1   School Socioeconomic Status Context and Social Skills in Children

2   Abstract

3   As researchers and policymakers try to understand the consequences of SES for educational

4   and occupational attainment, they increasingly consider social skills to be critical. Yet little

5   research has considered how the school socio-economic context may differentially promote or

6   hinder social skill development. In a representative longitudinal sample of Australian 8-year

7   olds, we tested the association between school average socioeconomic status and social skills

8   as reported by parents and teachers. All models controlled for prior social skills at age 4, and

9   additional school and student covariates. We found that school context was associated with

10 social skill assimilation: controlling for individual socioeconomic status, children in more

11 advantaged schools had more prosocial behavior and fewer peer and conduct problems. We

12 found a consistent interaction between individual and school average socioeconomic status

13 that suggested assimilation effects were only present for children from low socioeconomic

14 backgrounds. We found that children from low socioeconomic backgrounds enter school with

15 lower average social skills. They are more likely to be enrolled in more disadvantaged schools.

16 Finally, the social skills of children from low socioeconomic backgrounds worsen in low SES

17 contexts. Taking the evidence together, social stratified schools may harm children from low

18 SES backgrounds while not benefiting children from high SES backgrounds.

19 *Keywords:* social skills; assimilation effects; socioeconomic status; school context

20 Word count: 4627

₂₁   School Socioeconomic Status Context and Social Skills in Children

₂₂   After decades of research and intervention aimed at reducing educational and

₂₃   occupational inequality, inequalities persist (Reardon, 2011). In response to this bleak

₂₄   picture, there has been a flurry of interest in social-emotional competencies driven by the

₂₅   research of Nobel prize-winning economist James Heckman. Heckman (2006) argues that

₂₆   research and intervention on reducing educational inequality have focused too narrowly on

₂₇   "cognitive" abilities (generally narrowly deinfed to include ability, IQ, and academic

₂₈   achievement). Yet cognitive abilities are not the only pathway through which low

₂₉   socioeconomic status may stifle educational and occupational attainment. For example,

₃₀   social skills are a potentially powerful explanation for socioeconomic status gaps in

₃₁   educational and occupational attainment (Gutman & Schoon, 2013). Children from low

₃₂   socioeconomic backgrounds (here after low SES children[1]) appear to enter school with poorer

₃₃   social skills (e.g., Jerrim & Sims, 2019). This is concerning as childhood social skills predict

₃₄   a wide variety of later life outcomes (e.g., Jones, Greenberg, & Crowley, 2015). Inspired by

₃₅   identity economics, our research asks whether the school context in the stratified school

₃₆   system of Australia may exacerbate this issue. In particular, we explore whether school

₃₇   average socioeconomic status predicts social skills in Year 3 (age 8)—using measures of peer

₃₈   problems, conduct problems, and prosocial behavior. Using prospective representative data,

₃₉   integrated with government administrative data, we found this is that case but that an

₄₀   interaction between student and school SES means that poorer children appear more

₄₁   susceptible to such effects.

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[1] We acknowledge that children themselves do not have a socioeconomic status. Rather they are raised in an environment which is shaped by their parents' socioeconomic status (SES). However, for brevity we refer to children as low SES or high SES hereafter. Likewise, in place of low school average SES and high school average SES we refer to disadvantaged and advantaged schools respectively.

Social Skills

Of the skills that employers are looking for when hiring candidates, social skills are some of the most desirable (Rios, Ling, Pugh, Becker, & Bacall, 2020). Social skills also seem to be a viable target for intervention with meta-analysis showing social and emotional learning programs have moderate effects on improving key social skills like reducing conduct problems and improving social-emotional learning skills and prosocial behavior (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). Social skills appear to be worthwhile targets from a societal perspective given their relationship to academic achievement (Corcoran, Cheung, Kim, & Xie, 2018) and their role in predicting adult employment, crime, public assistance, substance abuse, and mental health (Jones et al., 2015). Among young children, it is increasingly common to focus on social skills as measured by the Strengths and Difficulties Questionnaire (see Datta Gupta & Simonsen, 2010; Gutman & Schoon, 2013; Jerrim & Sims, 2019). We use this questionnaire to measure peer problems, conduct problems, and prosocial behavior. We model social skills using both parent and teacher reports. Measures of SES at the student level are taken from in-person interviews with parents and school SES (as well as student achievement) is taken from government administrative records.

Contrast Processes and Identity Economics

Children's social skills depend in part on the context in which they develop (Jerrim & Sims, 2019). There are two major forces in social psychology—assimilation and contrast (Mussweiler, Rüter, & Epstude, 2004)—that may account for how school context affects children's social skill development. Contrast processes are in operation when children's perceptions, opinions, or behavior depend on their perceived rank order within their group. Assimilation processes are in operation when people's perceptions, opinions, or behaviour depend on reference group norms (Kelley, 1952).

The theory of *Identity Economics* implies an assimilative effect (Akerlof & Kranton,

2010). Identity Economics argues that the social context of the school possesses a gravity that attracts students' identity, values, and behavior toward the prototypical identity, values, and behavior of the school (Akerlof & Kranton, 2002). School ethos and norms around behavior incentivize children to act in a manner consistent with these norms. School average socioeconomic status could, thus, affect social skills. A now large body of research shows that social skills are correlated with socioeconomic status (SES; de Laat, Essink-Bot, van Wassenaer-Leemhuis, & Vrijkotte, 2016; Garratt, Chandola, Purdam, & Wood, 2017; McMunn, Nazroo, Marmot, Boreham, & Goodman, 2001; Rajmil et al., 2014) and, this relationship is present before children enter school (Washbrook & Waldfogel, 2011). In socially stratified school systems, children of similar SES tend to be schooled together. Thus, if children assimilate to the school context they are in, as Identity Economics would suggest, we would expect school average socioeconomic status to influence the development of social skills.

Jerrim and colleagues (2019) provide one test of the potential assimilative effect of schools on social skills. They found that living in an area with selective schools is associated with better social skills when compared to children living in districts without a selective school. They also found some assimilative effects of school average SES predicting social skills using the total score of the strengths and difficulties questionnaire (SDQ). The assimilation effects they found, however, were weak. This may be because the authors used the SDQ total score—which includes a range of social and emotional behaviors—rather than focusing on specific social skill components of the SDQ. Further, assimilative effects may be non-linear. Put another way, the assimilative power of school contexts may not be evenly distributed across the socioeconomic distribution. This is an important consideration that research has not hitherto considered, though differential assimilation across the socioeconomic status gradient has been theorized (Gradstein & Justman, 2005).

₉₃   **Current Study**

₉₄   Australia is the context of our research. Australia is a useful country to focus on

₉₅ because Australia's Programme for International Student Assessment (PISA) Index of Social

₉₆ Inclusion score is relatively low (OECD, 2015). This means that Australian schools are

₉₇ socially stratified (Parker, Guo, & Sanders, 2019; Parker et al., 2018). Our major hypothesis

₉₈ is that school average socioeconomic status will have an assimilation effect on association

₉₉ with social skills at Year 3 (age 8) controlling for incoming social skills (age 4), individual

₁₀₀ socioeconomic status (age 4) and a range of demographic and achievement covariates[2]. We

₁₀₁ also anticipate that there will be differential associations of school average socioeconomic

₁₀₂ status on social skills across the socioeconomic status gradient.

₁₀₃   We expect the assimilation effects to occur in the context of low SES children entering

₁₀₄ school with poorer social skills (de Laat et al., 2016; Garratt et al., 2017; McMunn et al.,

₁₀₅ 2001; Rajmil et al., 2014). Given Australian schools are socially stratified (OECD, 2015;

₁₀₆ Parker et al., 2018), we expect low SES children to attend more disadvantaged schools on

₁₀₇ average.

₁₀₈   **Method**

₁₀₉ **Participants and Study Design**

₁₁₀   We use data for children, their parents, and their teachers from the B-Cohort and

₁₁₁ K-Cohort of the Longitudinal Study of Australian Children (LSAC). LSAC is a

₁₁₂ government-run study of a representative sample of Australian children who were zero-one

₁₁₃ (B-cohort) or four-five (K-Cohort) years of age in 2004. Both cohorts of children have been

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[2] This assimilation effect will be indicated by a negative coefficient for peer problems and conduct problems regressed on school average socioeconomic status and a positive coefficient for prosocial behavior regressed on school average socioeconomic status. This is because of the way in which these factors are valanced (high scores indicate high levels of prosocial behavior, but also high levels of peer and conduct problems).

followed every two years since (AIFS, 2015). LSAC includes linked administration records for student performance in a standardized national numeracy test. We also use government collected data on school average socioeconomic status. Many children in the sample were the only child surveyed (25.75%) or were one of two children surveyed (20.96%) in their school. By using administrative records, we gain school average socioeconomic status based on the child's <u>whole</u> school grade from a high-quality source, thus avoiding sampling bias present in much school context research. We excluded participants who were not in school (e.g., were home schooled, or were otherwise missing an identifier of which school they attended), were not in Year 3 at the time of testing, or were not eligible to complete national standardized testing (e.g., children with an intellectual disability). Together our total sample was 5440 (52.08% boys) children in Year 3 at school (~age 8). In the vast majority of cases (98%), parent data came from mothers. A participant flow diagram is presented in supplementary materials including the number of participants excluded because there were a) not in Year 3 during the age 8 LSAC data collection sweep; b) were not eligible to participate NAPLAN (e.g., due to intellectual disability; or c) were not enrolled in school (e.g., were home schooled).

Measures

Social skills at age 4 and 8. Social skills were estimated using the peer problems, conduct problems, and prosocial behavior component scores from the SDQ (Goodman, 1997). We explored social skills at age 4-5 (for prior social skills; parent report only) and age 8-9 (as primary outcomes) as reported by the child's *parent* and the child's *teacher*. The SDQ asks respondents tfo rate a child's behavior in the last six months on a 3-point scale (not true, somewhat true, and certainly true). Questions ask about the child's peer problems ("Rather solitary, tends to play alone"), conduct problems ("Often fights with other children or bullies them"), and prosociality ("Is kind to younger children"). Greatest lower bound estimates of reliability were all greater than .95 and parallel analysis suggested that a single component

140 was sufficient for each of the parent and teacher and age 4 and age 8 social skills factors. On

141 the basis of this evidence, we used the total scores for these scales as developed by the LSAC

142 administrators. Scores ranged from 0 to 10. These scores were heavily left censored for peer

143 and conduct problems with a preponderance of students being scored as a zero by their

144 parent or teacher. Prosocial behaviors were heavily right censored. Censoring can be viewed

145 as a special type of missing data where scores on $y*$ (the hypothesised true latent

146 distribution of the variable) below or above the bounds are curtailed to fit within the bounds

147 resulting in the observed scores y (Gelman, Hill, & Vehtari, 2020). Models accounting for

148 this censoring were used in all cases with results provided on the scale of the latent variable

149 $y*$ believed to underlie the censored variable (hence negative predicted scores or scores over

150 10 were possible).

151   Parents and teachers had moderate agreement for children at age 8 with correlations

152 ranging from $r = 0.41$ 95% CI[0.38, 0.43] for peer and $r = 0.4$ 95% CI[0.37, 0.42] for conduct

153 problems to $r = 0.29$ 95% CI[0.26, 0.31] for prosocial behavior.

154   **Socioeconomic Status.** *Individual SES* was measured using the Socioeconomic

155 Position (SEP) index constructed by the LSAC survey organizers (Baker, Sipthorp, &

156 Edwards, 2017). The SEP index is constructed from parent reported standardized weekly

157 income, years of education, and ANU4 occupational prestige derived from the Australian

158 Standard Classification of Occupations. The SEP has a mean of zero and a standard

159 deviation of one.

160   *School average SES* was measured using the Index of Community Socioeconomic

161 Advantage (ICSEA) that the Australian government uses to assess the relative advantage of

162 schools for the purpose of funding allocation and policy. This measure was taken from

163 government administration records. ICSEA has a mean of 1000 and a standard deviation of

164 100. We z-scored this variable for analysis.

165   **Covariates.**   Numeracy for the child and for their complete school grade was taken
166   from administration records of National Assessment Program – Literacy and Numeracy
167   (NAPLAN) test results. The relevant NAPLAN tests for this study are given to all eligible
168   children in the country in Year 3 (age 8). The tests are scaled so they are comparable across
169   age cohort and across year grade. These high-stakes tests have a mean of 500 and a standard
170   deviation of 100. Included in the analysis was the first principal component of the numeracy,
171   grammar, spelling, reading, and writing scores from NAPLAN[3]. For verbal ability (as a
172   proxy for cognitive school readiness) we used the Peabody Picture Vocabulary test (Dunn &
173   Dunn, 2007) given to participants at age 4 (i.e., at or just before school commencement).
174   Cohort was included as a covariate in all models as was measures of rural status and
175   gender—all measured at age 4. The sector (government or non-government) of the school the
176   child attended was also included as a covariate.

177   **Analysis**

178   There was a relatively small amount of missing data for most variables. However, given
179   the data required responses from both parents and teachers and were linked to administrative
180   records and data collected from both the child's teacher and parent, missing data was
181   inevitable. Missing data was small with the largest missing data proportion for teacher
182   reported social skills at 14%. All other variables had 6% missing data or less (see code book
183   in supplementary materials). To account for this, we constructed five imputed datasets using
184   a bootstrapped expectation maximization procedure from the Amelia II package (Honaker,
185   King, & Blackwell, 2011). These imputations were used in all analyses. All analyses were
186   done using Bayes via the BRMS package in R (Bürkner, 2017). The Bayes models were run
187   once for each imputation and then the resulting posterior samples were pooled before
188   estimates and their uncertainty were extracted. Interactions and their associated

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[3] Parallel analysis suggested a single principal component was sufficient to account for the variation in the
NAPLAN scores.

189 uncertainties were plotted by taking marginal effect estimates from a random 500 posterior

190 draws for disadvantaged (two standard deviations below the mean of SES), average, and

191 advantaged (two standard deviations above the mean of SES) students (Gelman et al., 2020).

192   All models in the paper that predicted social skills were estimated taking into account

193 the censoring of the social skills means using a Bayes version of Tobit regression (we used

194 default weakly informed priors derived from the data for all models). Tobit models can be

195 used when seeking to model outcome variables that are censored on the left, right, or both

196 tails (see Kleiber & Zeileis, 2008). As scores on the social skills variables have both a floor of

197 zero and a ceiling of 10, we included censoring on both the left and the right in all models.

198 The multilevel nature of the data (children nested within schools) was addressed by the

199 inclusion of a random intercept for schools. We clearly demarcate the units of analysis in

200 tables and figures. In general the SDQ measures are retained on the original scale and all

201 other continuous variables are z-scored. We retain the SDQ scores on the original scale

202 because of the presence of norms (Youth in Mind, 2016). Peer and conduct problems scores

203 of 3 or greater and prosocial scores of 7 or lower place children beyond the 'close to average'

204 group and may thus be a potential concern (Youth in Mind, 2016).

205   The models are fit using the following formula:

$$y_i^* \sim N(\alpha_{j[i]} + X_i\beta, \sigma_y^2), for \ i = 1, ..., n$$

$$\alpha_j \sim N(U_j\gamma, \sigma_\alpha^2), for \ j = 1, ...k$$

206   Here X is a matrix of individual level predictors for student i including individual SES,

207 prior social skills, gender, cohort, geographic location, and an NAPLAN achievement index.

208 Prior social skills is particularly critical as this provide stronger conclusions that school

209 context rather than selection effects account for the influence of school average SES on

210 student social skills. Put simply the estimate of school average SES can be interpreted as the

influence of school context on the change in childrens' social skills from age 4 to age 8. U is a matrix of school level predictors for school j including school section and the aforementioned critical variable *school SES*. Note that we predict y_i^* which is the latent continuous variable underlying the observed variables which are defined as:

$$y_i = \begin{cases} y*_i & \text{if } y*_i < 0 \text{ or } y*_i > 10 \\ 0 & \text{if } y*_i < 0 \\ 10 & \text{if } y*_i > 10 \end{cases}$$

All scripts used to produce these results can be found on the OSF project associated with this paper. Data can be applied for from the Australian Data Archive Dataverse website.

Results

Low SES Children Start School with Poorer Social Skills and Enroll in More Disadvantaged Schools

In order to provide a context for the main analyses we first aimed to show: a) that children from advantaged backgrounds enter school with better social skills (as measured by their parents) and b) that children in Australia tend to be schooled in socially stratified schools. Student SES is slightly correlated with prior prosocial behaviour (0.05 95% CI[0.023, 0.078]) but more strongly and negatively correlated with prior conduct (-0.18 95% CI[-0.2, -0.15]) and peer (-0.16 95% CI[-0.19, -0.13]) problems. Children from lower SES backgrounds also tended to enter schools with children from similar backgrounds (0.48 95% CI[0.46, 0.51]). Put simply, disadvantaged children tended to enter school with lower social skills and the school they entered tended poorer on average.

School Average SES Predicts Social Skills Controlling for Age 4 SES and Social Skills

We next predicted social skills with school average SES controlling for individual SES, a range of demographic covariates and academic performance measures, and social skills at age 4. Results for school average SES are presented under in Table 1 (the full model results are in supplementary materials). Because we control for prior social skills, the effects of school average SES in these models can be interpreted as predicting change or development in social skills from age 4 (at or just prior to school enrollment) to age 8 (Year 3). School average SES negatively predicted conduct problems and positively predicted prosocial behavior for both parent and teacher reported social skills. School average SES also negatively predicted peer problems. Results from either teacher or parent provided fairly consistent evidence of the influence of school SES context on social skills (or more specifically change in social skills from age 4 to age 8). Interestingly, the association of school average SES with social skills was similar in strength to the association of individual SES with social skills (see supplementary materials for full results). The effect sizes were equivalent to approximately a 10th of the median absolute deviation in social skills.

School Average SES Predicts Social Skills Mainly in Low SES Children

The predictive association of school average SES on social skills was not consistent across the SES gradient (see Table 2). Significant school average SES by student SES interactions were significant for peer and conduct problems for both teacher and parent reports and for teacher reported prosocial behavior. Interactions are plotted in Figures 1-3. Full model results can be found in supplementary materials. The interaction plots suggest that school context effects were particularly potent for disadvantaged children but school context had minimal impact on social skills for children from advantaged backgrounds. The plots suggest that for the very poorest schools in our sample, a disadvantaged student would have levels of peer problems greater than the threshold for 'close to average' scores and thus

²⁵⁶ potentially of concern (Youth in Mind, 2016). This same child would be well within the

²⁵⁷ 'close to average' band in a school with an average levels of SES.

²⁵⁸ <div align="center">**Discussion**</div>

²⁵⁹ Research on social skills has repeatedly shown that there is a socioeconomic status

²⁶⁰ gradient to social skills (see Datta Gupta & Simonsen, 2010; Gutman & Schoon, 2013;

²⁶¹ Jerrim & Sims, 2019). Yet little research in this area has considered the potential influence

²⁶² of school context on social skill development (*cf.* Jerrim & Sims, 2019). This is a gap that

²⁶³ our research sought to fill. Our research considered the association of school socioeconomic

²⁶⁴ context with social skills in early elementary school. We used both parent and teacher

²⁶⁵ reported social skills, finding surprisingly consistent effect sizes regardless of reporting source

²⁶⁶ despite their relatively modest agreement. Importantly, our research used a number of

²⁶⁷ critical controls as well as prior social skills that helped us better identify the effect of school

²⁶⁸ average socioeconomic status. Prior social skills meant that coefficients for school average

²⁶⁹ SES related to change in social skills from age 4 (at or just before school entry) to age 8.

²⁷⁰ For both teacher and parent reports we found that the association of school context

²⁷¹ with social skills depended on the individual child's own socioeconomic background. This

²⁷² was the case for all outcomes except for parent reported prosocial behavior. It is worth

²⁷³ emphasizing that the nature of these interactions was consistent for all outcomes. Namely,

²⁷⁴ that middle to high SES children were largely unaffected by school socioeconomic context

²⁷⁵ while the children with the lowest socioeconomic status experienced the largest effect.

²⁷⁶ **School Context Theory**

²⁷⁷ A greater focus on social skills as explanations for socioeconomic gaps in educational

²⁷⁸ attainment has been an important step forward in inequality research (see Heckman, 2006).

²⁷⁹ Now that research and theory has illuminated the importance of such skills, research needs

²⁸⁰ to consider the conditions under which they develop. Previous economic theory has

281 emphasized the role that schools play as a context for the development of non-academic

282 factors like social skills and claimed this as one of the ways in which intergenerational

283 inequality is transmitted (Bowles & Gintis, 1976). Such theory has tended to emphasize the

284 role of teachers and systems, relegating students' fellow classmates to a more secondary role.

285 In contrast, psychology research has tended to emphasize the role of frames-of-reference with

286 particular emphasize given to the role of a child's peers as providing a standard against

287 which a child might assimilate to or contrast against (Mussweiler et al., 2004). It seems

288 likely that both economic and psychology theory is right to some extent but the relative

289 contribution to school context effects of system, teacher, and peers is unclear. Our research

290 shows that school context effects are significant and mainly seem to effect low SES children.

291 Future research is needed to determine what the most important mechanisms are that

292 explain this effect.

School Context and Assimilation Effects

294   For children with SES status below the mean, school socioeconomic context had

295 statistically significant associations with social skills in Year 3 (controlling for social skills at

296 age 4). The implications of this are mixed. Our results do suggest that a low SES child who

297 is enrolled in an advantaged school should expect to have similar levels of social skills as

298 their high SES peers. The problem is that in countries like Australia low SES children are

299 considerably less likely to be enrolled in advantaged schools. As we noted in the introduction

300 Australia has relatively low levels of social inclusion as measured by PISA (OECD, 2015).

301 This means that Australian schools tend to be homogenous in terms of their student

302 composition (see Parker et al., 2019). As our results show low SES children tend to attend

303 disadvantaged schools and their social skills appear to suffer as a result. What our findings

304 suggest is that children's social skills, particularly low SES children, acclimatize toward the

305 average of the school they are in. Consistent with the literature we found that low SES

306 children start school with lower social skills. In a country like Australia, whose schools are

307   socially stratified, low SES children will tend to be schooled in more disadvantaged schools.

308   The net effect in such a system is that low SES children will tend to have their already lower

309   starting school social skills further depressed by the school climate they are most likely to

310   find themselves in.

311   This counterfactual may suggest that school choice, in which low SES children receive

312   vouchers or similar, may be beneficial (see Friedman, 1962). Strategies like school vouchers

313   to attend magnet schools could be a powerful policy lever to overcome socioeconomic gaps in

314   social skills. This approach tackles the problem of assimilative contextual effects via

315   market-based systems. Yet this policy requires there to be few barriers, whether

316   psychological or otherwise, to parents using vouchers to select the best school that matches

317   the needs of their child. But this does not seem to be the case (Gradstein & Justman, 2005).

318   Indeed, empirical evidence suggests that school choice tends to exacerbate inequality (e.g.,

319   Saporito, 2003).

320   Parker et al. (2019, 2018; 2016; 2018) have suggested that empirical evidence shows

321   greater school choice at the country level is related to poorer average ability levels, lower

322   aspirations, and paradoxical effects on psychological factors like motivation and self-concept

323   that appears to have negative consequences for all children. They argue that empirical

324   evidence suggests policy should encourage school selection policies that maximize within

325   school heterogeneity. This would require considerable state intervention to achieve and may

326   thus impose unreasonable restrictions on parents' rights to choose. However, it is worth

327   noting that high SES children appear to not suffer to any notable degree, in relation to social

328   skills, by being enrolled in a more disadvantaged school.

329   There are strong arguments and good empirical support on both sides of this debate,

330   suggesting that we are far from a settled position on the matter. At least for the current

331   context in Australia where social stratification is moderately high and where the school

332   system seems to ensure school choice is more clearly an option for the rich than the poor

333 (Parker et al., 2019), our results are troubling. In particular, they suggest low SES children

334 face a triple bind. First, they enter school with lower social skills. Second, they enter schools

335 where assimilation effects are likely to further dampen social skill development. Third, they

336 appear particularly vulnerable to their school context in this respect.

Limitations
337

338   There are many strengths to this study. Most notably, the use of longitudinal data that

339 allowed for us to control for incoming social skills and government administrative data that

340 provided access to complete and high-quality data for school average socioeconomic status at

341 the school level. Further the use of LSAC data meant that we were able to control for a

342 number of potential confounding variables drawn from a longitudinal representative sample

343 of Australian children. Nevertheless, there are limitations. Our aim was to try to build a

344 model from high-quality data that could assist us in making as close to an *all else being equal*

345 comparisons as possible (Angrist & Pischke, 2008). It is for this reason we have cautiously

346 used causal language in relation to our claims. But our claim to causality would have been

347 stronger had they been backed by an experimental design. While the Move to Opportunity

348 program in the US suggest experiments where low SES children are randomly assigned to

349 richer schools (or at least randomly assigned to areas with richer schools) are possible (see de

350 Souza Briggs, Popkin, & Goering, 2010), it is hard to imagine a situation in which richer

351 children could be randomly assigned to more disadvantaged schools. Given the non-linearity

352 in effects we observed this would be a serious limitation of an experimental design.

353   Finally, we were not able to identify and compare the relative impact of different

354 mechanisms that may explain the influence of school average socioeconomic status on social

355 skills. As educational psychologists our study is framed in relation to assimilation effects in

356 response to children's peer frames-of-reference. Yet, economic theory tends to emphasize the

357 socialization influence of teachers and educational structures (Bowles, Gintis, & Osborne,

358 2001). Identifying and comparing these mechanisms is an important future direction for

359   research.

Conclusion

361   The influence of school average socioeconomic status on social skills represent the triple

362   disadvantage that low SES children can face in social stratified school systems. First, low

363   SES children are more likely to start school with lower social skills than their high SES peers.

364   Second, because the school system is stratified by socioeconomic status, low SES children are

365   likely to enroll in more disadvantaged schools. Third, assimilative associations suggest low

366   SES children, already disadvantaged by prior social skill gaps, are more affected by their

367   school context than are middle to high SES children. Thus, while low SES children

368   assimilate to lower social skill environments, richer children appear to gain little advantage

369   from their more conducive environments and appear to function equally well in advantaged

370   and disadvantaged schools. Taken together our results support the call for a policy focus

371   that aims to a) decrease country level variance in social stratification, b) decrease between

372   school heterogeneity is social status, and c) in combination with (a), encourage school

373   selection policies that maximize within school heterogeneity in social status.

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   NewsDocuments/236/SDQEnglishUK4-17scoring-1.PDF

Table 1

Effect of School Average SES on Social Skills.

Outcome	Report source	Estimate	-95% ci	+95% ci
conduct	teacher	-0.15	-0.26	-0.05
social	teacher	0.15	0.06	0.24
peer	teacher	-0.12	-0.20	-0.02
conduct	parent	-0.11	-0.17	-0.05
social	parent	0.09	0.02	0.16
peer	parent	-0.13	-0.20	-0.06

Note. Results are in unit changes on a 1-10 (Censored) scale for social skills for a standard deviation increase in school SES. Full results in supplementary materials. Conduct = conduct problems, peer = peer problems, social = prosocial. Teacher = teacher reported, parent = parent reported.

Table 2

Effect of School Average SES by Student SES on Social Skills.

Outcome	Report source	Term	Estimate	-95% ci	+95% ci
conduct	teacher	School Average SES	-0.16	-0.27	-0.05
conduct	teacher	School Average SES by Student SES	0.15	0.06	0.24
social	teacher	School Average SES	0.16	0.06	0.25
social	teacher	School Average SES by Student SES	-0.09	-0.17	-0.02
peer	teacher	School Average SES	-0.13	-0.22	-0.04
peer	teacher	School Average SES by Student SES	0.12	0.04	0.19
conduct	parent	School Average SES	-0.11	-0.17	-0.05
conduct	parent	School Average SES by Student SES	0.06	0.01	0.11
social	parent	School Average SES	0.09	0.02	0.16
social	parent	School Average SES by Student SES	-0.03	-0.09	0.03
peer	parent	School Average SES	-0.14	-0.22	-0.07
peer	parent	School Average SES by Student SES	0.12	0.06	0.18

Note. Results are in unit changes on a 1-10 (Censored) scale for social skills for a standard deviation increase in school SES. Full results in supplementary materials. Conduct = conduct problems, peer = peer problems, social = prosocial. Teacher = teacher reported, parent = parent reported.
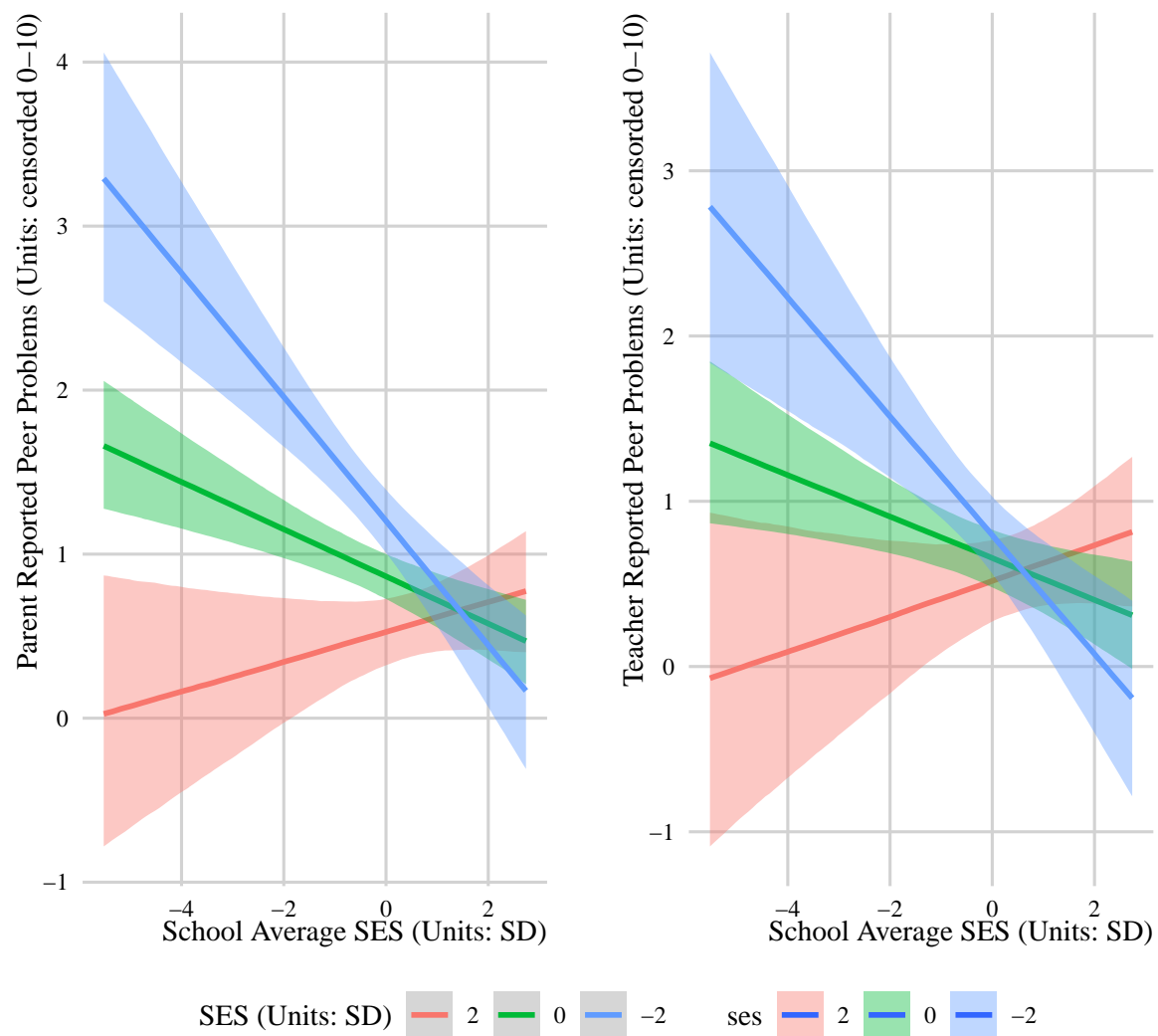
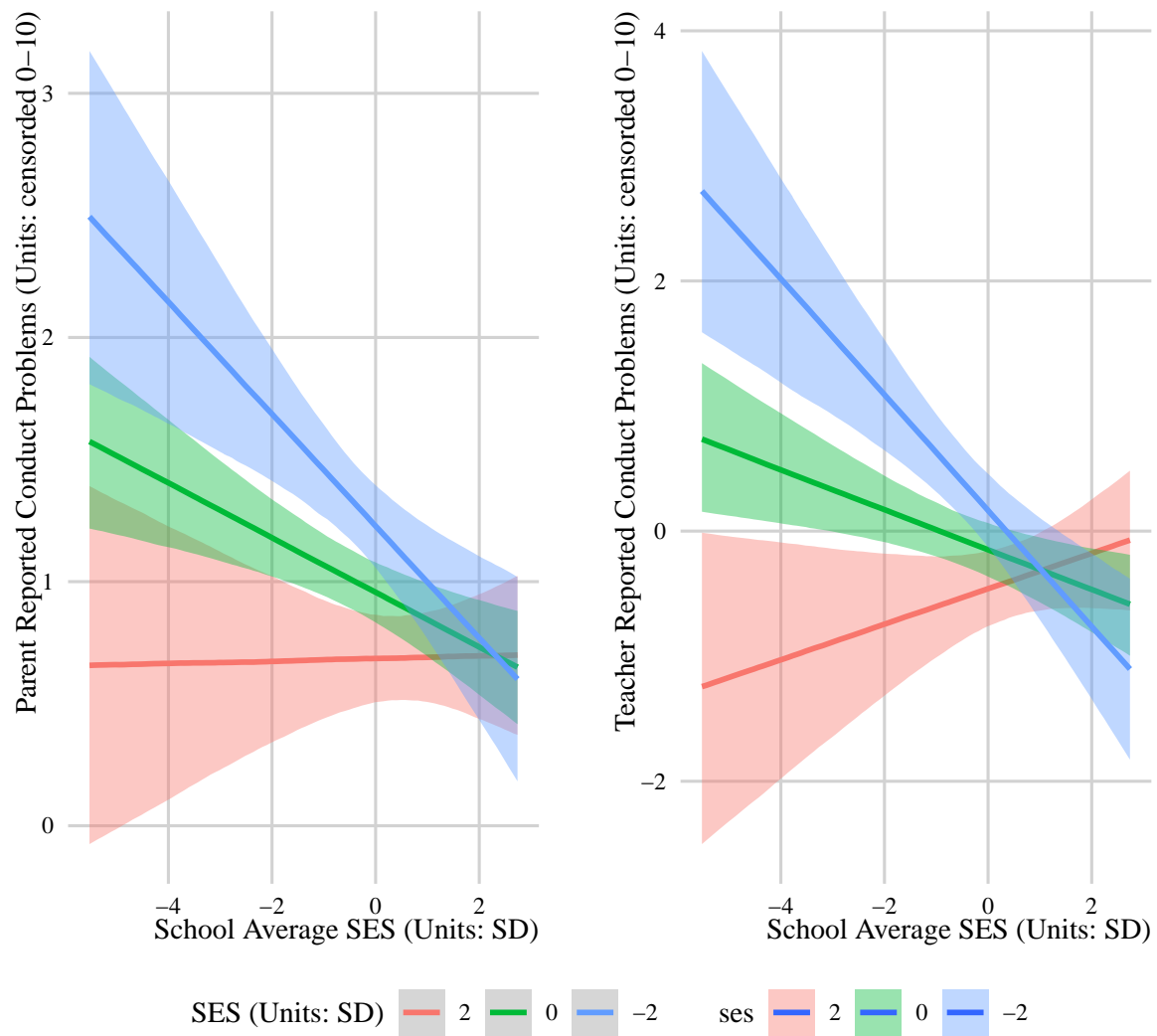*Figure 1*. School average SES by Student SES on Peer Problems. Includes 95% CIs.

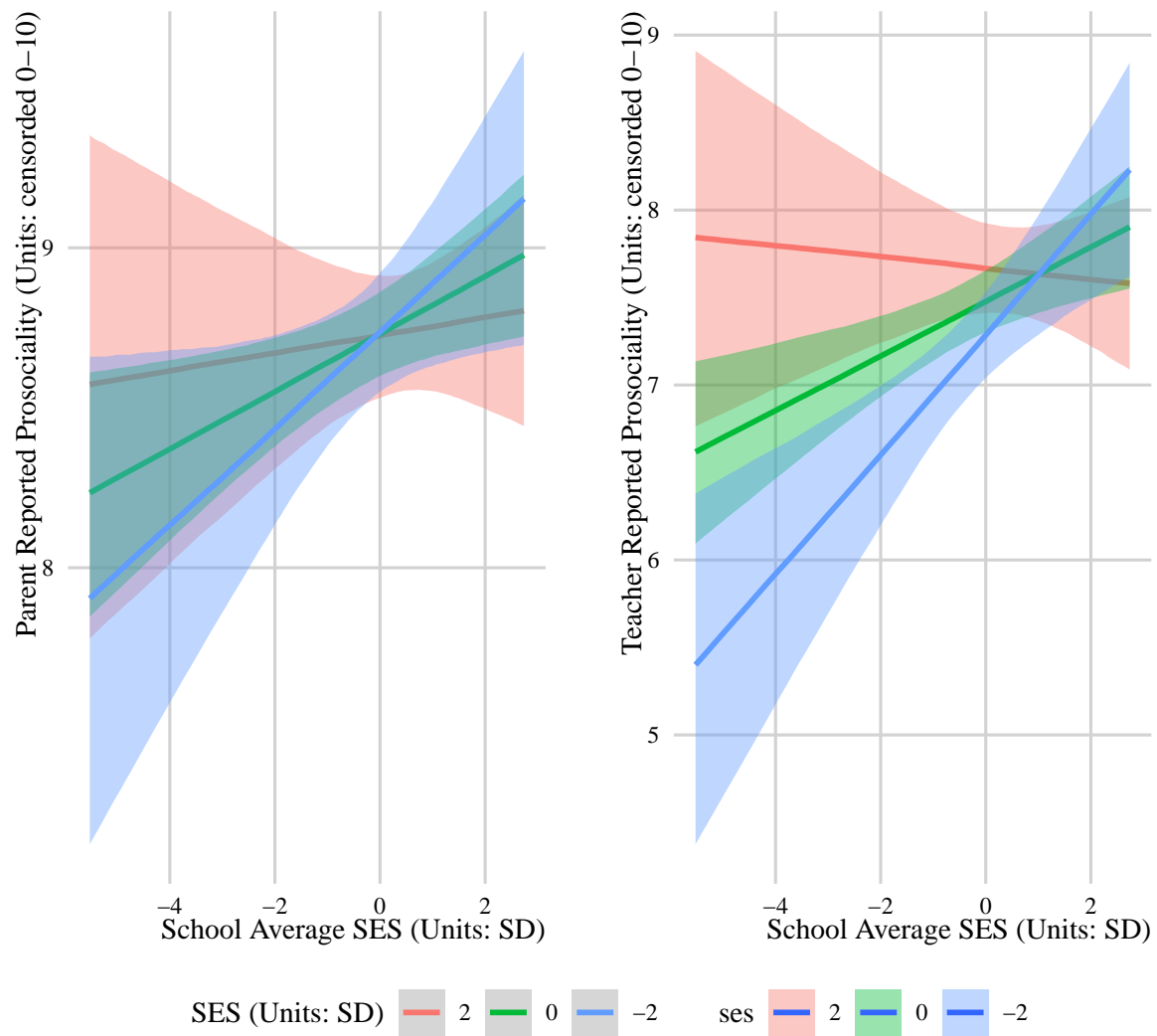*Figure 2*. School average SES by Student SES on Conduct Problems. Includes 95% CIs.

Figure 3. School average SES by Student SES on Prosociality. Includes 95% CIs..