	–0.178		–0.339	–0.279	–0.203	–0.203
		(–0.445, –0.183)	(–0.393, –0.130)	(–0.317, –0.056)	(–0.308, –0.048)		(–0.453, –0.225)	(–0.393, –0.165)	(–0.316, –0.091)	(–0.314, –0.093)
Resilient*Maternal depression (b. Not resilient)										
*Resilient*Maternal depression*					–0.051					–0.044
					(–0.121, 0.018)					(–0.115, 0.027)
Constant	0.307	0.306	–0.017	–0.044	–0.046	0.081	–0.011	–0.369	–0.433	–0.394
	(0.269, 0.345)	(0.131, 0.481)	(–0.227, 0.193)	(–0.251, 0.163)	(–0.252, 0.159)	(0.046, 0.116)	(–0.176, 0.154)	(–0.563, –0.174)	(–0.625, –0.242)	(–0.581, –0.206)
SD(Constant)	0.790 (0.764, 0.816)	0.708 (0.684, 0.733)	0.703 (0.680, 0.728)	0.693 (0.669, 0.717)	0.700 (0.676, 0.723)	0.688 (0.666, 0.712)	0.632 (0.610, 0.654)	0.626 (0.604, 0.648)	0.608 (0.587, 0.630)	0.617 (0.596, 0.638)
SD(Residual)	0.664 (0.652, 0.676)	0.660 (0.649, 0.672)	0.659 (0.648, 0.671)	0.656 (0.644, 0.667)	0.614 (0.601, 0.627)	0.640 (0.628, 0.652)	0.637 (0.626, 0.649)	0.636 (0.625, 0.648)	0.635 (0.623, 0.646)	0.582 (0.569, 0.595)
SD(Maternal depression)					0.096 (0.083, 0.109)					0.101 (0.089, 0.113)
Corr(Maternal depression, constant)					0.004 (–0.091, 0.099)					0.086 (–.003, 0.175)
Observations	8,841	8,841	8,841	8,841	8,841	9,276	9,276	9,276	9,276	9,276
Number of groups	2,947	2,947	2,947	2,947	2,947	3,092	3,092	3,092	3,092	3,092

Note: Data weighted and imputed. 95% confidence intervals in parentheses. REML estimation used.