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# Household wealth and adolescents' social-emotional functioning in schools

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ABSTRACT

This study attempts a two-part shift in educational research narrowly fixated on the socioeconomic determinants of student test-score performance. First, we focus on variations in how to measure wealth. Second, we move beyond achievement and focus on the wealth determinants of adolescents' social-emotional competencies. Using data from a nationally-representative sample of US eighth graders, we find that the correlation between wealth and social-emotional competencies varies according to how the partitions among the upper class, the middle and working classes, and the poor are defined. By emphasizing wealth in the production of classed social-emotional competencies not captured by test scores, our findings suggest that the growth of household wealth has a more salient effect for lower- and middle-class adolescents than the highest class which appears to have the least to gain, in terms of social-emotional competencies, from an increase in household wealth.

In the half century since the influential Coleman Report (Coleman et al., 1966), most research on academic achievement disparities in the US has focused narrowly on the link between students' socioeconomic standing, often in the form of parental income, and their test scores (Downey and Condron, 2016; Duncan and Magnuson, 2005; Jencks et al., 1972; Quinn, 2015). Even as wealth divergence far outpaces income divergence in the 21st century US economy (Western et al., 2008; Wolff, 2016), there is as yet relatively little research in K-12 education on family wealth assets (Yeung and Conley, 2008; Orr, 2003). Moreover, although cognitive skills have played a dominant role in research on educational inequality (Magnuson et al., 2016), a more complete understanding of the development of the whole child requires renewed focus on children's social and emotional functioning and not just cognitive development as measured by subject matter tests (National Research Council, 2012). Given growing evidence about the importance of social-emotional competencies for a host of academic and life outcomes (Heckman and Kautz, 2012; Organisation for Economic Co-Operation and Development [OECD], 2015), it is important to establish a research base that considers the links between a wide range of family resources and all facets of childhood development (Bargagliotti et al., 2017).

In two key ways, this study widens the lens on disparities in educational outcomes beyond analyses that fixate on test score performance and socioeconomic status. First, we understand cognition as not simply scores on achievement tests, but as also encompassing “soft skills” such as social and emotional competencies (Farkas, 2003; Farrington et al., 2012). Second, we challenge the assumption that SES captures the full range of educationally relevant family resources by focusing our attention on a measure of wealth inclusive of home values (Haurin et al., 2002; Schuetz, 2017). Neither shift alone is altogether new. The educational

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importance of social-emotional skills has received increased attention of late (Claro and Loeb, 2017; National Research Council, 2012; Reardon and Portilla, 2016), and a growing number of educational studies include wealth assets if not home values (Belley & Lochner, 2007; Conley, 2001; Elliott et al., 2011; Orr, 2003; Pfeffer et al., 2011). Yet much of the new research on wealth in education overlooks behavioral outcomes to focus instead on college access and attainment (Doren and Grodsky, 2016; Jez, 2014; Pfeffer, 2018), while emergent research on social-emotional learning targets income and behavioral skills in early childhood but has not included family wealth assets at the upper grade levels (Duncan and Magnuson, 2011; Reardon and Portilla, 2016). Thus, we integrate and extend these lines of research to consider wealth and social-emotional competencies together, and we focus on the middle school years which are crucial for fortifying adolescents' identity and social-emotional competencies (Cunha et al., 2010; OECD, 2015).

In light of widening wealth inequality (Wolff, 2016) and classed disparities in parental spending on children (Duncan and Murnane, 2011; Kornrich and Furstenberg, 2013), we anticipate variations in associations between wealth and social-emotional attributes as we pursue the following research questions:

Do differences in household wealth correspond to differences in adolescents' social-emotional competencies?

Does the strength of association between wealth and social-emotional competence vary across the distribution of wealth?

In pursuing these questions, we build on an intellectual tradition grounded in critical sociology (Bourdieu, 1986) to ask whether (not how) the influence of wealth on soft skills varies across distinguishable social class groupings (Lareau, 2003; Wright, 1997). The methodological limitations of earlier studies examining the effects of income or, more broadly, SES include limited generalizability, lack of statistical controls, and a complete lack of information on family wealth and home values. The last of these is clearly most important for our purposes, since it is virtually impossible to speak accurately of the importance of wealth without accounting for home values which in the US is the largest single contributor to total family assets (Pfeffer, 2018; Schuetz, 2017; Taylor et al., 2011). By contrast, the dataset employed in the present analysis—the Early Childhood Longitudinal Study-Kindergarten Class of 1998–99 (ECLS-K)—contains important contextual information about wealth from home values, as well as numerous indicators of social-emotional competence for a nationally-representative sample of US eighth graders.

## 1. Theoretical framework

The method we adopt here in examining household wealth and adolescents' social-emotional competencies is sharpened by Pierre Bourdieu's unifying concern with social class and, in particular, his insights into the links between sociability and the maintenance, or alternation, of one's social class position (Bourdieu, 1984, 1986; Brubaker, 1985). Bourdieu's suggestion that the exchangeability of various forms of capital (economic, cultural, social, and symbolic capital) depends on a system of habits and social dispositions produced by differential endowments of wealth has been widely recognized in the social sciences (Baron et al., 2000; Portes, 1998; Yosso, 2005). What Bourdieu also says is that the unequal distribution of *economic* capital produces in the members of the various social classes differing social dispositions that tend to line up with and perpetuate their class status (Bourdieu, 1986, p. 252). It is on that subtler emphasis of Bourdieu's that we lean in framing our study.

For Bourdieu, then, wealth conditions practices in all domains of social life—and the differential presence of wealth influences both the social competencies and the behaviors and dispositions that enable persons in a social group to obtain information and other resources valued by their society.[1] What's more, the relative limits attaching to the social ability to leverage networks and various forms of capital get reproduced over time in members of a particular social class, thus perpetuating patterns of inequality (Bourdieu, 1986; Bourdieu and Passeron, 1990). This insight led us to focus especially on whether the influence of wealth on adolescents' social-emotional competence might differ across subgroups of individuals categorized by broad markers of social class (e.g., the upper class, the middle and working classes, and the poor).

Beyond Bourdieu's theoretical insights, there are numerous data-informed reasons to anticipate class-based differences in the association between wealth and social-emotional skills. Chief among these are classed differences in parental behaviors (Lareau, 2003; Hart and Risley, 1995; Gershoff et al., 2007). As families drift apart in their wealth holdings, wealthier parents increasingly have more time and money to invest in child enrichment activities tailored toward children's cognitive and social-emotional needs (Duncan and Murnane, 2011; Kalil, Ryan & Corey, 2012). High-income families may also purchase homes in advantageous neighborhoods with better schools that help students develop goals and future orientation (Owens et al., 2016; Shapiro, 2004). The social-emotional returns to wealth may also derive, in part, from the presence of visible manifestations of wealth in neighborhoods increasingly segregated by social class (Bischoff and Reardon, 2014).

The models in our study are designed to test the hypothesis that differences in household wealth will correlate with adolescents' social-emotional attributes, including how they view themselves (self-concept), how they manage impulses (self-control), and how they get along with others (sociability). In particular, we use one of the few nationally representative education survey datasets that include indicators of home values (Killewald et al., 2017) to provide new evidence on classed variation in the impact of wealth on soft skills. Because almost all other evidence on income-based differences in soft skills targets early childhood and overlooks household

[1] The embodiment of wealth in the form of social-emotional competence may bolster a sense of entitlement, encouraging students to seek help from teachers and other school personnel; and so too, the absence of wealth often inhibits students' confidence and willingness to solicit assistance from others (Johnson et al., 2011; Stanton-Salazar, 2001). As Bourdieu argues, not only do social class groupings determine the social networks and competencies and skills to which one has access, but they influence the ability to use the potential resources at your disposal.

assets, and because research on wealth in education is increasingly focused on postsecondary attainment, our analyses address several important gaps in the literature. Moreover, they demonstrate the relative importance of wealth—above and beyond the influence of other forms of symbolic, human, and social capital—across both intrapersonal (self-concept and self-control) and interpersonal (sociability) domains of social-emotional competence.

In short, our specific theoretical link of interest is between economic capital in the form of wealth and the production of classed social dispositions. To address this link, our analyses start with an investigation of the connections between household wealth and adolescents' self-concept, self-control, and sociability. After that, our study builds on the findings from the first part and develops models designed to assess whether the magnitude of association between wealth and social-emotional attributes varies as we account for students' relative position in the social class hierarchy.

In what follows, we review literature on wealth in education and show the importance of soft skills. We then provide a detailed description of our data and the two-part research design, and, after that, turn to the heart of this study, specifically to analyses that link wealth measures to social-emotional competencies across social class groupings. We conclude with a discussion of the implications and limitations of our findings.

## 2. Literature review

Our research on wealth and its social-emotional implications coincides with times of rising inequality in the United States. If the urgency of the problem is immediate, the method nevertheless builds on a well-established European tradition that perceives social class position as centrally responsible for the production and reproduction of educational inequalities (Bourdieu, 1984; Bourdieu and Passeron, 1990; Nash, 1990).[2] In the sections that follow, we briefly review the literature on wealth and social-emotional competencies.

### 2.1. Educational importance of wealth

Our rationale for focusing on wealth is a straightforward one. Although there is extensive research connecting general measures of SES to student performance on standardized tests, and emergent research on income-related gaps in behavioral school readiness (Reardon and Portilla, 2016), there is surprisingly little attention paid in the literature to the role household wealth plays in shaping social-emotional skills (Huang et al., 2014; Oliver and Shapiro, 2006; Rothstein, 2004). But there are several good reasons for paying close attention, as we do here, to the influence of wealth on the whole child. Emerging research shows that wealth assets influence educational outcomes above and beyond the effects of SES (Elliott et al., 2011; Pfeffer, 2018; Yeung and Conley, 2008). So too, recent research pertaining to national and international populations shows that wealth uniquely impacts years of schooling students complete, whether they enroll in college, and whether they graduate from college (Belley and Lochner, 2007; Jez, 2014; Morgan and Kim, 2006; Pfeffer et al., 2011). What's more, as disparities in wealth increase in this country and others, we are learning that wealth gaps in educational performance, especially in the United States, may be even greater than gaps along the lines of other socioeconomic measures (Pfeffer, 2018; Saez and Zucman, 2016). As noted above, there may be any number of reasons for why household wealth is becoming an increasingly consequential resource for educational performance. Yet this study is not intended to measure the pathways through which family wealth is linked to educational success. Rather, considering recent descriptive research on gaps in soft skills between the children of high-versus low-income parents (Reardon and Portilla, 2016), we focus instead on the direct social-emotional returns to wealth (over and above the influence of other forms of capital) which have yet to be investigated in survey research. This oversight has implications for how we think about educational resources and results and, as we explain next, the way we measure wealth inclusive of both its purchasing and insurance functions is conditioned by the social-emotional outcomes we take the greatest interest in.

### 2.2. Rejoining the purchasing and insurance functions of wealth

Although there is no consensus on best practice in the measure of wealth, researchers working on its educational importance tend to separate the insurance function of assets that signal life chances and "consumptive potential" (Spilerman, 2000) from the immediate purchasing function of income (Pfeffer, 2018). In point of fact, though, income and assets are far from mutually exclusive and typically correlate in the 0.5–0.7 range (Doren and Grodsky, 2016; Killewald et al., 2017). Measures of income from salary/wages, for instance, often also include asset income that can be used to satisfy consumption needs (Keister, 2000), and homeowner's purchasing power is augmented by the home mortgage interest deduction and by not paying rent. Indeed, there is growing awareness that income and assets are "best studied as interrelated—not separate—resources" (Keister and Lee, 2017, p. 1). Accordingly, we model the purchasing and insurance functions of wealth in tandem. Accounting for such a layered view of wealth, our measuring of wealth combines home values and parents' income in a composite measure that ranges on a continuum of liquidity. The social-

[2] We also acknowledge the class-reductive limitations of this tradition which tends to overlook complex intersections among race/ethnicity and social class (Harris and Leonardo, 2018; Yosso, 2005). Although our models include race, gender, English learner status, and disability status as covariates, the analyses may obscure the intersection of race and class as determinative of educational inequalities. Such a concern takes on increasing importance as overall wealth inequality in this country is greater than it has been at any time since the Gilded Age, and as that structure of inequality continues to be expressed most dramatically in the racial wealth divide (Taylor et al., 2011; Saez and Zucman, 2016).

emotional returns on wealth derive not only from immediately fungible income available on short notice, but also from home values that pertain to subjective social status (Nielsen et al., 2015) and create a safety net that provides adolescents with a sense of psychological preparedness and social assurance (Markus and Kitayama, 2010; Oliver and Shapiro, 2006). In keeping with our analytic focus on the whole child, the social-emotional competencies we have accounted for in our data inform the design of a composite measure that rejoins the purchasing and insurance functions of wealth.

### 2.3. Personal qualities and social-emotional competence

There is a longstanding tendency in the field of education to construe cognition within a narrow band of subject matter content knowledge (NRC, 2012; Rose, 2004). This tendency, accompanying the notion that intelligence can be measured along a single linear scale, has been challenged for decades (e.g., Bowles and Gintis, 1976; Gardner, 2011). Yet until quite recently, most research on educational outcomes has ignored important manifestations of cognition that undergird sociability and students' beliefs about themselves as learners (Farrington et al., 2012). The tide is turning, however, as growing interest from business and political leaders in schools' ability to develop soft skills is sparking new research on social-emotional competencies (Belfield et al., 2015; Heckman and Kautz, 2012; Loeb et al., 2018; Stecher and Hamilton, 2014). In this study, we focus attention on the interpersonal dimension as measured by sociability as well as the intrapersonal dimension as indicated by self-concept and self-control.

*Sociability.* Social skills are universally valued because they help people get along with others and secure scarce resources. Sociability may be as important as, or even more important than, subject matter test scores in determining children's future success (Heckman and Kautz, 2012; OECD, 2015). A wide range of social skills, such as being considerate, sharing, and stopping to objectively evaluate a disagreement with another person, have been shown to correlate with valued educational, health, and labor market outcomes (Fletcher, 2013; Rosen et al., 2010). Indeed, sociability correlates with academic achievement (Duckworth and Seligman, 2005), lifetime economic earnings (Heckman and Rubinstein, 2001), future occupational status (Heckman and Kautz, 2012), and long-term health behaviors (Chiteji, 2010). Succinctly, social skills are a crucial determinant of numerous individual and collective benefits (Borghans et al., 2008).

*Self-concept.* While social skills and being responsible have been shown to increase throughout adolescence (Robins et al., 2001), self-concept tends to ebb during the middle school years, when rank-ordered ability grouping challenges children's self-regard (Eccles and Wigfield, 2002). Yet a positive sense of self is considered essential to academic achievement during the middle school years (Marsh et al., 2005). Wilkins (2004), for example, found a strong positive correlation between student self-concept and math and science achievement among 13-year-olds, while Yoshino (2012) identified a positive association between eighth-graders' math self-concept and their math achievement in both Japan and the US. In a comprehensive review of 143 studies, Ma and Kishor (1997) found consistent evidence that self-concept in a specific discipline is related to academic achievement in the same discipline. In fact, there is increasing research evidence in support of a causal, and reciprocal, link between self-concept and subsequent achievement, especially for students in middle and high school (Guay et al., 2003).

*Self-control.* The educational importance of self-control has also been extensively documented among middle school students (Eisenberg et al., 2009). By recent measures, the self-control of students is more influential than actual test scores in predicting middle school students' academic performance and proved to be a more accurate predictor of grade point average than IQ scores (Duckworth and Seligman, 2005). Moreover, the benefits of self-control extend beyond the classroom to more general indicators of wellbeing. More self-controlled children are less likely to abuse drugs and alcohol, engage in delinquent and criminal acts, and develop externalizing symptomology (Wills and Stoolmiller, 2002). They also enjoy higher levels of life satisfaction, positive emotion, and healthier relationships with other people (Mischel et al., 1989).

We have pointed out that Bourdieu's critical ideas, linking wealth as an essential form of economic capital and sociability as a mechanism of social class reproduction, provides an illuminating conceptual framework—one that directs attention to variables that are often overlooked in education, such as household wealth, as well as to increasingly familiar social-emotional variables that deserve meaningful and ongoing clarification in scientific analyses and policy discussions (Bourdieu, 1986; Brubaker, 1985; Stecher and Hamilton, 2014). We build upon this understanding, positing that the study of adolescents' soft skills can be improved by the application of theory and methods designed to measure social-emotional competencies in relation to household wealth across distinguishable class groupings. To the best of our knowledge, this is the first empirical investigation linking wealth and soft skills while studying variation, among social class groupings, in the asset determinants of adolescents' social-emotional competencies.

## 3. Data, indicators and methods

*Dataset.* To address our research questions, data are sourced from the ECLS-K:98. This longitudinal survey was developed by the National Center for Educational Statistics (NCES) and is a nationally-representative sample of students, families, teachers, classrooms, and schools. NCES initially collected data for kindergartners (by surveying parents, teachers, and school administrators) from approximately 1000 kindergarten programs in the fall of the 1998–1999 school year, and followed them through grades 1, 3, 5, and 8 (see: http://nces.ed.gov/ecls/kindergarten.asp). A total of $N = 5290$ eighth grade student observations are used in this study.

The eighth grade wave of the ECLS-K is especially well-suited for our investigation of household wealth and adolescents' social-emotional skills. We exclusively evaluate outcomes measured in eighth grade—the only survey wave that includes home values as a

**Table 1**
Descriptive statistics.
Source: Early Childhood Longitudinal Study-Kindergarten Class (ECLS-K). Sample is restricted to 8th grade students who had non-missing information on household wealth and social-emotional outcomes.

| | Mean | *SD* |
|---|---|---|
| *Outcomes: intrapersonal skills* | | |
| Self-concept (standardized NCES composite variable) | 0.00 | 1.00 |
| Self-control (standardized NCES composite variable) | 0.00 | 1.00 |
| *Outcomes: interpersonal skills* | | |
| Sociability (standardized NCES composite variable) | 0.00 | 1.00 |
| *Key measures* | | |
| Wealth | 0.17 | 0.67 |
| *Additional forms of capital* | | |
| Symbolic capital | 41.22 | 12.25 |
| Human capital | 4.20 | 1.26 |
| Social capital | 4.67 | 4.96 |
| *Student measures* | | |
| Lagged math achievement score | 130.29 | 22.26 |
| Lagged measure of self-control | 3.30 | 0.55 |
| Lagged measure of sociability | 3.16 | 0.60 |
| Age (in months) | 171.37 | 4.30 |
| Male | 0.50 | 0.50 |
| Black | 0.06 | 0.23 |
| Hispanic | 0.13 | 0.34 |
| Asian | 0.04 | 0.19 |
| Other | 0.04 | 0.19 |
| Student has a disability | 0.14 | 0.35 |
| Primary language is English | 0.92 | 0.27 |
| Physical health rating | 1.55 | 0.73 |
| *Family measures* | | |
| Number of siblings | 1.43 | 1.04 |
| Number of adults in household | 2.19 | 0.71 |
| Parents are married | 0.84 | 0.37 |
| Residential mobility | 0.11 | 0.31 |
| N | 5290 | |

principal asset that is central to the wealth portfolio of the average American (Oliver and Shapiro, 2006).[3] Importantly, our measure of wealth narrowly predates the 2007 housing market meltdown and accompanying exogenous shocks and coincides with the peak in home prices when home equity continued to reinforce consumption security (Taylor et al., 2011). The spring eighth grade survey wave is also designed to measure adolescents' social-emotional skills during a particularly sensitive developmental period characterized by heightened social orientation toward peers and away from the influence of parents (Cunha et al., 2010; Eccles and Wigfield, 2002; Nagaoka et al., 2015).

The ECLS-K provides extensive information on family background and resources, family composition (i.e., the number of parents in the household and their relationships to the children), and race/ethnicity. Students' physical health, English learner status, residential mobility, and achievement test scores are also documented in the dataset. Along these lines, the dataset also lends itself to the development of constructs measuring various forms of capital, as numerous variables in the questionnaires measure parents' occupational prestige (symbolic capital), education (human capital), interactions with children's friends' parents (social capital), and wealth assets in the form of home values and income.

*Outcomes.* Table 1 presents mean and standard deviation values for all outcomes and predictor variables in this analysis. One of the benefits of relying on eighth grade survey data from ECLS-K is that it is possible to triangulate survey data from multiple sources of reporting, including students, parents, and teachers. Hence, three social-emotional outcomes—measured in the spring of eighth grade—are utilized in this study. The first two scales are designed to measure important intrapersonal dimensions of human competence (these scales were created by NCES and designed for the explicit purpose of measuring students' positive core self-evaluation). The third scale we designed to measure an important interpersonal dimension. Note that rather than being categorical, all three scales are continuous measures. The construction of these standardized scales is presented as follows.

### *3.1. Intrapersonal dimension*

NCES constructed and provided scales of self-concept and self-control based on spring eighth graders' self-reported responses in the survey. The questions used to develop these scales were derived from the National Education Longitudinal Study of 1988

[3] Though the ECLS-K dataset begins in kindergarten, prior to the eighth grade survey wave only traditional and limited measures of SES were available, such as family income, parental education, and receiving food stamps. We limit our analyses to eighth graders who had non-missing information on household wealth and social-emotional outcomes.

(NELS:88) and the Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1965). Both scales inquired about students' perceptions about themselves and the amount of control they had of their own lives. The items that were drawn from the NELS:88 student questionnaire asked students to indicate the degree to which they agreed with 13 statements about themselves. They chose from the following responses: "strongly agree," "agree," "disagree," or "strongly disagree" for each item. Note that some items were required to be recoded to follow in this direction.[4] The Cronbach's coefficient alpha for both scales is consistent with the findings from the NELS:88 data (alphaSelf-concept = 0.79, alphaSelf-control = 0.68). Note that the ECLS-K restricted-use data manual provides additional details on the psychometric properties of these scales.

### 3.2. Interpersonal dimension

The separate scale measuring students' sociability and interpersonal capacity to interpret and react responsibly to messages from others was created specifically for this study and is based on a combination of 15 questions from student- and parent-reported survey responses.[5] All scales utilized a 5-point ranking from 1 to 5, with answers ranging from "never", "seldom", "sometimes", "often", and "always." The Cronbach's coefficient of these items as a social skills scale is alpha Sociability = 0.71.

### 3.3. Independent variables

*Forms of capital.* Table 1 also presents mean and standard deviation values for the independent variables utilized in this study. Key among these are various forms of capital, some more material than others, and defined across four categories including symbolic capital, human capital, social capital and wealth in the form of home values and income. Each form of capital co-varies with the others and is conceptualized as having wealth at the root of its effects (Bourdieu, 1986). Survey responses for these items were derived from the parent survey in the spring of eighth grade.

Symbolic capital, as the resources available to an individual on the basis of prestige or recognition (Bourdieu, 1984; Lin, 1999), derives from two related ECLS-K measures: (1) average prestige score for mother's occupation, and (2) average prestige score for father's occupation. NCES recoded occupation to reflect the average of the 1989 General Social Survey (GSS) prestige score. This was computed as the average of the corresponding prestige scores for the 1980 Census occupational categories covered by the ECLS-K occupation.

Second, human capital as the knowledge to produce labor of value (Becker, 1964) derives from two related ECLS-K measures: (1) mother's education, and (2) father's education. These survey items proxy for parental knowledge and skill by inquiring into the highest education level for the child's parents (or guardians). There were 9 possible choices: (1) eighth grade or below; (2) 9th to 12th grades; (3) high school completion; (4) vocational or technical education; (5) some college; (6) bachelor's degree; (7) some graduate or professional schooling; (8) completion of (7); and (9) doctorate or professional degree.

Third, social capital, as cooperative interpersonal relations that facilitate the exchange of network-bound resources (Coleman, 1988; Portes, 1998), derives from a single ECLS–K measure of "intergenerational closure"—i.e., the practice by which parents form links with the parents of their children's peers (Carbonaro, 1998; Ryan and Ream, 2016). These networks make it possible for parents to work in unison not only to keep tabs on their children but also to collaborate for the purpose of influencing school personnel (Horvat et al., 2003). The item measures the number of parents of a student's school friends that the parent talks with regularly, either in person or over the phone.

Fourth, the central measure in our analyses—household wealth—derives from two ECLS-K survey items that were standardized and combined into a composite to capture both the purchasing function of income and the insurance function of home assets in the form of residence value. Parents could indicate household income "over the past year"—including income derived from assets—from 13 options, with the lowest option being $5000 or less and the highest option being $200,001 or more. Regarding residence value, parents were asked to report the value (i.e., selling price) of their home or apartment as measured in 2007 near the historic peak of the U.S. housing market. This is a particularly important item in the measure of household wealth since home values constitute the single largest contributor to family assets (Oliver and Shapiro, 2006) and in 2007 approximately 70 percent of American families lived in a residence they owned (U.S. Census Bureau, 2016). As an accumulated stock rather than a passing flow of resources, home values pick up aspects of socioeconomic status that income misses, and they may also anchor a conception of life chances and signal how conducive home environments are to social-emotional development (Lopoo and London, 2016; Solari and Mare, 2012). Note that our study included only those families who owned their residence.[6] A comparison of families who do and do not own is available

[4] For the Self-Concept scale, three of the seven items in the scale were reverse scored—e.g., "I certainly feel useless at times"—so that higher scores indicate more positive self-concept. For the Self-Control scale, five of the six items were reverse scored, e.g.: "I don't have enough control over the direction my life is taking." Items that contribute to the social-emotional scales are standardized to a mean of 0 and an *SD* of 1 and then averaged.

[5] The student-rated questions include: (1) Feel like you fit in at your school?; (2) Feel close to classmates at your school?; (3) My classmates think it is important to be my friend.; (4) My classmates like me the way I am.; (5) My classmates like me as much as they like others.; (6) My classmates really care about me. The parent-rated questions include: (1) Child is considerate of other people's feelings.; (2) {S/he} shares readily with other youth, for example books, games, food.; (3) {S/he} would rather be alone than with other youth.; (4) {S/he} is helpful if someone is hurt, upset, or feeling ill.; (5) {S/he} has at least one good friend.; (6) {S/he} often fights with other youth or bullies them.; (7) {S/he} is generally liked by other youth.; (8) {S/he} is kind to younger children.; (9) {S/he} often offers to help others (parents, teachers, children).

[6] As is the case with most large-scale educational datasets, ECLS data on assets are limited in scope. In future research we hope to tap other datasets—e.g., the National Longitudinal Survey of Youth—that broaden the measure of wealth to include other asset components including

upon request.

*Other measures.* Additional independent covariates that may be associated with changes in social-emotional outcomes are included as control variables. Student variables include a commonly-accepted set of socio-demographic and academic variables, including: IRT-scaled math ability measured at prior survey wave data collection (grade 5) as well as age, similar measures of self-control and interpersonal skills measured at prior survey wave data collection, gender, race, disability status, English learner status, indicator for grade level (some students were retained or skipped a grade), and physical health rated by the parents. Family variables included number of siblings and adults in the household, parents' marital status, and residential student mobility. Consistent with prior studies using ECLS-K data (e.g., Fletcher, 2010), dummy variables are utilized to indicate missing classroom or teacher control variables and missing information (no variable was missing more than 10%) was replaced with sample mean values.[7]

Table 2 presents partial correlation coefficients and their significance levels between the measure of household wealth and the set of additional independent variables employed in this study. Partial correlations were purposefully selected, as they test the association between two variables while controlling for the joint influence of all other variables in the table. Generally speaking, the correlations between wealth and the set of additional independent variables either approximate 0 or are at-most considered statistically weak. This is important, as it suggests that there is nothing systematic in the relationships between wealth and the set of independent variables that would make us suspect that wealth was simply serving as a proxy for other student or household characteristics. Additionally, while the table shows that some of these correlations may be statistically significant—the coefficients that appear to be higher than others, such as the measure of human capital, are to be expected given the interchangeability of various forms of capital (Bourdieu, 1986)—an ancillary test was conducted in which the proceeding regression models removed these measures from the analysis. The results did not differ, and as such they have remained in the analyses going forward.

### 3.4. Analytic approach

The analysis of the effect of household wealth on social-emotional outcomes begins with a baseline linear regression model, presented as follows:

$$SE_{ik} = \beta_0 + \beta_1 W_{ik} + \beta_2 C_{ik} + \beta_3 X_{ik} + \beta_4 F_{ik} + \varepsilon_{ik} \quad \text{(i)}$$

where SE is one of three social-emotional scales for student $i$ in school $k$ as the dependent variable on the left-hand side of the equation. Empirically, the sets of independent variables, described by the model, are estimated as follows. The key independent variable, W, is a vector of household wealth. Additionally, C contains all other forms of capital, X contains all student-level variables, and F contains family variables. The error term $\varepsilon$ includes all unobserved determinants of the outcome, cluster-adjusted by school. All analyses include eighth-grade survey weights provided by NCES.

A second specification in this study includes school-level fixed effects:

$$SE_{ik} = \beta_0 + \beta_1 W_{ik} + \beta_2 C_{ik} + \beta_3 X_{ik} + \beta_4 F_{ik} + \beta_k + \varepsilon_{ijkt} \quad \text{(ii)}$$

where $\delta_k$ are school fixed effects for school $k$. The term $\delta_k$ is a set of binary variables that indicates whether a student had attended a particular school, leaving one school out as the reference category. Prior research (Cho, 2012; Fletcher, 2010) has suggested that if similar types of families often attend the same school—as delineated by SES, unmeasured tastes, involvement, etc.— then school fixed effects would be useful in that this model would compare students within the same school, who arguably would look more similar on observable characteristics, like SES, compared to students across schools.

With regards to our second research question, we re-ran the above models separately for different levels of social class. That is, we have chosen to run fully-interacted models—i.e., one model for the lower-third, a separate model for the middle third, and yet another model for the upper-third of the wealth distribution. Emphasized in the results section are findings based on the school fixed effect models.

## 4. Results

*Main finding.* Table 3 presents coefficient estimates and cluster-adjusted standard errors and their associated levels of significance for the baseline model examining the association of household wealth to our three social-emotional outcomes. These findings are based on equation (1), where each outcome is modeled on a set of observable characteristics pertaining to wealth, other forms of capital, and student and family socio-demographics.

The first row of results presents the association between wealth and each social-emotional outcome as designated in each respective column heading. Here positive coefficients indicate positive correlations with social-emotional competencies. The baseline

(*footnote continued*)

financial wealth (e.g., stocks, and bonds), real assets including business wealth, as well as debt and mortgage obligations (which are lacking in ECLS parental survey responses on mortgage value). The current study lays groundwork for subsequent analyses on the social-emotional importance of income versus assets; other research shows the NLSY can be used effectively to study income versus net worth over time (Keister and Lee, 2017).

[7] Note that not all survey scales selected as outcomes in this study appear in the 5th grade survey. However, as shown by Gottfried (2014), there is a high degree of correlation between a lagged social-emotional outcome variable and lagged measure of ability. Hence, this study supports that the lagged measure of ability does account for some degree of variance based on the relationship between lagged outcome and current outcome.

**Table 2**
Partial correlation coefficients between household wealth and other variables.
Source: Early Childhood Longitudinal Study-Kindergarten Class (ECLS-K). Sample is restricted to 8th grade students who had non-missing information on household wealth and social-emotional outcomes. $^{**}p < 0.01$, $^{*}p < 0.05$.

| | |
|---|---|
| *Additional forms of capital* | |
| Symbolic capital | 0.06** |
| Human capital | 0.20** |
| Social capital | 0.06** |
| *Student measures* | |
| Lagged math achievement score | 0.07** |
| Lagged measure of self-control | −0.01 |
| Lagged measure of sociability | 0.04** |
| Age (in months) | −0.03* |
| Male | 0.01 |
| Black | −0.08** |
| Hispanic | −0.01 |
| Asian | 0.03 |
| Other | 0.03 |
| Student has a disability | 0.01 |
| Primary language is English | −0.04 |
| Physical health rating | −0.10** |
| *Family measures* | |
| Number of siblings | −0.04** |
| Number of adults in household | 0.02 |
| Parents are married | 0.04** |
| Residential mobility | 0.03* |
| N | 5290 |

**Table 3**
Baseline results predicting household wealth on social-emotional outcomes.
Source: Early Childhood Longitudinal Study-Kindergarten Class (ECLS-K). Sample is restricted to 8th grade students who had non-missing information on household wealth and social-emotional outcomes. Note: All regressions include a constant and a series of indicator variables for grade level. $^{**}p < 0.01$, $^{*}p < 0.05$.

| | Intrapersonal Skills | | Interpersonal Skills |
|---|---|---|---|
| | Self-Control | Self-Concept | Sociability |
| *Key variable* | | | |
| Wealth | 0.03(0.02) | 0.00(0.02) | 0.06(0.02)** |
| *Other measures of capital* | | | |
| Symbolic capital | 0.00(0.00) | 0.00(0.00) | 0.00(0.00) |
| Human capital | 0.05(0.01)** | 0.05(0.01)** | 0.02(0.01) |
| Social capital | 0.01(0.00)** | 0.01(0.00)** | 0.03(0.00)** |
| *Student socio-demographic data* | | | |
| Lagged math achievement score | 0.01(0.00)** | 0.00(0.00)** | 0.00(0.00) |
| Lagged measure of self-control | 0.00(0.04) | 0.05(0.04) | 0.01(0.04) |
| Lagged measure of sociability | 0.13(0.04)** | 0.14(0.04)** | 0.28(0.03)** |
| Age (in months) | 0.00(0.00) | 0.00(0.00) | 0.01(0.00) |
| Male | −0.07(0.03)** | 0.15(0.03)** | −0.14(0.03)** |
| Black | 0.07(0.06) | 0.39(0.06)** | −0.01(0.06) |
| Hispanic | −0.12(0.04)** | −0.05(0.05) | −0.11(0.04)** |
| Asian | −0.10(0.07) | −0.11(0.07) | −0.11(0.07) |
| Other | −0.18(0.07)** | −0.04(0.07) | −0.16(0.06)* |
| Student has a disability | −0.22(0.04)** | −0.25(0.04)** | −0.48(0.04)** |
| Primary language is English | 0.04(0.06) | 0.02(0.06) | 0.03(0.06) |
| Physical health rating | −0.09(0.02)** | −0.13(0.02)** | −0.17(0.02)** |
| *Family data* | | | |
| Number of siblings | −0.03(0.01)* | −0.03(0.01) | −0.03(0.01)* |
| Number of adults in household | 0.01(0.02) | 0.02(0.02) | 0.06(0.02)** |
| Parents are married | 0.09(0.07) | 0.16(0.08)* | 0.00(0.07) |
| Residential mobility | 0.01(0.04) | −0.06(0.04) | −0.06(0.04) |
| N | 5240 | 5240 | 5170 |
| $R^2$ | 0.10 | 0.09 | 0.16 |

**Table 4**
School fixed effects results.
Source: Early Childhood Longitudinal Study-Kindergarten Class (ECLS-K). Sample is restricted to 8th grade students who had non-missing information on household wealth and social-emotional outcomes. Note: All regressions include a constant and a series of indicator variables for grade level. $^{**}p < 0.01$, $^{*}p < 0.05$.

| | Intrapersonal Skills | | Interpersonal Skills |
|---|---|---|---|
| | Self-Control | Self-Concept | Sociability |
| *Key variable* | | | |
| Wealth | 0.07(0.03)* | 0.08(0.03)** | 0.13(0.03)** |
| *Other measures of capital* | | | |
| Symbolic capital | 0.00(0.00) | 0.00(0.00) | 0.00(0.00) |
| Human capital | 0.03(0.02) | 0.02(0.02) | −0.01(0.02) |
| Social capital | 0.01(0.00)** | 0.01(0.00)** | 0.02(0.00)** |
| *Student socio-demographic data* | | | |
| Lagged math achievement score | 0.01(0.00)** | 0.01(0.00)** | 0.00(0.00) |
| Lagged measure of self-control | 0.01(0.05) | 0.06(0.05) | 0.03(0.05) |
| Lagged measure of sociability | 0.13(0.04)** | 0.11(0.05)* | 0.29(0.04)** |
| Age (in months) | 0.00(0.00) | 0.00(0.00) | 0.00(0.00) |
| Male | −0.06(0.03) | 0.13(0.03)** | −0.16(0.03)** |
| Black | 0.03(0.10) | 0.25(0.10)* | 0.21(0.10)* |
| Hispanic | −0.17(0.06)** | −0.10(0.07) | −0.10(0.06) |
| Asian | 0.01(0.10) | −0.04(0.11) | 0.01(0.10) |
| Other | −0.09(0.09) | 0.01(0.10) | −0.14(0.09) |
| Student has a disability | −0.25(0.05)** | −0.28(0.05)** | −0.51(0.04)** |
| Primary language is English | 0.06(0.09) | 0.05(0.09) | 0.09(0.08) |
| Physical health rating | −0.08(0.02)** | −0.12(0.02)** | −0.16(0.02)** |
| *Family data* | | | |
| Number of siblings | −0.03(0.02) | −0.03(0.02)* | −0.03(0.02)* |
| Number of adults in household | 0.02(0.03) | 0.03(0.03) | 0.07(0.02)** |
| Parents are married | 0.17(0.09) | 0.31(0.10)** | 0.08(0.09) |
| Residential mobility | 0.02(0.06) | −0.06(0.06) | −0.03(0.05) |
| N | 5240 | 5240 | 5170 |
| $R^2$ | 0.41 | 0.39 | 0.45 |

results suggest that eighth grade students who have higher levels of household wealth tend to have slightly higher frequencies of sociability.

Importantly, these baseline results suggest several key takeaways. First, there are statistically significant results that persist between wealth and social-emotional skill even after controlling for the following: prior (grade 5) measures of social-emotional competence; multiple measures of symbolic, human, and social capital; other socio-demographic and academic characteristics of students, as well as family factors. Second, these results indicate that the association of wealth may be especially salient in the interpersonal dimension of social-emotional competence.

Table 4 presents the coefficients and cluster-adjusted standard errors from the school fixed effects models. The results pertaining to the relationship between wealth and social-emotional outcomes are found, as before, in the first row of results. The estimates suggest a consistency in interpretation between baseline and school-year fixed effects analyses. Having more wealth does imply higher frequencies of sociability, as was the case previously in the baseline model. This indicates, then, that the inclusion of school effects (i.e., models only comparing students within schools) does not veer away from this study's fundamental premise that a statistically significant relationship exists between wealth and social-emotional competencies.

That said, there appears to have been an underestimation of the coefficient on household wealth in the original model—hence, the reliance on more robust models is critical. Analytically, in conjunction with the increases in $R^2$ in Table 4 compared to Table 3, the Likelihood Ratio test also favors these school fixed effects models, which suggests that Table 4 portrays more robust estimates, given the data. Conceptually, the school fixed effects results now suggest that wealth permeates multiple measures of social-emotional competence. In addition to a prediction on sociability, there is also a relationship between wealth levels and social-emotional outcomes as indicated by self-concept and self-control. Rather than being domain-specific, the findings from Table 4 indicate that higher levels of wealth relate positively to both the interpersonal as well as the intrapersonal dimensions of human competence.

There also appears to have been an underestimation in the magnitude of the coefficients in the original model. Between the baseline and fixed effects models, the sizes of the coefficients have increased by between 110 and 140 percent. Thus, the fact that the coefficient estimates remain statistically significant and that the magnitudes are larger across the fixed effects approaches suggests that there might have been some underestimation in the baseline model, but not enough to veer away from a consistent finding that a positive social-emotional association continues to exist from having higher household wealth even after comparing students within, rather than between, schools.

**Table 5**
Heterogeneity by social class.

| | Panel A: Classes Divided into Equal Thirds | | | Panel B: Classes Divided ± 1 Standard Deviation | | |
|---|---|---|---|---|---|---|
| | Self- Control | Self- Concept | Sociability | Self- Control | Self- Concept | Sociability |
| Lowest class | | | | | | |
| Wealth | 0.05 | 0.31** | 0.21 | −0.33 | 0.14 | 0.24 |
| Middle class | | | | | | |
| Wealth | 0.29 | −0.04 | −0.04 | 0.22** | 0.19* | 0.39** |
| Highest class | | | | | | |
| Wealth | 0.02 | 0.01 | 0.06 | 0.05 | 0.07 | −0.13 |

### *4.1. Heterogeneity by relative social class*

Bourdieu's assertion that sociability is unequally distributed across social class groupings piqued our specific interest in whether the effects may differ for the upper class, the middle and working classes, and the poor. Moreover, we recognize and want to capitalize on the substantial amount of variation that underlies almost any statistical generalization. Thus, to begin, each cell in Table 5 represents a wealth coefficient and its statistical significance value for a unique regression, with the social-emotional outcome designated in the column heading and the particular social class group in the row heading on the left portion of the table. For the sake of clarity, other coefficients are not presented, though they are available upon request.

Panels A and B in the table are differentiated by the method by which the three social classes were constructed. In Panel A, social class was determined by equal thirds based on the distribution of household wealth in the sample. Hence, each category was stratified such that an equal number of individuals appear in each class grouping. In contrast, Panel B was determined based on an expanded middle class model: here, the middle class is the largest of all three groupings and is first determined by all students whose families fall within one standard deviation from the mean of wealth. All students above one standard deviation to the positive side are considered upper class, and all students below one standard deviation to the negative side are considered lower class.

Distinguishing across social class groupings proves to be noteworthy, as the results are unique in each grouping. In Panel A, for example, the lowest class by wealth has the most to gain, in terms of social-emotional competencies, from an increase in wealth. This is evidenced by the statistically significant coefficient in the first row of Panel A. In particular, adolescents in the lowest social class tend to have higher levels of self-concept with higher levels of wealth. Here the intrapersonal benefits of wealth accumulation are especially important for those who are likely among the working poor. This may not be as valuable, however, for the more advantaged students in the two higher wealth categories.

In Panel B, when the definition of upper, middle, and lower class changes so that the sample is shifted into new categories based on a broader definition of the middle class, however, so does the interpretation. Now, the findings suggest that middle class students have the most to gain with changes in wealth levels. This is evidenced by the positive and statistically significant coefficients found in the middle row of results in Panel B. Hence, this table demonstrates that variation in the magnitude and measurability of the wealth effect depends importantly on how wealth is demarcated conceptually—different ways of categorizing wealth produce differences in its effects. In short, the growth of household wealth has a more salient effect on the social-emotional competencies of lower- and middle-class adolescents than those in the highest class grouping.[8]

## 5. Conclusion and discussion

This study explores a new direction in educational research, one focused on variation in the prediction of household wealth on soft skills that determine success. Despite its necessarily preliminary findings, this work represents one of the first empirical investigations to evaluate the influence of wealth, across social class groupings, on a range of social-emotional attributes among adolescent eighth graders. As we call attention to group variation in how wealth moves together with social-emotional skills, our contributions to research rest on the purposeful widening of overly narrow assumptions about how to measure family resource inputs, student success, and the purposes of schools.

In regard to inputs, our focus on household wealth targets a particular problem in mainstream research in K-12 education: The persistent use of traditional measures of SES tends to neglect a focus on wealth assets, leaving the measure and specification of wealth more in the realm of economics and social philosophy than the education sciences (Yadama and Sherraden, 1996; Piketty, 2014). With regard to outcomes and the purposes of schools, research in education stands to benefit from the move beyond subject matter test scores toward consideration of important social-emotional competencies linked to developing the whole child. The timing is right for intense focus on these competencies. Strong employment and wage growth in occupations with high academic *and* soft skill

[8] The variation in the role of wealth in our models continues to differ when social class is defined by various additional commonly-accepted indicators of status. When social class is defined by mother's education, the results depict a similar interpretation: students have higher sociability outcomes from higher household wealth when their mothers have less than a Bachelor's degree. Yet higher wealth also bolsters sociability for students whose mothers completed a Bachelor's (analyses available upon request). Hence, this furthers the necessity to reexamine the way in which we define and utilize concepts of wealth, student outcomes, and social class groupings.

requirements means that social-emotional competencies are quickly becoming a major workforce development priority worldwide (Deming, 2017; OECD, 2015). Policymakers, in turn, are increasingly asking district and school leaders to learn about and support the development of these skills (Bargagliotti et al., 2017). Thus, we designed this study to examine variation, across distinguishable class groupings, in the relationship between household wealth and a range of soft skills including how adolescent learners view themselves, control their own impulses, and get along with others.

Based on our data and analysis, a focal conclusion emerged. A higher level of household wealth was correlated to higher levels of crucial social-emotional competencies. That is, the relative importance of family wealth was seen across both intrapersonal and interpersonal domains of social-emotional competence. Moreover, the role of wealth as "the root of all other types of capital" (Bourdieu, 1986: 252) superseded that of other forms of symbolic, human, and social capital in bolstering soft skills. This addressed the first of our two research questions.

Our second research question was designed, explicitly, to identify variation according to the contextual influence of household wealth on social-emotional competencies. That is, relationships were distinguishable for adolescents in different categories; and different ways of defining and operationalizing social class in our research influenced the magnitude of the effects.

There are several implications of these findings. First, it matters greatly how we conceptualize and measure social phenomena (Hauser and Warren, 1997). This study has shown that traditional measures of family income, education, and occupation, commonly labeled generically as SES, do not go far enough in accounting for the social-emotional dynamics affecting students' academic success. Measures of wealth inclusive not only of income but also of home values are crucial influences on the development of social-emotional skills. This study suggests, therefore, a strong need for research and policy that broadens the measure and conceptualization of family resources to include both the purchasing and insurance functions of wealth (Elliott et al., 2011).

Conceptualizations also matter in the way that we define social class groupings. As evidenced by heterogeneity in our final analyses, answers to research question 2 differed slightly depending on how "middle class" was defined. When we partitioned social class by equal thirds, for instance, the lowest class grouping showed the most to gain, in terms of social-emotional competencies, from an advance in wealth. Here our analyses corroborate previous studies suggesting that the growth of household assets has a greater marginal effect on child development for economically disadvantaged children than for others (Duncan et al., 2010; Grissmer and Eiseman, 2008). Yet our expanded middle class model has shown that adolescents positioned more toward the middle rungs of the social class ladder have the most to gain. Moreover, contrary to the so-called Matthew effect whereby advantage tends to accumulate and compound to the already advantaged (Merton, 1988), the highest class by wealth appears to have the least to gain, in terms of social-emotional skills, from an increase in wealth.

Altogether, the findings from this study suggest that alternative ways of categorizing students by social class might yield differing results, and thus lead to differing policies.[9] Asset-building policies directed toward low- and middle-income households—including saving incentives for qualified expenditures such as purchasing a home (Killewald et al., 2017)—may work to bolster adolescents' social-emotional attributes. Conversely, policies targeting the high end of the wealth distribution, such as inheritance and wealth taxation (Piketty, 2014), seem less likely to affect adolescents' soft skills in light of our results. But since policy solutions are most wisely undertaken in the context of a cumulative body of findings rather than in response to the results of any single study (McDonnell, 2000), we recommend further research designed to advance understanding of heterogeneity in the effects of wealth across the wealth distribution and the consequences of this heterogeneity for group level disparities in social-emotional skill.

### 5.1. Limitations and future research

This study insists on the importance of examining whether household wealth correlates, and to what extent it correlates, with social-emotional competence in middle school students. It has demonstrated such a correlation, with attention to numerous control variables across multiple forms of social-emotional skills and across multiple definitions of social class. By following the conceptual frame of our model, grounded as it is in Bourdieu's insights into how wealth and sociability may foster the reproduction of social class inequality (Bourdieu, 1986; Bourdieu and Passeron, 1990), future research in this area might proceed in several meaningful ways.

First, because the wealth survey items were only administered to parents in the eighth grade year of the ECLS-K survey, our sample is necessarily limited in scope. Future research would benefit by deploying—or, preferably developing—a longitudinal educational dataset that would collect household wealth and social-emotional data on students as they progress from pre-school into young adulthood. If our goal is to formulate new educational and social policy, we will need to be able to chart (in studies extending the method used here) the relative effects of wealth assets on social-emotional skills as well as the overlooked process mechanisms that produced our findings. Although the association between wealth and soft skills is robust, its underlying mechanisms have received little attention in this work. Whether wealth affects soft skills primarily through neighborhood school advantage, classed disparities in parental investment in children, or social status signals such as the latest technology and up-market brand clothing, a longitudinal educational dataset that tracks wealth and soft skills promises to shed further light on whether and how such skills catalyze educational attainment and wealth accumulation over time (Griesdorn and Durband, 2016; Yadama and Sherraden, 1996). Renewed qualitative research on family wealth (Johnson, 2014; Shapiro, 2004) could also advance understanding of underlying process mechanisms and become the impetus for subsequent studies that move beyond current research on how wealth affects soft

[9] Hence, this study suggests the needs for districts, states, and other stakeholders to triangulate multiple sources of data on family resources so that analyses and decisions at all levels can be based on multiple definitions of class standing and what it means to be an advantaged or at-risk student across a range of school settings.

skills.

Second, as the US grapples with the racial/ethnic dimensions of the wealth divide (Taylor et al., 2011; Saez and Zucman 2016), we welcome further inquiry into social-emotional competencies through an intersectional analytical framework. Specifically, that framework would investigate complex interrelations among class/wealth, race/ethnicity, and multiple social identities as they affect educational outcomes (Bowleg, 2012; Harris and Leonardo, 2018).

Third, this study advances contemporary research by focusing on scales for measuring social-emotional skills that take into account interpersonal competencies, specifically, sociability and the intrapersonal domains of self-concept and self-control. But insofar as these scales rely heavily on direct self-reported data, they are susceptible to common biases in self-reporting, including socially desirable responding and context dependence or reference bias (Duckworth and Yeager, 2015). As a way of circumventing the problems of bias in self-reporting, future research might examine indirect measures of household wealth and students' social-emotional skills—such as chronic school absence, suspension, dropout, and even health outcomes such as alcohol and drug use (Kautz and Zanoni, 2014)—which would, in turn, enable us to identify the extent to which resource inequality shapes social-emotional skills and the important educational outcomes not measured by achievement test scores (Jackson, 2012).

Finally, although making use of a survey dataset from the US Department of Education has many advantages, there is a cost. In particular, what our study could not do was assess the nuances in educational outcomes inhering in a single district or in a group of districts among the nearly 14,000 school districts in the United States. Since districts vary so widely with regard to organizational practices and specialized instructional programs aimed at bolstering social-emotional skills in students (Belfield et al., 2015; Meyer et al., 2018), we encourage future research that employs district-level analyses of the relationship between household wealth and students' social-emotional competencies.

## Declarations of interest

None.

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