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Better to Grow Up Poor in a Richer Place? Social Housing, Neighbourhood Comparisons, and English Teenagers' Well-Being

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Abstract

How does being comparatively socio-economically disadvantaged within their neighbourhood affect the lived experiences of young teenagers? We explore this question on a sample of 13 to 15-year-old teenagers living in social housing in England. We explore three major domains of young teenagers' well-being: (a) their sense of generally leading a bad life, (b) conflictual family interactions, and (c) unhappy social interactions with their peers. We find that living in a social housing estate within a less deprived neighbourhood does not negatively affect teenagers' general sense of leading a bad life and does not increase conflictual family interactions. But it does make them *less* likely to report unhappy social interactions with their peers, indicating a positive effect of social mixing at the neighbourhood level.

Keywords Well-being · Life-satisfaction · Young teenagers · Neighbourhood deprivation · Reference group comparison

1 Introduction

The teenage years notoriously bring multiple challenges in how young people perceive themselves, and act, within their local social environment. Personal aspirations, choices and uncertainties must be confronted with external constraints and the social structure that delimit the boundaries within which young people's lives can unfold. Of course, this contextual structure varies significantly by country, region, city, and family traits. It is also

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likely to depend on the social context in which teenagers grow up, interact and regard themselves daily – their local neighbourhood. Social comparison plays a big role in shaping young people’s perceived happiness, life quality, social interactions, and other aspects of their lived experiences (Festinger, 1954; Gerber et al., 2017; Tajfel, 1982).

This article explores the consequences for young teenagers’ lives of social comparisons when growing up relatively poor within more or less deprived neighbourhood. Previous work has investigated whether and to what degree the neighbourhood of residence, and, more specifically, mechanisms of social comparison within the residential area, affect outcomes such as angeriness, frustration, self-esteem and deviant or aggressive behaviour (Johnstone, 1978; Lopez Turley 2002; Bernburg et al., 2009; Nieuwenhuis et al., 2016). Such works have typically focused on a narrower and more limited definition of well-being, overlooking the dimensions of teenage social interactions with family and peers, which are nonetheless deemed to be critical determinants of youth wellbeing (Goswami, 2011). Hence, we contribute to the literature by analysing three major domains of altogether 13 subdimensions of well-being in English teenagers’ lives: (a) their self-reported sense of generally leading a bad life, (b) conflictual family relations (c) unhappy social interactions with peers.

We use data from the UK Longitudinal Household Study and focus on a sample of English youth aged 13 to 15 between 2010 and 2019, all of whom have been living in the same social housing estate for at least five years. We select youth living in social housing for two reasons. First, social housing residents in England can be assumed to be more materially deprived than the population average, representing a fitting sample to test the role of social comparison within neighbourhoods characterised by different socio-economic environments (Levy, 2022; Manley, 2021). Second, as we explain in greater detail in Online Appendix A1, in England social housing is still partially assigned through quasi-exogenous procedures which limit applicants’ freedom to choose the neighbourhood they live in. This reduces potential problems of self-selection.

The article is organized as follows. We first discuss the current debate and conflicting hypotheses about the role of social comparison at the neighbourhood level on youth’s lives. The following two sections present data and methodology. We then discuss descriptive statistics and our empirical findings. The last section concludes.

2 Previous Findings and Conflicting Hypotheses

Sociologists, social geographers, and developmental psychologists have widely discussed how neighbourhoods – as local ecologies – provide economic, cultural, and social resources that impact residents’ lives (Jencks & Mayer, 1990; Levy, 2022; Sampson, 2012; Sampson et al., 2002; Urban et al., 2009; Van Ham et al., 2014; Wilson, 1987). Jencks and Mayer (1990) presented a taxonomy of theoretical models to identify the different pathways of neighbourhood effects in a youth socialisation framework. They distinguished collective socialisation, institutional, competition, epidemic models, and reference group. This article homes in particular on the latter type of models.

In this work we consider indeed a specific group of individuals, that is adolescents residing in social housing and embedded in neighbourhoods characterised by different levels of deprivation. Focusing on this group is theoretically relevant from a reference group perspective, and such approach has indeed been previously leveraged (Crawford, 2008). Reference group theory (Merton, 1968) relies upon the idea that people relate and compare

themselves to referent groups, of which they are or would like to be members. Social housing residents are quite a homogeneous group, typically more materially deprived than home owners or private renters. In the English context in particular, residing in social housing is associated with lower income, social exclusion and high stigmatisation (Hastings, 2004). Following previous work (Johnstone, 1978), we thus assume here that standard of living of peers and other members of the local community represent an important frame of reference for youth, for which the lower the deprivation within their neighbourhood, the greater the feeling of inferiority social housing adolescents, which are proportionally economically more deprived than their neighbourhood peers, may develop.

As the comparer (social housing adolescent) is, or perceives herself to be, inferior to the reference group in terms of perceived resources or opportunities, we posit here that such the comparison may have either 'negative' or 'positive' effects.

In the former case, scholars have often interpreted these with the help of relative deprivation theory (Davis, 1959; Runciman, 1966; Crosnoe, 2009). This stresses how people tend to naturally make upward rather than downward social comparisons, which results in negative psychological health and well-being (e.g., Merton, 1968; Runciman, 1966; Wilkinson and Pickett, 2006). Research has highlighted that when individuals believe that their referenced peers are more prosperous than they are, this can trigger feelings of injustice, frustration (Testa and Major, 1990), unfairness (Pettigrew, 2016) and a sense of exclusion or segregation (Bourdieu, 1984). Weinger (1998) stresses that children categorize their peers as affluent when they observe them living in larger houses, driving more expensive cars, or enjoying lengthy vacations, using these cues to assess others and themselves (Shutts et al., 2016). Being unable to imitate the lifestyle of such higher income peers can thus result in negative feelings connected to one-self such as low self-esteem, lack of sense of control, envy and shame (Galster, 2011; McCulloch, 2001; Oberwittler, 2007). Relative deprivation can also trigger important behavioural responses. From this point of view, most of the work has identified a positive association between experienced relative deprivation and adolescent deviant, aggressive and problematic behaviour (Odgers et al., 2015). For example, Stiles et al. (2000) focus on a sample of students in the US and find that perceived economic deprivation relative to friends, neighbours, and the nation induces negative self-feelings, which, in turn, motivate adoption of deviant patterns that variously take the form of property crimes, violence, and drug use. Similarly, adolescents with lower social status, residing in affluent communities, exhibit a higher likelihood of engaging in criminal activities compared to their counterparts with low social status living in less affluent areas (Johnstone, 1978; Jarjoura and Tripplett, 1997). Along these lines Bernburg et al. (2009), in the context of Iceland, show that the effects of economic deprivation on adolescent anger, normlessness, delinquency and violence are weak in school-communities where economic deprivation is common, while the effects are significantly stronger in school-communities where economic deprivation is rare. Fewer works have focused on the realm of social interactions with family and peers which, as previously mentioned, are however a critical dimension of youth wellbeing. Goswami (2011) analyses in details how different realms of English secondary students' relationships affect their well-being. A positive relationship with family members and with friends and the negative experience of being bullied by peers have respectively the first, second, and third highest effect on youth subjective well-being (Goswami, 2011). Feelings of relative deprivation might negatively affect social interactions, with both families and peers. On the one hand, youth might implicitly blame on their parents and families for their disadvantaged position, which might increase tensions in the household. Accordingly, Nieuwenhuis et al. (2016) shows indeed that, for Dutch adolescents, moving to a more affluent neighbourhood is associated to increased

levels of conflict with fathers and mothers. On the other hand, experiencing relative deprivation make youth more likely, oftentimes because of lower self-esteem and self-confidence, to be socially withdrawn and excluded by peers, increasing their vulnerability to bullying and thus negatively influencing the overall interactions with peers (McLeod & Kessler, 1990; Chen et al., 2021).

In sum, the existing literature seems to suggest that the influence of economic deprivation on adolescent outcomes might be less pronounced in neighbourhoods where economic deprivation is common compared to those where it is rare. This weakening effect might stem from more favourable comparisons with peers, as well as from a more favourable comparisons with what is perceived as an average standard of living (Schor, 1999). We thus align with previous theory to hypothesise that.

H1a Adolescents living social housing in less deprived neighbourhoods should be more likely to exhibit negative well-being outcomes than adolescents living in social housing in deprived areas.

Others scholars have instead outlined that upward social comparison can also lead youth to experience ‘positive effects’. Disadvantaged youth living among better-off peers may indeed benefit from a larger set of resources and opportunities or the positive and/or prosocial role models for imitation and/or emulation (Chetty et al., 2016; De Vuijst & van Ham, 2019; Hurd et al., 2011; Nieuwenhuis & Hooimeijer, 2016; Raabe & Wölfer, 2019; Sampson, 2012; Simoni, 2021). For example, Lopez Turley (2002) assesses the effects of relative deprivation using a national sample of children under 13 years of age, finding that relative disadvantage (defined as the income gap between children and their higher-income neighbors) has a positive and significant effect on test scores, self-esteem, as well as behaviour. According to Jencks and Meyer (1990), some disadvantaged individuals might indeed react to the adverse psychological impacts of relative deprivation by increasing their efforts and thus achieving more positive outcomes. Hence, they could exhibit more positive feelings such as pride, higher self-esteem, and sentiment of belonging (Lareau, 2011; Simoni, 2021), aimed at compensating for the resources the comparer would otherwise be lacking (Bernardi & Boado, 2014). In addition to that, experimental research from the US also highlights that, for low income adolescents, moving to higher income areas can have positive effect in terms of lower anxiety and depression (Leventhal and Brooks-Gunn, 2003) and, especially for girls, lower levels of behavioural problems (Osypuk et al. 2012). Improved psychological wellbeing might result in less conflictual and more positive interactions with both family and peers. For example, in the context of the Netherlands, for a child belonging to a poorer household becoming part of a social network with children from more affluent households can result in relevant peer effects which somehow allow them to re-assess their families’ own raising environment (Troost et al., 2023) potentially leading to more positive interactions. Research shows indeed that adolescents’ feelings of happiness, self-regulation, effort, and confidence are indeed associated with lower levels of family conflict (Barber, 1994). Concerning peer socialization mechanisms, previous studies also outline that, after moving to more affluent areas, disadvantaged female adolescents (although not male) choose to retract from delinquent peers and to forge new and positive friendships at school or at work (Clampet-Lundquist et al., 2011).

Overall, this literature suggests an alternative hypothesis to H1a, that is that relative deprivation may be beneficial because of the advantages of living near affluent neighbours. Hence, based our contrary expectation is that:

H1b Adolescents living social housing in less deprived neighbourhoods should be less likely to exhibit negative well-being outcomes than adolescents living in social housing in deprived areas.

In sum, in the following we aim to test these conflicting hypothesis and investigate the effect – whether positive or negative – of the local neighbourhood characteristics on a wide array of dimensions that constitute the lived experiences of a sociologically distinct category highly relevant for social and youth policy in England: young teenagers living in social housing estates.

3 Data

We use data from Understanding Society (UKHLS), the largest household panel survey of around 40,000 households in the UK. The empirical analysis exploits the UKHLS youth (10–15-year-olds) samples from wave 1 to 9, spanning the years between 2009 and 2019.

In line with recent work (Mijs & Nieuwenhuis, 2022), we use a fine-grained geographical level at which the neighbourhood is measured. Data availability is generally more refined and extensive in the US than in Europe, allowing US neighbourhood effect studies, for instance, to combine census tract-level (1000 to 8000 individuals) indicators with big panel datasets to look at neighbourhood effects. Especially in the tradition of social geography, the neighbourhood has been defined at different scales depending on the outcome of interest (Van Ham et al., 2012). For example, when focusing on employment outcomes, a larger neighbourhood may be more fitting as the relevant social context for measuring effects on individuals' labour market opportunities (Hedberg & Tammaru, 2013). For our purposes, a definition of the neighbourhood at a lower level seems to be more adequate, given that the sample is composed of rather young teenagers, who are constrained in moving around independently and are likely to spend most of their everyday lives in the immediate proximity of where they live (Mijs & Nieuwenhuis, 2022). Therefore, we define the neighbourhood at the level the of Lower Layer Super Output Area (LSOA). LSOAs are areas consistent in size whose boundaries would not change (unlike electoral wards)¹ and which are therefore well suited for measuring neighbourhood deprivation with high frequency and analysing how it changes over time. LSOAs are very granular since each of them contains between 1000 and 3000 people with an average population of 1400 people (Manley, 2021).

The literature tends to measure neighbourhood affluence either through housing prices (Nieuwenhuis et al., 2016), average income (Knies et al., 2008) or earnings (Luttmer, 2004). Flouri et al. (2015) used the proportion of people living in social housing as a measure of neighbourhood wealth. Other US studies employed composite indicators of neighbourhood deprivation (Wodtke et al., 2011). Instead, like Mijs and Nieuwenhuis (2022), here we use the 2015 and 2019 English Index of Multiple Deprivation (IMD). Compared to other sources of deprivation, the IMD takes into consideration more, and more varied, domains of the neighbourhood, such as income deprivation, employment structure, criminality, quality of the housing stock and public services, which capture different aspects

¹ <https://www.ons.gov.uk/methodology/geography/ukgeographies/censusgeography>

potentially affecting young people's lives.² Since our outcomes span from 2010 to 2019, we associate the 2015 IMD with outcomes observed until 2015 and the 2019 IMD from 2016 onwards. The high temporal frequency of the IMD allows us to grasp the evolution of neighbourhood deprivation over time. We use the reversed IMD score to ease the interpretation of the way we answer our question of main theoretical interest (the direct effects of living in social housing within *less* deprived, neighbourhoods on teenagers' lives). In other words, a negative value of the coefficient for the reversed IMD variable in our analysis suggests that living in a less deprived neighbourhood is associated with fewer problems in the lives of this sample of teenagers who live in social housing in England.

We restrict our sample to English teenagers aged 13 to 15, living in social housing (defined as houses rented from Local Authorities or Housing Associations) and having lived in the same place for at least 5 years. Exposure time is indeed a key variable in neighbourhood effects research (Chetty & Hendren, 2018; Chetty et al., 2016). We require subjects in our sample to have lived in the same place for at least five years, as we deem it important to consider exposure to the same neighbourhood for a period long enough to impact social interactions. This allows us to focus on teenagers who have been exposed to their local neighbourhood for a period long enough to influence our outcomes of interest. Research on adult outcomes in some cases exploits the panel dimension of the dataset (Knies et al., 2008) while others have used retrospective information available in the questionnaires (Kessler et al., 2014). Conversely, research on children or adolescent outcomes tends to assume children have always lived in the same place (but see Osypuk et al., 2012).

The entire UKHLS youth sample (aged 10–15) from wave 1 to 9 has 35,022 observations. When we first reduce to the English teenagers aged 13–15 we have a sample consisting of 17,911 observations. After retaining only teenagers living in social housing our sample reduces to 3906 observations. When keeping only those having lived in the same place for at least five years, the sample reduces to 3464 observations. We end up with 2805 observations with a positive non-missing longitudinal weight, a sample size similar to that of other work investigating neighbourhood effects on child happiness and social interactions (Nieuwenhuis et al., 2016; Odgers et al., 2015). Each outcome finally has different response patterns.

3.1 Methodology and Empirical Strategy

We consider altogether 13 multiple dimensions of young people's lives which cover teenagers' self-evaluation of their lives and their relationships with both family and peers. Exploring the correlation of these dimensions (Table A1 of the Supplementary material) shows that, for the most part, although with some notable exceptions, these dimensions are only weakly intercorrelated.³ The relatively weak correlations reported by many of the items strengthen our belief that studying these multiple dimensions can more comprehensively capture distinct aspects of teenagers' lives. Nonetheless, we perform an exploratory factor analysis (Online Appendix A2, Table A2) with the objective of better identifying the relationships and connectedness among these different aspects of teenage life and whether

² The 9 IMD domains are: Income (.225), Employment (.225), Education Skills and Training (.135), Health and Disability (.135), Crime (.093), Barriers to Housing and Services (.093), Living Environment (.093).

³ The bivariate correlations in Appendix A2, Table A1 indicate values below ± 0.5 for only about four of the pairwise correlations among our variables; whereas many of the items exhibit correlations above ± 0.3 .

Table 1 Equivalized household income by housing tenure, youth 10–15, waves 1 to 9

Housing tenure	Equivalized household income (£)	SD	N
Owned outright	1400	3765	3895
Owned with mortgage	1653	1174	19,258
Rented from local authority	979	365	4505
Rented from housing association	1046	385	3184
Rented from employer	1249	593	324
Privately rented unfurnished	1216	723	2900
Privately rented furnished	1143	629	729
Other	988	753	227
Total	1448	838	35,022

Authors' calculation on the UKHLS Youth Sample. Weighted

they could be considered as pertaining to a common domain. The analysis uncovers three specific domains, respectively general sense of leading a bad life, conflictual interactions with family and unhappy interactions with peers. Each of them is explained more in detail below.

The first domain covers the general sense of leading a bad life. It consists of five dummy variables. The first, 'Bad life,' and the fourth, 'Bad appearance,' come from the questions "How do you feel about your life as a whole?" and "How do you feel about your appearance." Possible answers range from 1 to 7, with 4 being neutral. We coded as bad life and bad appearance all answers from 4 to 7. The other variables, 'Unhappy', 'Often sick' and 'Lose temper' derive from "Are you often unhappy, downhearted or tearful?" and "Gets headaches, stomach-aches or sickness" and "I Get very angry and often lose my temper". Respondents can reply "not true" "somewhat true" "certainly true." We coded the variables as 0 if the answer is "not true", and 1 otherwise. The questions on satisfaction about life and appearance were asked in each wave, those about happiness, feeling sick and losing temper in wave 1, 3, 5, 7 and 9.

The second domain, conflictual interactions within the family, consists of five dummies, 'Quarreling (mom)', 'Kicking (siblings)', 'Being kicked (by siblings)', 'Stealing (siblings)', and 'Being stolen (by siblings)'. The first variable derives from the questions "How often do you quarrel with your mother?". Answers ranged from 1 (most days), 2 (quite frequently), 3 (rarely) to 4 (hardly ever). We coded as 1 if answer equal 1 or 2 and 0 otherwise. The remaining four variables come from the questions: "Do you hit, kick or push brothers or sisters?", "Do brothers or sisters hit kick or push you?", "Do you take belongings from brothers or sisters?", "Do brothers or sisters take belongings from you?" Answers could be "never", "not much", "quite a lot", or "a lot." We coded the variables to 1 if participants answer the last two options, and 0 otherwise. All the questions were asked in waves 1,3,5,7 and 9.

The third domain, unhappy social interactions with peers, consists of three dummy variables: 'Bullied,' 'Not liked', 'Isolated'. These variables come from the questions: "Other children or young people pick on or bully", "Generally liked by others of own age",⁴

⁴ We reverse this variable to make it coherent with the other three.

“Usually on own, generally plays alone or keeps to themselves”. Respondents were asked to grade these statements as not “not true”, “somewhat true” and “certainly true”. We coded the variables as 0 if the answer is “not true”, and 1 otherwise. All questions were asked in waved 1,3,5,7 and 9.

We employ dummies from the original categorical variables, since, apart from ‘Bad life’ and ‘Bad appearance’ where respondents were presented with a neutral alternative, they normally reflect either a positive or negative outcome. We are convinced that understanding of the results is easier if all outcomes can be interpreted in the same way removing the different response scales.⁵ Table A3 in the Supplementary Material provides descriptive statistics for all dependent variables as well as summarises their coding strategy.

At the household level, we control for the equalized household monthly real income, a dummy for whether children live in a one-parent household or not and a continuous variable for household size. At the parental level we control for maternal ethnicity (being 1 if white and 0 if non-white), parental education with six dummies from the original UKHLS variable (Tertiary, non-vocational; Tertiary, vocational; Secondary, non-vocational; Secondary, vocational; Other; No Qualification) and parental employment (1 employed, 0 otherwise).⁶ Moreover, we control for whether teenagers live in an urban context or not, as this plays a role in teenagers’ growth, shaping the level and intensity of the interactions they can have and thus can confound the neighbourhood results. At the individual level, we control for age (with three dummies which allows us to provide an age profile) and gender (with females coded as 1). All our covariates are measured at each wave and are allowed to change within individuals.

It should be noted that instead of clustering at the individual level (to consider solely within-individual correlation) we cluster at the LSOA level, given our restriction that the teenagers should have lived in the same place at least in the last five years. Since we identify the neighbourhood at the LSOA level, we want to avoid within-cluster correlation biases at the treatment level (Cameron & Miller, 2014).

We operate a logistic model that uses as dependent variables, separately, the 15 outcomes previously described and controls for individual, parental and household characteristics for interpreting the results, with less deprived neighbourhood (i.e. the reverse IMD neighbourhood deprivation value) as the main variable of interest. Our base model is the following logit:

$$\log \text{it}[Y(i, f, n, t)] = \beta(0) + \beta(1)[X, f, t] + \beta(2)[X, it, t] + \beta(3)[N] + e;$$

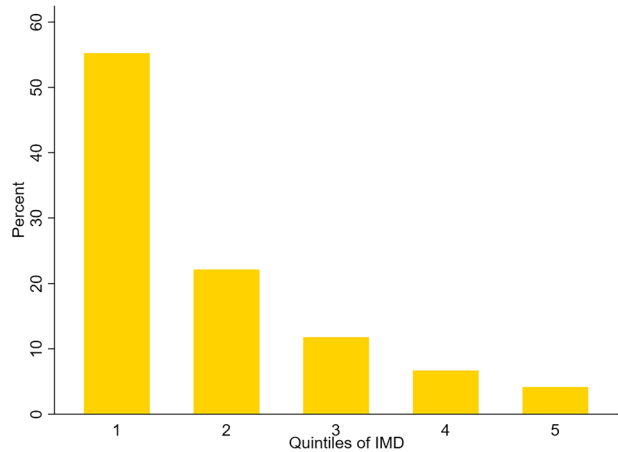
where Y are the different outcomes we investigate for the individual I, living in family f, neighbourhood n, at time t. We have a standard constant effect $\beta(0)$, some controls at the family level, X (f), and individual level, X (i), while our main parameter of interest is $\beta(3)$ which is the direct effect of living in a less deprived neighbourhood on the dependent variable.

Once controlled for individual and household characteristics, we measure the relevance of relative comparison at the neighbourhood level using the IMD. Indeed, we think that,

⁵ We have also run Multinomial logistic regressions on the original categorical variables and the results do not change. We have also tested with Poisson regressions keeping as categorical ‘Bad life’ and ‘Bad appearance’. Results do not change when we use this alternative modelling strategy.

⁶ For all these variables we use maternal information, replacing, when missing, with fathers’ information. We acknowledge that fathers can have a different impact on the children, but unfortunately we cannot control, for example, for paternal unemployment.

Fig. 1 Sample distribution by neighbourhood deprivation quintiles, youth 13–15, waves 1 to 9. *Note:* Author's Computation on the UKHLS Youth Sample and 2019, IMD



in this way, we are comparing children with similar characteristics who live in differently deprived neighbourhoods. If, otherwise, similar children, are negatively (positively) affected in their outcomes when living in less (more) deprived neighbourhoods, this could suggest that living in a less deprived place and, thus, comparing with a less deprived environment, have a negative direct effect on children happiness and social interactions.

3.2 Descriptive Statistics

Table 1 reports the distribution of the equivalized household income of the entire youth sample, aged 10–15, across the nine waves, by housing tenure. The table shows that the income of families living in social housing (i.e. either those in Local Authority houses or those in Housing Associations houses) is (i) markedly lower than the average and of each of the other tenure categories and (ii) characterized by a lower variability. It means that, as noted above, people living in social housing seem to be a well-identifiable group, at least on an income base.

Overall, Table 1 suggests that people living in social housing, being on average poorer and living in more deprived neighbourhoods, can be considered as a separate group. After selecting only teenagers aged 13–15 who live in social housing, Fig. 1 shows the dispersion of our empirical sample distribution by neighbourhood deprivation quintiles. While most social housing teenagers in our sample live in the most deprived quintiles, social housing in England still guarantees significant dispersion wide across neighbourhoods. Around 22% of our sample live in the three least deprived quintiles.

In Table 2, we show the mean and standard deviation of our control variables for the whole empirical sample and for the most and least deprived neighbourhoods. The sample is balanced by gender and age groups. Most teenagers in our sample have a white mother and live in an urban context. The educational level of mothers is quite mixed, and around 18% of the mothers in our sample do not have any formal education. Around 43% of subjects have an employed mother. The average equivalized household income is around 1000£ per month, and the household size is between 4 and 5 people.

In the last two columns, we show the mean and standard errors of our control variables in the most and least deprived quintiles to see how families living in the two extreme quintiles are similar and, thus, how good the quasi-randomization induced by social housing

Table 2 Control variables, youth 13–15, empirical sample, waves 1 to 9, average and difference between living in the most and least deprived quintiles, at first observation mean(sd)

	All	Most deprived quintile	Least deprived quintile
<i>Sex</i>			
Female	0.502 (0.500)	0.464 (0.500)	0.484 (0.501)
Age			
Thirteen	0.698 (0.459)	0.690 (0.464)	0.726 (0.447)
Fourteen	0.217 (0.413)	0.205 (0.405)	0.192 (0.394)
Fifteen	0.085 (0.279)	0.105 (0.307)	0.082 (0.275)
<i>Maternal characteristics</i>			
White mother	0.779 (0.415)	0.828 (0.378)	0.857 (0.351)
Tertiary, non-vocational	0.081 (0.272)	0.069 (0.254)	0.080 (0.272)
Tertiary, vocational	0.119 (0.324)	0.075 (0.264)	0.142 (0.350)
Secondary, non-vocational	0.155 (0.362)	0.185 (0.389)	0.172 (0.378)
Secondary, vocational	0.339 (0.474)	0.277 (0.449)	0.410 (0.493)
Other	0.124 (0.330)	0.150 (0.358)	0.097 (0.297)
No qualification	0.182 (0.386)	0.245 (0.431)	0.100 (0.301)
Employed	0.431 (0.495)	0.405 (0.492)	0.521 (0.501)
<i>Equivalised monthly household income</i>			
British Pound	1009 (361.06)	938 (330.94)	1065 (354.45)
<i>Household composition</i>			
Size	4.492 (1.564)	4.438 (1.547)	4.435 (1.455)
One-parent household	0.330 (0.470)	0.345 (0.477)	0.336 (0.474)
<i>Location</i>			
Urban	0.855 (0.352)	1.000 (0.000)	0.663 (0.474)
<i>Neighbourhood</i>			
Less deprived neighbourhood	0.000 (1.000)	- 1.392 (0.533)	1.356 (0.290)
Unique observations	2021	206	215

Mean coefficients; sd in parentheses. Weighted

allocation procedures is. Indeed, the proportion of white mothers, the household size and the number of children living in one-parent households are similar. In the richest quintile, there are more high-educated and employed mothers and the average income is higher. The biggest difference is about the proportion of teenagers living in an urban context, which passes from 100% in the poorest quintile to only 67% in the richest one. Altogether Table 2 confirms what we have expected: the residential quasi-randomization of social housing is satisfactory, although only partial since there seems to be a choice-driven component.

4 Findings

In this section we report findings regarding neighbourhood effects on three major domains of ‘problems’ or ‘low quality’ in social housing teenagers’ lives: their self-perception of generally leading a bad life (Table 3), conflictual family interactions with their mother and siblings (Table 4), and their unhappy social interactions with peers (Table 5). Deprivation scores are always reversed and standardized (mean 0, standard deviation 1), such that

Table 3 Self-reported sense of leading a bad life, marginal effects, logit, youth 13–15, waves 1 to 9

Variables	Bad life	Unhappy	Often sick	Bad appearance	Often Loses temper
Sex					
Female	0.079*** (0.024)	0.197*** (0.038)	0.171*** (0.041)	0.151*** (0.021)	-0.010 (0.036)
Age					
Fourteen	0.016 (0.024)	0.072* (0.044)	-0.006 (0.045)	0.045** (0.019)	-0.027 (0.040)
Fifteen	0.057** (0.026)	0.034 (0.046)	0.024 (0.050)	0.065*** (0.022)	-0.049 (0.045)
Maternal characteristics					
White British	0.040 (0.029)	0.052 (0.047)	0.062 (0.046)	0.092*** (0.030)	0.129*** (0.038)
Tertiary, non-vocational	0.035 (0.048)	0.040 (0.077)	-0.113 (0.087)	0.053 (0.050)	-0.052 (0.077)
Tertiary, vocational	-0.025 (0.042)	-0.007 (0.069)	-0.007 (0.082)	0.007 (0.039)	-0.069 (0.061)
Secondary, non-vocational	0.081* (0.044)	0.065 (0.073)	-0.027 (0.072)	0.049 (0.040)	-0.056 (0.059)
Secondary, vocational	0.028 (0.034)	0.011 (0.058)	0.017 (0.070)	0.049 (0.033)	-0.114** (0.054)
Other education	-0.028 (0.039)	-0.022 (0.066)	-0.044 (0.081)	-0.058* (0.030)	-0.091 (0.062)
Employed	-0.042* (0.025)	-0.022 (0.040)	-0.004 (0.045)	-0.001 (0.022)	-0.056 (0.038)
Equivalentised monthly household income					
GBP, medium tercile	0.041 (0.027)	-0.042 (0.045)	0.020 (0.049)	0.036 (0.022)	-0.045 (0.045)
GBP, highest tercile	0.041 (0.029)	0.050 (0.048)	0.053 (0.050)	0.057** (0.028)	-0.024 (0.046)
Household composition					
Size	0.002 (0.010)	0.005 (0.014)	0.003 (0.015)	-0.009 (0.009)	0.006 (0.013)
One-parent household	0.032 (0.032)	0.012 (0.047)	-0.007 (0.049)	-0.022 (0.027)	0.048 (0.046)
Location					
Urban	-0.010 (0.037)	-0.069 (0.052)	-0.038 (0.061)	-0.020 (0.031)	-0.052 (0.050)
Neighbourhood					
Less deprived neighbourhood	0.007 (0.013)	-0.005 (0.021)	-0.012 (0.023)	-0.008 (0.011)	-0.042** (0.019)
N	2017	994	995	2021	994

Standard errors in parentheses clustered at LSOA level; **** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ (two-tailed t-tests). Wave fixed effects included. Reference categories: mother education = no education; income = lowest tercile; age = thirteen. Weighted results

Table 4 Conflictual interactions within the family, marginal effects, logit, youth 13–15, waves 1 to 9

Variables	Quarreling	Kicking	Stealing	Kicked	Stolen
<i>Sex</i>					
Female	0.025 (0.043)	-0.025 (0.031)	-0.012 (0.027)	0.008 (0.034)	0.101*** (0.036)
<i>Age</i>					
Fourteen	0.065 (0.048)	-0.031 (0.035)	-0.005 (0.031)	-0.042 (0.041)	0.055 (0.042)
Fifteen	0.054 (0.044)	-0.015 (0.036)	-0.025 (0.033)	-0.122*** (0.037)	-0.045 (0.034)
<i>Maternal characteristics</i>					
White british	0.113** (0.049)	-0.000 (0.041)	-0.002 (0.032)	0.045 (0.042)	0.007 (0.038)
Tertiary, non-vocational	-0.096 (0.098)	0.107 (0.074)	-0.022 (0.041)	0.028 (0.080)	-0.090 (0.068)
Tertiary, vocational	-0.016 (0.073)	0.096* (0.052)	0.014 (0.038)	0.031 (0.065)	0.072 (0.070)
Secondary, non-vocational	0.045 (0.072)	0.054 (0.053)	0.011 (0.047)	0.033 (0.064)	-0.019 (0.067)
Secondary, vocational	0.006 (0.060)	0.088* (0.046)	0.040 (0.042)	0.036 (0.057)	-0.065 (0.058)
Other	0.048 (0.069)	0.029 (0.044)	0.014 (0.043)	-0.048 (0.058)	-0.030 (0.070)
Employed	0.017 (0.046)	-0.129*** (0.034)	-0.008 (0.032)	-0.117*** (0.041)	-0.016 (0.039)
<i>Equivalised monthly household income</i>					
GBP, medium tercile	-0.004 (0.048)	0.000 (0.034)	0.012 (0.029)	0.059 (0.040)	0.011 (0.039)
GBP, highest tercile	0.015 (0.056)	0.062 (0.043)	0.026 (0.038)	0.084* (0.048)	0.068 (0.050)
<i>Household composition</i>					
Size	-0.018 (0.016)	-0.002 (0.012)	-0.001 (0.010)	-0.000 (0.014)	0.014 (0.012)
One-parent Household	0.154*** (0.050)	0.112*** (0.039)	0.048 (0.030)	0.089** (0.043)	0.077* (0.040)
<i>Location</i>					
Urban	-0.018 (0.064)	0.075 (0.049)	-0.007 (0.037)	0.059 (0.058)	0.110* (0.060)
<i>Neighbourhood</i>					
Less deprived neighbourhood	-0.018 (0.024)	-0.002 (0.020)	-0.014 (0.015)	-0.013 (0.023)	-0.027 (0.019)
N	970	883	879	893	887

Standard errors in parentheses clustered at LSOA level; **** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ (two-tailed t-tests). Wave fixed effects included. Reference categories: mother education = no education; income = lowest tercile; age = thirteen. Weighted results

Table 5 Unhappy social interactions with peers, Marginal Effects, Logit, youth 13–15, waves 1 to 9

Variables	Bullied	Not liked	Isolated
<i>Sex</i>			
Female	−0.043 (0.032)	0.008 (0.018)	−0.003 (0.041)
<i>Age</i>			
Fourteen	−0.083** (0.036)	0.026 (0.021)	0.018 (0.045)
Fifteen	−0.107*** (0.033)	−0.014 (0.017)	0.074 (0.046)
<i>Maternal characteristics</i>			
White British	0.119** (0.051)	0.047* (0.025)	0.034 (0.045)
Tertiary, non-vocational	0.107 (0.078)	0.002 (0.048)	0.114 (0.073)
Tertiary, vocational	0.074 (0.058)	−0.019 (0.037)	0.082 (0.075)
Secondary, non-vocational	0.074 (0.058)	−0.010 (0.037)	0.051 (0.067)
Secondary, vocational	0.131** (0.052)	−0.021 (0.031)	0.113* (0.061)
Other	0.033 (0.054)	0.001 (0.042)	0.057 (0.068)
Employed	−0.025 (0.036)	0.002 (0.019)	0.021 (0.043)
<i>Equivalised monthly household income</i>			
GBP, medium tercile	0.017 (0.041)	−0.028 (0.024)	0.022 (0.045)
GBP, highest tercile	0.043 (0.040)	−0.029 (0.025)	0.073 (0.050)
<i>Household composition</i>			
Size	0.004 (0.015)	0.001 (0.008)	0.016 (0.014)
One-parent household	−0.028 (0.043)	−0.012 (0.025)	0.004 (0.048)
<i>Location</i>			
Urban	−0.052 (0.055)	−0.026 (0.027)	−0.054 (0.054)
<i>Neighbourhood</i>			
Less deprived neighbourhood	−0.034* (0.018)	−0.017* (0.010)	−0.036* (0.022)
N	998	974	996

Standard errors in parentheses clustered at LSOA level; **** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ (two-tailed t-tests). Wave fixed effects included. Reference categories: mother education = no education; income = lowest tercile; age = thirteen. Weighted results

the coefficients should be interpreted in terms of one standard deviation difference. For instance, a coefficient of 0.05 means that living in one standard deviation less deprived neighbourhood increases a given outcome by 5 percentage points.

Table 3 reports the marginal effects on altogether five subdimensions of the first domain of problems in social housing teenagers' lives: their self-perception of generally leading a bad life, in the sense of feeling they have a bad life, feeling unhappy, reporting to often be sick, feeling to have a bad appearance, and getting angry and losing temper. Across all subdimensions except losing temper, females are more likely to report feeling they generally lead a bad life. This is consistent with other research showing adolescent girls to report generally lower levels than adolescent boys of self-esteem and related symptoms of psychological stress and illbeing (Birndorf et al., 2005; Bolognini et al., 1996; Schönert-Reichl et al., 1992), possibly because they are more negatively affected by the physical changes that accompany puberty (Schönert-Reichl et al., 1992). While the effects are not always statistically significant, being a slightly older teenager (aged 14 or 15 rather than 13) appears to worsen some of these outcomes, whereas having an employed mother seems to have a tempering effect. Living in a richer household is positively correlated with feelings of having a bad appearance. None of the variables measuring the household composition and urban location influences any of the five subdimensions of generally leading a bad life. Concerning our main variable of interest, neighbourhood affluence, we observe that growing up in a social housing estate embedded within less deprived residential area has no significant effect on the outcomes except for angriness, as expressed by the "lose temper" dimension. Social housing residents living in less deprived neighbourhoods are overall significantly less likely to often lose their temper (4.2 points). This finding appears to refute the H1a (relative deprivation) and rather, to lend support H1b ('positive effects' hypothesis of upward social comparison).

Table 4 reports findings on social housing teenagers' conflictual family interactions over altogether five subdimensions: quarrelling with their mother, kicking and stealing things from their brothers and sisters, and being kicked and being stolen from by their brothers and sisters. Girls more often tend to report being stolen from by their siblings. Being a somewhat older teenager (15-year-olds) decreases the likelihood of being kicked by one's siblings. Children of white mothers are more likely to quarrel with their mothers. Household affluence and size do not have a significant effect. But living in a one-parent household does lead these teenagers to have more conflictual family interactions in all but one of these five subdimensions. Interestingly, living in a less deprived neighbourhood has no statistically significant direct effect either way on any of the subdimensions of conflict in family life. This second set of findings, again, does not suggest any negative or positive effects on the family lives of teenagers from disadvantaged backgrounds who grow up in less deprived neighbourhoods and we therefore do not find any support for H1a nor H1b.

Table 5, lastly, reports findings on unhappy social interactions with their peers across three subdimensions: being bullied by their peers, not being liked by their peers, feeling socially isolated. Living in a richer, larger, or one-parent household does not significantly correlate with any of these three outcomes. Remarkably given prior findings (De Looze et al., 2019; Schönert-Reichl et al., 1992), neither does being a girl. Being a somewhat older teenager (aged 14 or 15, rather than 13) is associated with being bullied less. Children of white mothers are more likely to have unhappy peer interactions across all but one of these subdimensions. Living in a less deprived neighbourhood has a significant direct effect on all three subdimensions of unhappy peer interactions – but in the sense of reducing the likelihood of unhappy interactions. Social housing adolescents living in less deprived neighbourhoods are significantly less likely to be bullied by their

peers (3.4 percentage points), to feel less often not liked (1.7 points) or to be isolated (3.6 points). This third set of findings appears again to refute the H1a (relative deprivation) and to lend support to H1b ('positive effects' hypothesis).

A reasonable concern is whether other covariates may mediate the effect of the neighbourhood measure on our outcomes of interest. If so, this might result in a much larger total neighbourhood effect, compared to the direct effect we estimate here. Two likely candidate variables for such a mediation role are household income and maternal employment characteristics. We test this hypothesis in two different ways, a stepwise approach, and Structural Equation Modelling. First, we run four different models adding different covariates at each stage, starting with just the neighbourhood variables and no covariates in the first model, adding then wave and individual covariates, then household ones and finally whether the individual lives in an urban or rural context (Online Appendix A2 tables A4 to A6). While adding covariates, not surprisingly, increases the precision of our models (greater Pseudo R²), none of the covariates seems to interfere with the effect of the neighbourhood variable on young teenagers' outcomes. The only exception is, "stolen from my siblings" (Online Appendix A2, table A5), where we observe some sources of mediation. As soon as contextual characteristics are considered the direct effect of residing in a less deprived neighbourhood becomes not significant, possibly suggesting that, concerning this particular outcome, urbanity captures the greatest part of it.

Given its relevance in the theory (see, for example, Clampet-Lundquist et al., 2011) and the strong and systematic effects of gender on all outcomes we further checked whether growing up in a less deprived neighbourhood had different effects for males and females social housing residents. We tested this by interacting gender with the neighbourhood measure and we did not find any significant result on any of the three dominions of teenagers' lives.

To further investigate possible mediation patterns, we perform Structural Equation Modelling (Online Appendix A2, table A7) to analyse the direct, indirect, and total effect of the neighbourhood environment on one outcome per domain: "unhappy", "stolen by siblings" and "bullied by peers". While the indirect effect is, at best, very marginally statistically significant in the first two domains, the direct effect is strongly significant in the peer relationships domain but not in the other two domains, in accordance with our main analysis above. The results for the other outcomes within each domain follow the same pattern.

An additional reasonable concern could be that the neighbourhood might have a non-linear effect on the outcomes we are investigating. We test this hypothesis in two ways. First, instead of coding neighbourhood information as a continuous variable, we use quintile dummies. Second, in another specification, we introduce both a squared term and a cubic term, to allow for a point of inflexion. In none of these alternative specifications, we find any significant results. We also restricted our sample to individuals living in the same household for at least ten years instead of only five (Online Appendix A2, table A8) for the four outcomes for which we found significant effects of the neighbourhood variable. While the sample size is thus reduced, our results are even stronger and in the same direction. Lastly, to investigate whether our results are biased by the way we have defined the dependent variables, we also use categorical variables instead of dummies for the four outcomes that show significant neighbourhood results. The marginal effects of the ordered logit (Online Appendix A2, table A9) with the original variables structure instead of their dichotomized form provide very similar results compared to the main analysis.

5 Conclusions

This article has explored an empirical question with wider ramifications for sociological and social geography theory, youth studies, happiness and wellbeing studies, and for social and housing policy: what is the effect of being embedded in a more or less affluent neighbourhood on the well-being of socio-economically disadvantaged teenagers? To do so we have investigated a sample of over 1700 13-to-15-year-olds living in social housing estates in England, where social housing is distributed across all levels of neighbourhood deprivation. Our main findings point to interesting leads for a deeper understanding of how the comparison with a reference group within the neighbourhood may be related to self-reported ‘problems’ in young teenagers’ lives. Living in social housing within a less deprived neighbourhood does not overall affect their general sense of leading a bad life, except for reducing individuals’ likelihood of getting angry and losing temper. Nor does it affect conflictual interactions within their families. Moreover, it makes them less, not more, likely to report unhappy social interactions with their peers. In other words, growing up in social housing in less deprived neighbourhoods seems to provide a mix of neutral as well as some positive effects, especially, on interactions with peers.

Taken together, these three sets of observations fail to support relative deprivation theory (Davis, 1959; Runciman, 1966) or similar ‘negative effect’ hypotheses (Hypothesis 1a), according to which teenagers from more disadvantaged backgrounds would experience more problematic lives by living in socio-economically less deprived neighbourhoods. Conversely, the finding that growing up in a less deprived neighbourhood leads to less conflictual peer interactions can be interpreted as partial support for the ‘positive effects’ hypothesis (Hypothesis 1b) stipulating a beneficial role of social mixing at the neighbourhood level. Adolescents residing in more deprived neighbourhoods often contend with heightened stressors, including increased exposure to crime, financial instability, and sub-par living conditions. Conversely, living in less deprived neighbourhoods can offer an array of enriching opportunities, such as participation in clubs, sports, and artistic endeavours. Consequently, teenagers engaged in such activities are better positioned to cultivate peer relationships grounded in shared interests and experiences. Furthermore, less deprived neighbourhoods tend to feature more intricate and interconnected social networks. Teenagers from lower socio-economic backgrounds living in these areas, may discover themselves readily assimilated into more expansive and diverse social circles. This assimilation serves to catalyse the development of peer relationships characterized by diversity and inclusivity. Affluent neighbourhoods are also often distinguished by the presence of accomplished professionals and individuals who have achieved noteworthy success. Teenagers residing in these areas stand to benefit from exposure to these positive role models. Such encounters can inspire them and provide invaluable guidance in navigating complex social interactions, thereby enhancing their relationships with peers and their coping strategies with anger. Moreover, residing in a less deprived neighbourhood can confer stability upon adolescents and their families, who may experience reduced financial stressors. This stability can have a pronounced impact on teenagers’ emotional well-being, ultimately fostering the formation and maintenance of positive peer relationships and reducing their likelihood to lose their temper. By minimizing the distractions and anxieties associated with financial hardship, a stable environment empowers teenagers to devote more attention and energy to their social lives, thus contributing to their ability to develop meaningful and lasting connections with their peers.

Some limitations admittedly remain. Our data do not allow us to investigate where the youth in our sample tend to hang out spatially and who their self-perceived reference groups are. Although we cannot tell whether youth who live in English social housing estates are more bound geographically to their housing or are more spatially integrated into the larger neighbourhood than their peers not living in social housing, the fine grain at which we investigate neighbourhoods allows us to speculate that neighbourhoods are a significant site of social interaction. Relatedly, teenagers in the current English school system might in theory go to school in different neighbourhoods. Since teenagers also spend a significant part of their social lives in school environments, a second unresolved limitation of this study is that we could identify the neighbourhood of residence, but not which neighbourhood teenagers go to school in. Thus, it remains open for further analysis to understand whether, and how, the neighbourhood of the school plays a role in affecting problems in teenagers' lives.

Additionally, other characteristics of the neighbourhood may play their part in social housing teenagers' life and social interactions. For instance, less disadvantaged neighbourhoods will, on the whole, have better-quality infrastructure, schools, or other local public goods (Jencks & Mayer, 1990) as well as higher collective efficacy through informally activated social control, often driven by the civic infrastructure of community-based civic organizations (see Sampson, 2012 on the US and Wikström et al., 2010 on England). The latter in turn may provide shared behavioural expectations and 'positive' role models and emulation stimuli for disadvantaged teenagers growing up in them (Hurd et al., 2011; Sampson, 2012; Wilson, 1987). In these possible mechanisms lies a fruitful avenue for further research into the processes behind neighbourhood effects on young people's lives.

Our findings also carry important policy implications, for instance regarding recent political debates about urban planning, gentrification, and social mixing. While this article could not identify experiences of gentrification as such, our findings cautiously support the view that social mixing may, at the very least, not be harmful to more disadvantaged young teenagers. Contemporary developments in the UK such as the renewal of the Right to Buy policy⁷ and more general patterns of gentrification are likely to further drive out working-class residents who can no longer afford to live in the community where they have grown up (Cooper et al., 2020). While home ownership undoubtedly has positive effects, our findings suggest caution in implementing policies which may reduce local social mixing and local collective efficacy, and which may increase the local clustering of cumulative disadvantage harming young people born into more disadvantaged families.

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⁷ In recent years, prominent figures of the governing party have repeatedly suggested the intention to further expand the Right to Buy, see <https://www.gov.uk/government/news/right-to-buy-extension-to-make-home-ownership-possible-for-millions-more-people>

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