

**Can Adolescents Acquire Cultural Capital Through Social Capital?
The Impact of Ties to College-Educated Adults**

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Abstract: Scholars debate whether cultural capital reproduces existing inequalities or provides a path to upward mobility. Most studies, however, focus only on cross-sectional associations and are unclear about how disadvantaged adolescents can increase their amounts of cultural capital. Adolescents may be able to increase cultural capital through ties to adults with high educational attainment. We investigate this topic using experimental longitudinal data on mentoring relationships. We find that mentors with a college degree or greater have positive effects on cultural capital, but primarily for adolescents with a parent with some college or greater. Thus, cultural capital may not be an engine of social mobility if adolescents from low-SES households cannot obtain or increase their cultural capital.

Keywords: cultural capital, social capital, educational inequality, socioeconomic status

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INTRODUCTION

Research on educational inequality often attempts to explain socioeconomic differences in educational achievement and attainment as a function of adolescents' backgrounds, parental investments in their children, school environments, and teachers' attitudes and behaviors (Berkowitz et al. 2017; Domina, Penner, and Penner 2017; Entwisle and Alexander 1993; Lauen and Gaddis 2013; Sirin 2005). In many ways, cultural capital represents the intersection of these processes. Scholars suggest that cultural capital reflects assets, cultural knowledge, and linguistic competencies, all deployed with confidence and seeming naturalness that help adolescents navigate the education system that rewards this distinctly White, middle-class approach (Calarco 2018; Holland 2019; Lareau 2015; Richards 2020a). Teachers, administrators, and other institutional agents value and reward students who exhibit high levels of cultural capital. Scholars argue that cultural capital matters because it aids students in negotiating interactions with gatekeepers at every educational juncture: with their grade-school teachers (Calarco 2011, 2014), in college admissions offices (Stevens 2007), and with college professors (Jack 2019). Thus, cultural capital plays a vital role in adolescents' and young adults' educational achievement and attainment, where they go to college, and their later socioeconomic status (Gaddis 2015; Lee and Kramer 2013; Noble and Davies 2009; Nora 2004; Rivera 2011, 2012).

Cultural capital is one of the most examined concepts related to educational inequality. Scholars have published nearly 2,000 articles and books focused on this topic during the past five years alone.¹ Research on cultural capital is deeply divided along at least three distinct lines leading to disputes about how to best interpret and operationalize Pierre Bourdieu's (1984, 1986; Bourdieu and Passeron 1977) ideas on the topic (see Davies and Rizk 2018; Lareau and

¹ This information is based on our own Google Scholar search for research using the term "cultural capital" in the title.

Weininger 2003). Arguably, a critical problem plaguing quantitative cultural capital research is the cross-sectional nature of most studies on the topic (although, see Breinholt and Jæger 2020; Gaddis 2013; Jæger and Breen 2016; and Lacoë, Painter, and Williams 2020 for longitudinal examinations). Since most quantitative studies focus on point-in-time correlations between cultural capital and outcome variables, this work is unclear on how, or even if, disadvantaged adolescents can significantly increase their amounts of cultural capital (Hu and Yin 2020).

One possible way of providing adolescents, particularly disadvantaged adolescents, with an opportunity to gain cultural capital is through ties to adults with high educational attainment. Adults who have successfully navigated the education system are likely to have high levels of cultural capital themselves and may help adolescents increase their cultural capital. These adults represent a form of social capital and may act as cultural guides by bringing more diverse knowledge, experiences, and resources through their ties to adolescents and their families (Granovetter 1973; Holland 2019; Lareau 2015; Stanton-Salazar 1997). However, research on social capital in education has rarely focused on ties between adolescents and adults outside of family or school networks (although, see Gaddis 2012; Hofferth, Boisjoly, and Duncan 1998; Morgan and Sørensen 1999) or the educational attainment of such adults, resulting in limited knowledge about this important form of social capital for adolescents.

This research examines whether adolescents' access to social capital increases cultural capital and whether this relationship varies by parents' educational attainment. We investigate this topic using unique experimental longitudinal data on mentoring relationships between adolescents and adults in the Big Brothers/Big Sisters of America program. We operationalize social capital as random assignment to an adult mentor and that mentor's educational attainment. We examine the effects of social capital on six measures of cultural capital as discussed in both

quantitative and qualitative research: (1) reading habits, (2) museum attendance, (3) play attendance, (4) cultural lessons, (5) visiting cultural locations, and (6) relationships with teachers.

We find that only mentors with a college degree or greater have positive effects on cultural capital for adolescents. When we examine models interacting social capital with parents' educational attainment, we find that most of these effects only apply for adolescents with a parent with some college or greater. Our research merges multiple theoretical strands and provides strong causal evidence on both social and cultural capital. The results suggest that social capital can induce changes in cultural capital, but the benefits are mostly limited to adolescents with highly educated parents. This research raises serious doubts about whether adolescents from educationally disadvantaged households can increase their amounts of cultural capital valued by dominant middle-class institutions. More broadly, our findings implicate cultural capital in a system of social reproduction.

LITERATURE REVIEW

Different Streams of Cultural Capital Research

Scholars have broadly interpreted the work of Pierre Bourdieu (1984, 1986; Bourdieu and Passeron 1977) to suggest that inequalities in capital (e.g., human, social, and cultural) lead to inequalities in academic outcomes. Cultural capital is the “informal knowledge about school, traditional humanist culture, linguistic competence and specific attitudes, or personal style” that are the attributes of the dominant class (Lamont and Lareau 1988: 155). Bourdieu's theory of cultural reproduction suggests that gatekeepers block students – typically those from low socioeconomic status (SES) backgrounds – who are not familiar with the dominant culture (cultural capital) and who do not have the disposition that typically comes from such familiarity (habitus). In educational environments, teachers, administrators, and other actors value cultural

characteristics that align with the dominant middle-class culture, which advantaged students convey through speech, attitudes, behavior, knowledge, and other interactions. However, only adolescents from middle- and high-SES backgrounds are exposed to the necessary cultural capital through their home life, interactions with their parents, and the various activities encouraged or organized by their parents. Although cultural capital helps these adolescents navigate the education system, adolescents from low-SES backgrounds may not have the dominant cultural capital expected at school and are at a distinct disadvantage. Thus, schools reproduce inequalities based on SES because institutional agents reward displays of the dominant culture, and those rewards translate into higher levels of educational achievement and attainment.

The attention to the concept pioneered by Pierre Bourdieu (1984, 1986; Bourdieu and Passeron 1977) has branched into three streams of research represented by the work of Paul DiMaggio (1982; DiMaggio and Mohr 1985), Annette Lareau (1987, 2000, 2011; Lareau and Weininger 2003), and Randall Collins (2009a, 2009b, 2014) (see Davies and Rizk 2018). Much quantitative research in education flows from the DiMaggio stream and tends to focus on broad questions examining whether cultural capital reproduces existing social structures or provides opportunities for mobility (Aschaffenburg and Maas 1997; De Graaf, De Graaf, and Kraaykamp 2000; Dumais 2006; Roscigno and Ainsworth-Darnell 1999). Conversely, qualitative research in education mostly flows from the Lareau stream and examines the processes of concerted cultivation and help-seeking behavior through both home and school interactions (Calarco 2011, 2014, 2018; Holland 2015; Lareau 2000, 2011; Richards 2020a).

Quantitative Research Examining Cultural Capital and Education

Scholars in the education literature conducting quantitative research tend to operationalize cultural capital as a measure of cultural resources. The most common

operationalizations include reading habits and participation in high-arts activities, such as museum visits and play attendance (Breinholt and Jæger 2020; DeGraaf, DeGraaf, and Kraaykamp 2000; Gaddis 2013). Additional alternate operationalizations appear in the literature, including beaux-arts possessions (Aschaffenburg and Maas 1997; DiMaggio 1982; Jæger 2009), cultural classes or lessons (Dumais 2008; Dumais and Ward 2010; Wildhagen 2009), cultural discussions and knowledge (Jæger 2009; DiMaggio and Mohr 1996; Tramonte and Willms 2010), extracurricular activities (Cheadle 2008; Covay and Carbonaro 2010; Jæger 2011), and teacher perceptions of habits and skills (Farkas et al. 1990; Farkas 2017; Kozlowski 2015). Recently, some scholars have expanded quantitative measures to better capture concepts from the qualitative literature by including operationalizations of concerted cultivation and interactions with educational institutional agents (Dumais and Ward 2010; Dumais, Kessinger, and Ghosh 2012; Matsuoka 2019).

The evidence from quantitative research consistently shows that cultural capital has positive effects on grades, test scores, and educational attainment (Aschaffenburg and Maas 1997; Bodovski and Farkas 2008; DeGraaf, DeGraaf, and Kraaykamp 2000; Dumais 2002, 2008; Gaddis 2013; Jæger 2009, 2011; Kalmijn and Kraaykamp 1996). Researchers disagree, however, whether cultural capital serves to reproduce existing structures or helps provide mobility through the education system. Prior work finds support for both the reproduction thesis (Jæger 2011; Jæger and Møllegaard 2017; Roscigno and Ainsworth-Darnell 1999) and mobility thesis (Andersen and Jæger 2015; Dumais 2006; Roksa and Potter 2011; Roksa and Robinson 2017), and mixed results as well (Aschaffenburg and Maas 1997; Dumais 2008). Moreover, these findings do not fit a clear pattern based on cultural capital measures, outcome variables, or contexts.

Qualitative Research Examining Cultural Capital and Education

Scholars in the education literature conducting qualitative research examine cultural capital as family behavior and interactions with educational institutional agents. Rather than focusing on whether children and parents engage in specific cultural activities, qualitative researchers focus more on examining how parents and sometimes children translate knowledge, practices, and habits into educational opportunities and success. Annette Lareau's work focuses more on what parents do concerning their children and schools (1987, 2000, 2002, 2011). In *Home Advantage*, she examines how middle-class families work the system to solidify and increase their advantages for their children in the education system (2000). In *Unequal Childhoods*, she suggests that parents' child-rearing techniques of either concerted cultivation or natural growth are a critical dividing line between families of different social classes (2011). Middle-class families focus on scheduling and structuring activities so their children can gain experience valued by the education system and learn how to interact with institutional agents to get additional advantages. Lareau's (2015) follow-up work shows that adults who grew up in middle-class, compared to working-class, families were more successful at navigating bureaucracies and were more stable economically and in their relationships.

A second critical strain of qualitative research following Annette Lareau's work focuses on adolescents' help-seeking behavior and how adolescents engage with and form relationships with educational institutional agents. Researchers doing this work find that parental socialization stemming from social class influences when students seek help and how they shape strategies to do so, which results in greater ease in these interactions among middle-class adolescents (Calarco 2011, 2014, 2018; Streib 2011). The resulting inequalities from this form of cultural capital continue into higher education, leading to fewer strategies for first-generation students to

draw upon while navigating college and more difficulties integrating into college (Armstrong and Hamilton 2013; Jack 2016; Stuber 2011; Yee 2016). Without sufficient cultural capital and appropriate strategies to navigate the higher education system, these students face a form of “culture shock” which increases stress and sense of isolation and places them at higher risk of dropping and stopping out (Aries 2008; Jack 2014; Lehmann 2007; Ostrove and Long 2007; Pike and Kuh 2005; Stephens, et al. 2012; Zarifa et al. 2018).

Can Adolescents Acquire or Increase Amounts of Cultural Capital?

While researchers generally find that cultural capital is a crucial component in educational inequality, it remains unclear whether cultural capital contributes to reproduction or mobility (Aschaffenburg and Maas 1997; DiMaggio 1982). This lack of clarity is, perhaps, due to limited research addressing whether cultural capital can be acquired or increased (Hu and Yin 2020). Qualitative research captures cultural capital as a relational concept better than quantitative research (Davies and Rizk 2018). However, while qualitative researchers examine the interaction processes leading to the use of cultural capital, they do not measure amounts of cultural capital nor find that adolescents from lower- and working-class families can systematically obtain cultural capital. Conversely, although quantitative researchers are well-positioned to examine changes in amounts of cultural capital, the vast majority of quantitative cultural capital research is based on point-in-time rather than longitudinal examinations.

However, a limited number of studies have bucked these trends and directly or indirectly examined whether and how adolescents can obtain or increase amounts of cultural capital. Two such qualitative studies stand out. The first examines how cross-class cultural mentors may provide working-class families with resources and tools for interacting with educational institutional agents (Lareau and Calarco 2012). While working-class families sometimes have

opportunities to interact with middle- and upper-class parents in a consistent and sustained environment (e.g., during Little League games), these interactions yield limited benefits for working-class families. A second qualitative study examines the different ways that low-SES students interact with educational institutional agents in college (Jack 2016). This research suggests that low-SES students can gain cultural capital when exposed to upper-class peers exhibiting cultural capital at elite prep schools. This form of cultural capital benefits low-SES students by preparing them for interactions with professors and administrators in higher education.

Finally, three additional quantitative studies, including two field experiments, provide additional insight on whether students can acquire or increase cultural capital. Using the multi-wave longitudinal Panel Study of Income Dynamics (PSID), Roksa and Potter (2011) examine differences in cultural capital among parents whose class positions changed or stayed the same over their lifetimes. They find that upwardly mobile (from low- to middle-SES) parents can adopt practices of concerted cultivation and help their children gain cultural capital. Two field experiments provide strong causal evidence suggesting that adolescents can acquire and increase cultural capital. In the first, students randomly assigned to attend an art museum were more likely than students in the control group to want to acquire more cultural capital and attend the same museum again (Kisida, Greene, and Bowen 2014). In the second, students randomly assigned to attend a theatre play were more likely than students in the control group to want to acquire more cultural capital (Greene et al. 2018).

These five studies provide insight into whether adolescents can acquire or increase amounts of cultural capital; however, they are far from definitive for a few reasons. While the two qualitative and two experimental studies examine potential causal mechanisms of cultural

capital acquisition, the fifth study (Roksa and Potter 2011) does not specify precisely how cultural capital acquisition might occur. Each of the other four studies examines only a specific mechanism through which adolescents might acquire or increase cultural capital. Moreover, each study examines a specific context – two in northwest Arkansas (Greene et al. 2018; Kisida, Greene, and Bowen 2014). Finally, none of these studies outline clear, general, accessible pathways that parents or adolescents might easily pursue to acquire or increase cultural capital.

Acquiring or Increasing Cultural Capital through Social Capital

Although not systematic, the literature on cultural capital acquisition hints at a possible way for parents and adolescents to acquire or increase cultural capital. In the proper context, connections to and interactions with other middle- and upper-SES adults might help adolescents acquire or increase cultural capital. These connections are a form of social capital, which can generally be defined as access to and use of resources available in network connections (Bourdieu 1986; Coleman 1988, 1994; Lin 2002, 2008; Portes 1998). Similar to cultural capital, scholars have used the concept of social capital in a wide array of disciplines, subfields, applications, and analyses. We merge two important strands of social capital research to suggest how social capital might lead to cultural capital acquisition. We draw from studies on social capital in education (e.g., Coleman 1988; Stanton-Salazar 1997) and networks and employment (e.g., Lin, Ensel and Vaughn 1981; Pedulla and Pager 2019). Our inequality- and network-centered theory of social capital helps illuminate important potential mechanisms of cultural capital acquisition.

Social Capital in the Education Literature

Research on social capital in the education literature originates from Pierre Bourdieu's (1986) and James Coleman's (1988) theoretical and empirical work on the topic. The former

focuses on access to institutional resources, while the latter focuses on norms (Dika and Singh 2002). Thus, scholars have operationalized social capital in the education literature in a variety of ways. Work in this vein has examined social capital as intergenerational closure (Carbonaro 1998; Morgan and Sørensen 1999), parents' relationships with other adults (Horvat, Weininger, and Lareau 2003), parents' involvement at school (McNeal 1999; Ream and Palardy 2008), adolescents' extracurricular activities (Broh 2002), or resources through adolescents' friends (Cherng, Calarco, and Kao 2013).

Ricardo Stanton-Salazar proffers a different version of social capital. Stanton-Salazar suggests that relationships with institutional agents are social capital (1997, 2001, 2011). His view of institutional agents is expansive – these agents include teachers, counselors, and anyone else who has “the capacity and commitment to transmit directly, or negotiate the transmission of, institutional resources and opportunities” (1997: 6). Stanton-Salazar suggests that these institutional agents can provide seven different forms of knowledge that help adolescents navigate and succeed in the education system. He tested these theories with data from in-depth interviews, focusing on Mexican-origin adolescents from working-class families. Stanton-Salazar, however, never explicitly tested whether the educational attainment level of network connections (i.e., social capital) mattered, nor whether this social capital affects adolescents' cultural capital (Stanton-Salazar 2001; Stanton-Salazar and Dornbusch 1995; Stanton-Salazar and Spina 2003).

Other researchers have examined social capital in a framework similar to Ricardo Stanton-Salazar using qualitative methods. Findings from this work suggest differences by race/ethnicity and SES in access to social capital, both in terms of the types of social capital adolescents can access and the value of that capital (Hardie 2015, 2018). Black, Hispanic, and

low-SES students have limited valuable social capital and often rely on educational institutional agents, such as counselors and teachers, to mobilize resources. These students may have few options, beyond counselors and teachers, of other adults to talk to about the college application and financial aid processes. While some research suggests counselors can positively contribute to college planning for Black, Hispanic, and low-SES students (Farmer-Hinton 2008; McKillip, Rawls, and Barry 2012; O'Connor 2000; Stanton-Salazar 2011), others find that these relationships are often only marginally beneficial due to misunderstandings and lack of trust between disadvantaged students and counselors (Holland 2015, 2019).

Education scholars have examined social capital in a variety of ways; however, very few have examined the role of important adults beyond those within the family and school. Some research has considered social capital as natural or informal mentors and examined their impact on adolescents' educational attainment and achievement (DuBois and Silverthorn 2005; Erickson, McDonald, and Elder 2009; Miranda-Chan et al. 2016). These studies, however, include family members, teachers, and other important adults in their measurements of social capital. Moreover, causality among these and other lines of social capital research is difficult to establish due to non-random selection into these relationships (Eby et al. 2008; McDonald and Lambert 2014; McDonald et al. 2013; Mouw 2006).

Social Capital in the Networks and Employment Literature

The education literature on social capital has rarely focused on the importance of unrelated adults and others beyond teachers and counselors in assisting adolescents. Moreover, this work has overlooked theoretical insight from social capital work in the networks and employment literature. An adolescent's connection to an adult may be one part of social capital;

however, that adult brings embedded resources to the relationship that are, perhaps, an even more critical aspect of social capital.

Research on labor market outcomes, however, has examined the importance of similar types of social capital and consistently finds benefits from weak ties – individuals within a network dissimilar from the focal respondent. Mark Granovetter (1973) suggests that two fundamental social relationships exist based on either strong or weak ties. Strong ties occur between close family members and friends, whereas weak ties occur through relationships with acquaintances or friends of friends. Weak ties form a network of heterogeneous members that creates valuable social connections and makes upward mobility possible. Expanding on Granovetter's work, Lin, Ensel, and Vaughn (1981:395) explain that social resources (capital) are “embedded in the positions of contacts an individual reaches through his social network.” In their research, the authors found that men in the labor force obtained higher status jobs indirectly through weak ties. Weak ties lead to higher status individuals that lead to higher status jobs because weak ties represent contacts who are a different social class from the individual (also see Lin, Vaughn, and Ensel 1981).

Numerous studies of labor market inequality have investigated social capital and embedded resources (Castilla, Lan, and Rissing 2013; Mouw 2003; Trimble and Kmec 2011). A recent theoretical development with a strong corollary to our work concerns network placement. In employment, as Pedulla and Pager (2019: 988) explain, network placement captures the idea that “strategically placed social ties may provide job seekers with tacit, informal knowledge about the companies and jobs to which they are applying.” In other words, the concept of network placement provides specificity in the potential value of social capital in employment contexts. This concept translates to education in that the value an adult provides in determining

an adolescent's educational success should account for the educational attainment of that adult. For example, an adult with a high school degree may serve as a role model and help adolescents in other ways; however, they may be unable to provide crucial knowledge about navigating the education system.

Some scholars have suggested similar ideas, particularly in reference to “cultural guides” to help adolescents navigate the education system (Gonzales 2011, 2016; Holland 2019; Lareau 2015; Lareau and Calarco 2012; Stanton-Salazar 1997; Vallejo 2012). However, this research often focuses only on standard educational institutional agents – such as teachers and counselors – and does not systematically examine differences by the educational attainment of these important adults. One potential disadvantage to prior research is that teachers and counselors act as gatekeepers, subjective decision-makers, and social capital for adolescents. Perhaps, for an adolescent to receive maximum benefit from social capital, that adult must be an outsider who has successfully navigated the system rather than a part of the education system.

The social capital literature on networks and employment suggests that the best social capital for a disadvantaged adolescent may be an adult with a college education. A college-educated adult, who has successfully navigated the education system and is likely to understand the importance of cultural capital, may prove especially beneficial to adolescents with parents who did not attend college.

CONTRIBUTION AND RESEARCH QUESTIONS

Most quantitative cultural capital research uses cross-sectional rather than longitudinal data. Thus, quantitative work presents unclear causal evidence of whether disadvantaged adolescents can significantly increase their amounts of cultural capital. We bring together two theoretical strands on social capital and suggest that college-educated adults may provide

adolescents with opportunities to increase their cultural capital. Unlike prior work in education on social capital, we examine other adults who are not related to the focal adolescents and are not teachers or counselors. Additionally, more than just the existence of social capital, we focus on the content of social capital and analyze whether the educational attainment of an adult matters. We build on social capital and cultural capital research by using experimental longitudinal data that capture multiple measures of cultural capital at two times points and causal effects of social capital. Our two primary research questions are:

- (1) Does social capital – operationalized as random assignment to an adult mentor and that mentor’s educational attainment – affect an adolescent’s levels of cultural capital?
- (2) Are the effects of social capital on cultural capital, if any, dependent on an adolescent’s parents’ educational attainment?

DATA AND METHOD

Sample

We examine our research questions using data on adolescents who participated in the Big Brothers/Big Sisters of America program (BBBSA) during the early-to-mid 1990s. BBBSA program staff worked with Public/Private Ventures on an experimental design and matched adolescents with an adult mentor in eight cities – Columbus, Ohio; Houston, Texas; Minneapolis, Minnesota; Philadelphia, Pennsylvania; Phoenix, Arizona; Rochester, New York; San Antonio, Texas; and Wichita, Kansas. Staff did not significantly alter the typical BBBSA matching policies and procedures except to include a control group for adolescents who were not matched with mentors by staff. Instead, staff placed these adolescents in the control group on a waiting list.

Researchers took a random sample of adolescents from existing BBBSA applicants, 959 of whom completed a baseline interview (before random assignment) and a follow-up interview (eighteen months later). The staff assigned 472 adolescents to the control group and 487 to the treatment group, 378 of whom received treatment (i.e., matched to an adult mentor).

Table 1 shows the descriptive statistics for our sample. The mean age of adolescents at the beginning of data collection in our sample is 12.3, and the range is 9.4 to 16.7. The sample skews male (62.5%) and has nearly as many Black adolescents (40.8%) as White adolescents (42.3%). It is important to note the nature of disadvantage in this sample. Although the criteria differ by chapter, the BBBSA program attempts to help the most disadvantaged children and adolescents. Nearly 83% of the sample live in households making less than \$25,000 per year, and most live in a single parent or non-parental household (see Tierney, Grossman, and Resch 1995 for more information). This sample is skewed towards low-SES families and is not nationally representative. Importantly, however, there are no statistically significant differences on any of our control or pre-treatment variables between the three categories of social capital (more below). Although the sample is not generalizable to all adolescents in the U.S., the experimental nature of these data allows us to examine the effects of social capital on cultural capital for disadvantaged adolescents in a causal framework absent traditional problems of selection bias (Mouw 2006).

<insert Table 1 about here>

Variables

The dataset contains many adolescent characteristics, including the following variables that we use as our controls: age, gender, race/ethnicity, parents' educational attainment, learning disability status, and GPA at baseline. Our independent variable of interest – social capital – is

operationalized as a combination of treatment status and mentor's educational attainment. Each adolescent has an equal chance of being randomly assigned to a mentor. We trichotomized mentor status as (1) no mentor, (2) mentor with some college education (but no degree) or less, and (3) mentor with a college degree or more.² Arguably, this operationalization aligns well with the rich theoretical work of Mark Granovetter (1973), Nan Lin (2002, 2008; Lin, Ensel, and Vaughn 1981), and others by capturing both access to social capital and gradations in the embedded resources.

We examine six operationalizations of cultural capital as our dependent variables of interest: weekly hours spent reading, the number of times an adolescent has visited a museum in the past 12 months, the number of times an adolescent has attended a play in the past 12 months, the average number of cultural lessons outside of school (i.e., music, art, dance, and language), the frequency that adolescents visited cultural locations in the past 18 months (e.g., library, museum, or a play), and whether adolescents stated that they learned to get along better with teachers in the past 18 months. Each of the first four cultural capital measures was recorded before treatment assignment and eighteen months later, while the last two were only recorded during the follow-up.

Our first five measures of cultural capital best align with traditional quantitative operationalizations of cultural capital in the literature, although debate continues as to whether other measures could be more useful (see discussion in Gaddis 2013; Sablan and Tierney 2014). However, our sixth measure is closely related to an operationalization of cultural capital in recent qualitative work: the concept of help-seeking behavior (Calarco 2011, 2014; Lareau 2015;

² Robustness checks using income categories instead of college education yield similar results. However, educational attainment is the crucial theoretical link to Bourdieu's concepts of cultural capital and habitus.

Richards 2020). This multi-faceted approach to measuring cultural capital should provide a more robust examination of the effects of social capital on cultural capital.

We use multiple imputation to address missing data. In each imputation model, we include the control and other independent variables listed in each of the main regression tables. We impute interaction values using an approach recommended by Allison (2002) in which we first create all relevant interaction variables and then impute values for any missing variables.

Analytic Strategy

We analyze longitudinal models that include lagged dependent variables to adjust for omitted variable bias. In each model, we also include the individual-level controls listed above and geographic location (city). We estimate a multilevel model with a random intercept for chapter or location due to the nested nature of the data (individuals i nested within BBBSA chapters j). Presented in generalized form, the longitudinal model is:

$$Y_{ij\text{ post}} = \zeta_j + \mu_i + \beta_1 SC_{ij} + \beta_2 X_{ij} + \beta_3 Y_{ij\text{ pre}} + \varepsilon_{ij} \quad (1)$$

where ζ is a level 2 (location) intercept, μ is a level 1 (individual) intercept, SC is the social capital variable, X is a vector of control variables, Y_{pre} is the lagged dependent variable, and ε is the error term. We estimate separate models for each of the six dependent variables.

Additionally, we model interactions between social capital and parents' educational attainment to test whether the effects of social capital vary by and parents' educational attainment. Presented in generalized form, this model is:

$$Y_{ij\text{ post}} = \zeta_j + \mu_i + \beta_1 SC*PARED_{ij} + \beta_2 X_{ij} + \beta_3 Y_{ij\text{ pre}} + \varepsilon_{ij} \quad (2)$$

where $SC*PARED$ is an interaction that captures six possible categories of social capital and parents' highest educational attainment – parent with a high school degree or less and no mentor, parent with some college or more and no mentor, parent with a high school degree or less and a

mentor with less than a college degree, parent with some college or more and a mentor with less than a college degree, parent with a high school degree or less and a mentor with a college degree or greater, and parent with some college or more and a mentor with a college degree or greater.

RESULTS

Table 2 presents the effect of social capital (treatment status and mentor's educational attainment) on each cultural capital variable. In model 1, we examine the effect of social capital on reading habits post-treatment. The results indicate that having a mentor with less than a college degree has no significant effect on time spent reading. Having a mentor with a college degree or greater has a significant and positive effect (0.497; $p \leq 0.05$) on time spent reading. In model 2, we examine the effect of social capital on museum visits post-treatment. The results indicate that having a mentor with less than a college degree has no significant effect on museum visits. Having a mentor with a college degree or greater has a significant and positive effect (0.143; $p = 0.07$) on museum visits. In model 3, we examine the effect of social capital on play attendance post-treatment. The results indicate that having a mentor of any educational attainment has no significant effect on play attendance. In model 4, we examine the effect of social capital on the number of cultural lessons at post-treatment. The results indicate that having a mentor with less than a college degree has no significant effect on the number of cultural lessons. Having a mentor with a college degree or greater has a significant and positive effect (0.196; $p = 0.07$) on the number of cultural lessons. In model 5, we examine the effect of social capital on cultural location visits at post-treatment. The results indicate that having a mentor with less than a college degree has no significant effect on cultural location visits. Having a mentor with a college degree or greater has a significant and positive effect (0.369; $p \leq 0.05$) on cultural

location visits. In model 6, we examine the effect of social capital on whether adolescents report that they have learned to get along better with teachers in the past eighteen months. The results indicate that having a mentor of any educational attainment has no significant effect on getting along better with teachers.

The results from Table 2 provide some moderate evidence that adolescents who have access to a highly educated adult other than their parents or teachers can increase their cultural capital. However, this relationship may vary by an adolescent's social background. In Table 3, we examine the effect of social capital interacted with parents' educational attainment on each cultural capital variable. In model 1, the results indicate that the only significant effect of social capital on time spent reading is for adolescents who have a mentor with a college degree or greater and a parent who has a high school degree or less (0.632; $p \leq 0.05$). In model 2, the results indicate that the only significant effect of social capital on museum visits is for adolescents who have a mentor with a college degree or greater and a parent who has some college or greater (0.281; $p = 0.08$). In model 3, the results indicate no significant effects of social capital on play attendance for any adolescents. In model 4, the results indicate a positive effect on the number of cultural lessons for adolescents who have a mentor with a college degree or greater and a parent who has some college or greater (0.873; $p \leq 0.001$). In model 5, the results indicate that the only significant effect of social capital on cultural location visits is for adolescents who have a mentor with a college degree or greater and a parent who has some college or greater (0.651; $p \leq 0.09$). Finally, in model 6, the results indicate a positive effect on getting along better with teachers for adolescents who have a mentor with less than a college degree and a parent who has some college or greater (0.766; $p = 0.06$).

The regression results are not necessarily intuitive due to the different baseline values of cultural capital for each group and the interaction effects. Thus, in Figures 1 through 6, we graph the baseline mean for each of the first four cultural capital outcome variables³ and the predicted values by the interaction between social capital and parental educational attainment for each of the six cultural capital outcome variables. These figures show the difference in time trends due to adolescents' different social capital and parental educational attainment. Lighter-colored bars indicate the effects for adolescents with a parent who has a high school degree or less. In contrast, darker-colored bars indicate the effects for adolescents with a parent who has some college or more.

Figure 1 shows that adolescents with a parent who has a high school degree or less significantly increase their time spent reading only when they have a mentor with a college degree or greater. These adolescents increase reading time by approximately 24% over their baseline level. For adolescents with a parent who has some college or greater, reading levels are relatively flat over time. These adolescents experience no significantly different increase in reading time from any type of mentor.

Figure 2 shows that adolescents in each parental education group undergo a reduction in museum visits over time. However, that reduction is significantly attenuated for adolescents with a parent with some college or greater and a mentor with a college degree or greater. These adolescents experience a decrease in museum visits of approximately 4% compared to 28% for adolescents without a mentor.

Figure 3 shows that adolescents in each group experience a reduction in play attendance over time; however, none of the results are significant. Figure 4 shows that most adolescents

³ The baseline survey did not include the underlying survey question for the fifth and sixth outcome variables (i.e., cultural location visits, get along better with teachers).

continue to engage in cultural lessons at similar or slightly reduced rates over time. However, adolescents with a parent with some college or greater experience the largest differences depending on their social capital. Among these adolescents, those with no mentor experience a *decrease* in cultural lessons of approximately 32%, while those with a mentor with a college degree or greater experience an *increase* in cultural lessons of approximately 34%.

Figure 5 has no baseline results for comparison. Among adolescents with a parent with a high school degree or less, there are no differences across the three levels of social capital. However, among adolescents with a parent with some college or greater, those with a mentor with a college degree or greater are more likely than their peers to report visiting cultural locations “sometimes” or “pretty often.” Finally, Figure 6 also has no baseline results for comparison. Among both groups of adolescents, there are no differences across the three levels of social capital.

DISCUSSION

A vast literature in education has examined the influence of cultural capital in educational achievement and attainment. Few quantitative studies of cultural capital, however, have used longitudinal data. Thus, debate exists as to whether adolescents and their families – particularly disadvantaged adolescents – can acquire and increase their amounts of cultural capital. In this research, we merged theories of social capital to create a framework suggesting that adolescents might form relationships with unrelated adults who are not teachers or school counselors to increase their cultural capital. Furthermore, we proffered that college-educated adults might be most effective in this purpose.

Our findings showed that college-educated mentors can help adolescents increase their cultural capital, but only among adolescents whose parents have some experience with the higher

education system. Why this is true is a bit of a puzzle. Mentors with a college degree may focus more on academic activities and discussions. They may specifically use their time to engage with adolescents in activities that increase cultural capital (e.g., attending museums and visiting cultural locations). Alternatively, they may use their knowledge and clout with parents to convince them to engage in similar activities with their children and provide information on the importance of these activities. It is unclear, however, why mentors with college degrees would not be able to do the same for adolescents whose parents did not attend college. Perhaps these positive effects on cultural capital arise only when parents and mentors share similar beliefs about what adolescents need from the relationship. Moreover, low-SES parents may not be able to commit the time, transportation, and financial resources that cultural capital activities require, even if an outside adult is encouraging them. Scholars should investigate this part of the social capital to cultural capital link in more detail.

Our analysis used experimental data from the BBBSA mentoring program. These data do have some limitations (i.e., moderate sample size, relative disadvantage in the sample, and limited measures of cultural capital), but we believe the experimental nature of the data collection provides a unique opportunity that counterbalances these limitations. Although parents select into the BBBSA program, random assignment to treatment or control conditions and random assignment to specific mentors strengthens our causal claims of the effects of social capital on cultural capital. Unfortunately, the value of this type of social capital in increasing cultural capital is limited to more advantaged families.

A primary limitation of these data is the small sample size. The limited number of adolescents in some categories led to some imprecisely measured coefficients. We report nearly half of our key significant findings with p-values between 0.05 and 0.10 – although most of these

are between 0.05 and 0.08. Some may suggest that reporting these coefficients is less than ideal due to standard conventions surrounding p-values in social science. We believe recent debates about strict adherence to statistical significance thresholds versus simply reporting p-values and providing context for the direction of effects supports our decision to report these effects (Amrhein, Greenland, and McShane 2019; Hurlbert, Levine, and Utts 2019; Wasserstein, Schrim, and Lazar 2019). Our figures showing predicted values provide this context and tell a consistent and coherent story, despite some p-values between 0.05 and 0.08. Moreover, it is important to recall our strong framework for producing causal estimates due to the experimental and longitudinal nature of our data.

We believe that five of our cultural capital measures are well-aligned with prior quantitative work, and our sixth measure (i.e., “get along better with teachers”) is closer to what qualitative work measures. Additionally, the first five measures are activities that mentors can directly participate in with adolescents, but the sixth measure requires passing along knowledge that the adolescent must apply herself. Some researchers have questioned the appropriateness of these traditional quantitative measures (Davies and Rizk 2018). Research, however, finds that these types of measures predict educational achievement and attainment, likely because they help spark intellectual curiosity, knowledge acquisition, and a greater engagement with education.

Our work also suggests that future research should be aware of a slight but essential distinction among three interrelated concepts. Scholars have not clearly defined conceptual boundaries between adolescents’ help-seeking behavior, teachers and counselors as sources of social capital, and non-educational actors as sources of social capital. This distinction is crucial because help-seeking behavior can be seen as cultural capital but may also be translated into social capital through interactions with teachers and/or counselors. Moreover, different sources

of social capital (i.e., teachers and counselors versus other non-school affiliated adults) may provide different value to adolescents due to the gatekeeper role. Future research should examine this possibility.

Additional broad questions remain that we were unable to address in our research. First, as discussed above, what are the mechanisms that lead adolescents to increase cultural capital in some contexts? Second, are there other ways to attain or increase cultural capital, not just via different kinds of social capital, but more broadly? Third, evidence suggests that race and ethnicity are often paramount in understanding the value of cultural capital, so how do race and ethnicity shape the process of cultural capital acquisition (Richards 2020b)? These questions will provide salient details about cultural capital acquisition that may further clarify the social mobility versus reproduction debate.

Our findings are theoretically interesting but discouraging because they suggest social capital may not be a route for disadvantaged adolescents to acquire or increase cultural capital. These results give credence to the thesis that cultural capital may only work as an engine of social reproduction if disadvantaged students cannot easily or systematically acquire or increase cultural capital. If so, ideas and policies to reduce educational inequality may need to focus more on changing the attitudes and behaviors of institutional gatekeepers rather than disadvantaged families.

Table 1. Descriptive Statistics

	Mean / Proportion			
	Total	No mentor	Mentor w/ < col. deg.	Mentor w/ ≥ col. deg.
<i>Controls</i>				
Age	12.25	12.33	12.04	12.17
Male	0.625	0.650	0.534	0.617
White	0.423	0.398	0.486	0.448
Black	0.408	0.417	0.370	0.409
Hispanic	0.103	0.113	0.082	0.091
Other Race/Ethnicity	0.066	0.072	0.061	0.052
Parent ≤ high school	0.582	0.587	0.589	0.565
Parent ≥ some college	0.418	0.413	0.411	0.435
Learning disability	0.155	0.161	0.151	0.143
GPA (pre-treatment)	2.77	2.77	2.67	2.83
<i>Cultural Capital (pre-treatment)</i>				
Time spent reading	2.12	2.07	2.10	2.24
Museum visits	1.03	0.97	0.91	1.25
Play attendance	0.98	0.99	0.78	1.08
Cultural lessons	0.37	0.35	0.42	0.38
N	959	583	156	230

Table 2. Social Capital Models Predicting Cultural Capital

	(1)	(2)	(3)	(4)	(5)	(6)
	Time Spent Reading	Museum Visits	Play Attendance	Cultural Lessons	Cultural Location Visits	Get Along Better w/ Teachers
<i>Controls</i>						
Male	-0.479*	-0.017	-0.183*	-0.302**	-0.518**	0.082
	(0.223)	(0.077)	(0.077)	(0.113)	(0.177)	(0.172)
Race: Black	-0.533*	-0.321***	0.065	0.279*	0.440*	0.388*
	(0.235)	(0.081)	(0.084)	(0.117)	(0.181)	(0.180)
Race: Hispanic	-0.713 ⁺	0.155	0.395**	-0.230	0.337	0.161
	(0.379)	(0.120)	(0.126)	(0.219)	(0.318)	(0.306)
Race: Other	-0.187	-0.080	0.146	-0.944**	0.647 ⁺	0.373
	(0.431)	(0.141)	(0.144)	(0.345)	(0.361)	(0.381)
Parent \geq some college	0.501*	0.197**	0.173*	-0.104	0.078	-0.004
	(0.214)	(0.072)	(0.075)	(0.110)	(0.174)	(0.167)
GPA (pre-treatment)	0.063	0.093*	0.104*	0.198**	0.153	0.039
	(0.130)	(0.046)	(0.048)	(0.073)	(0.102)	(0.098)
Cultural capital (y variable pre-treatment)	0.173***	0.139***	0.094***	0.217***		
	(0.033)	(0.023)	(0.021)	(0.031)		
<i>Social Capital</i>						
Mentor w/ < col. deg.	-0.014	0.001	0.050	-0.057	0.164	-0.085
	(0.296)	(0.104)	(0.104)	(0.159)	(0.223)	(0.211)
Mentor w/ \geq col. deg.	0.497*	0.143 ⁺	-0.093	0.196 ⁺	0.369*	0.155
	(0.243)	(0.080)	(0.090)	(0.108)	(0.183)	(0.183)
Constant	0.765	0.757 ⁺	-0.095	-1.509*	0.508	-0.127
	(1.153)	(0.412)	(0.417)	(0.611)	(0.955)	(0.914)
Observations	959	959	959	959	649	649

Note: Each model also controls for age, learning disability, and location (city). The reference category for race is White. Model 1: linear regression. Models 2, 3, & 4: Poisson regression. Model 5 & 6: logistic regression. Standard errors in parentheses.

⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

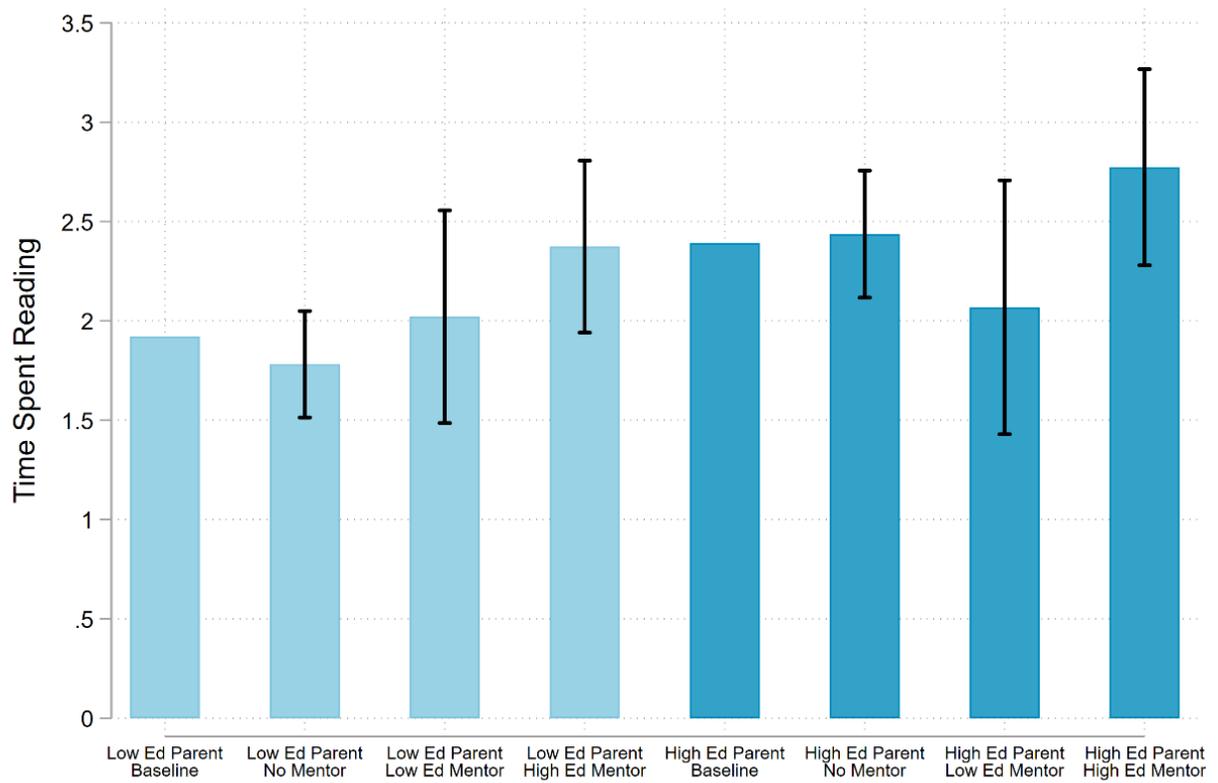
Table 3. Social Capital Interaction Models Predicting Cultural Capital

	(1) Time Spent Reading	(2) Museum Visits	(3) Play Attendance	(4) Cultural Lessons	(5) Cultural Location Visits	(6) Get Along Better w/ Teachers
<i>Controls</i>						
Male	-0.468* (0.224)	-0.021 (0.077)	-0.179* (0.077)	-0.301** (0.113)	-0.521** (0.177)	0.077 (0.172)
Race: Black	-0.521* (0.236)	-0.325*** (0.081)	0.069 (0.084)	0.263* (0.117)	0.439* (0.182)	0.371* (0.182)
Race: Hispanic	-0.725+ (0.380)	0.171 (0.120)	0.399** (0.126)	-0.179 (0.220)	0.339 (0.319)	0.161 (0.307)
Race: Other	-0.177 (0.431)	-0.085 (0.141)	0.155 (0.146)	-0.929** (0.345)	0.648+ (0.361)	0.361 (0.382)
Parent \geq some college	0.655* (0.272)	0.087 (0.094)	0.161+ (0.095)	-0.415** (0.150)	-0.251 (0.270)	-0.277 (0.249)
GPA (pre-treatment)	0.055 (0.130)	0.097* (0.046)	0.104* (0.048)	0.206** (0.073)	0.154 (0.103)	0.052 (0.098)
Cultural capital (y variable pre-treatment)	0.173*** (0.033)	0.139*** (0.023)	0.092*** (0.021)	0.226*** (0.032)		
<i>Social Capital / Parental Education Interactions</i>						
Mentor w/ < col. deg.	0.242 (0.386)	-0.106 (0.143)	0.120 (0.133)	-0.203 (0.198)	0.033 (0.296)	-0.376 (0.273)
Mentor w/ \geq col. deg	0.632* (0.310)	0.003 (0.116)	-0.175 (0.124)	-0.196 (0.171)	0.042 (0.256)	-0.028 (0.243)
Mentor w/ < col. deg. X Parent \geq some college	-0.608 (0.602)	0.229 (0.207)	-0.177 (0.212)	0.381 (0.328)	0.348 (0.457)	0.766+ (0.412)
Mentor w/ \geq col. deg X Parent \geq some college	-0.256 (0.501)	0.281+ (0.160)	0.173 (0.178)	0.873*** (0.249)	0.651+ (0.388)	0.441 (0.346)
Constant	0.647 (1.159)	0.812* (0.412)	-0.117 (0.420)	-1.359* (0.614)	0.605 (0.965)	0.045 (0.918)
Observations	959	959	959	959	649	649

Note: Each model also controls for age, learning disability, and location (city). The reference category for race is White and the references category for social capital/parental education interactions is parent with a high school degree or less and no mentor. Model 1: linear regression. Models 2, 3, & 4: Poisson regression. Model 5: logistic regression. Standard errors in parentheses.

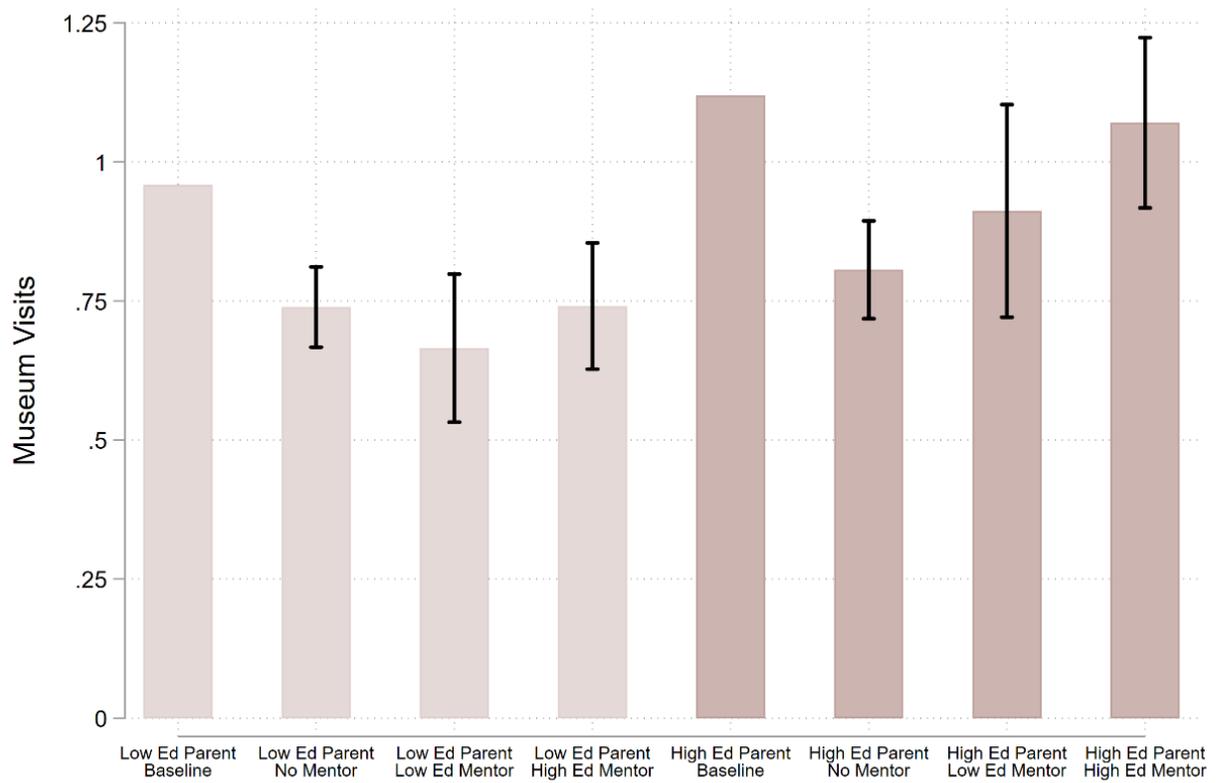
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 1. Predicted Values – Time Spent Reading



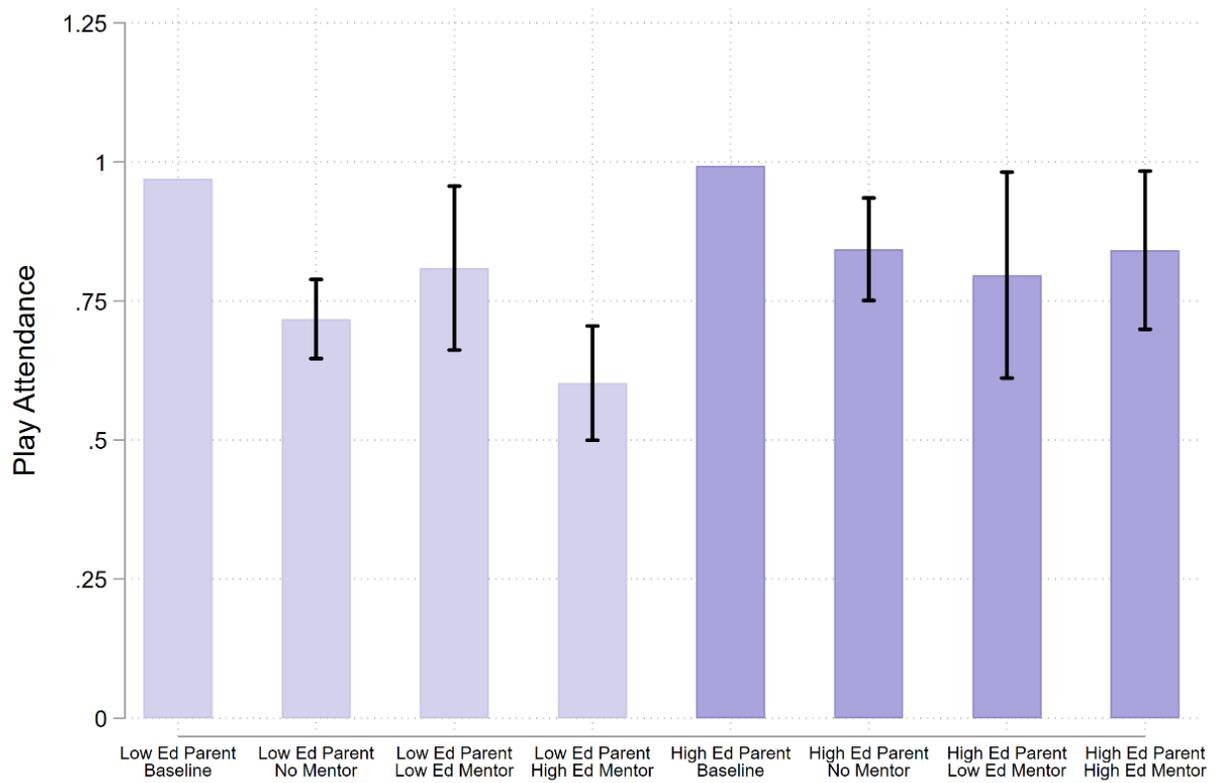
Note: Predicted values based on Model 1 from Table 2. Lines show 95% confidence interval.

Figure 2. Predicted Values – Museum Visits



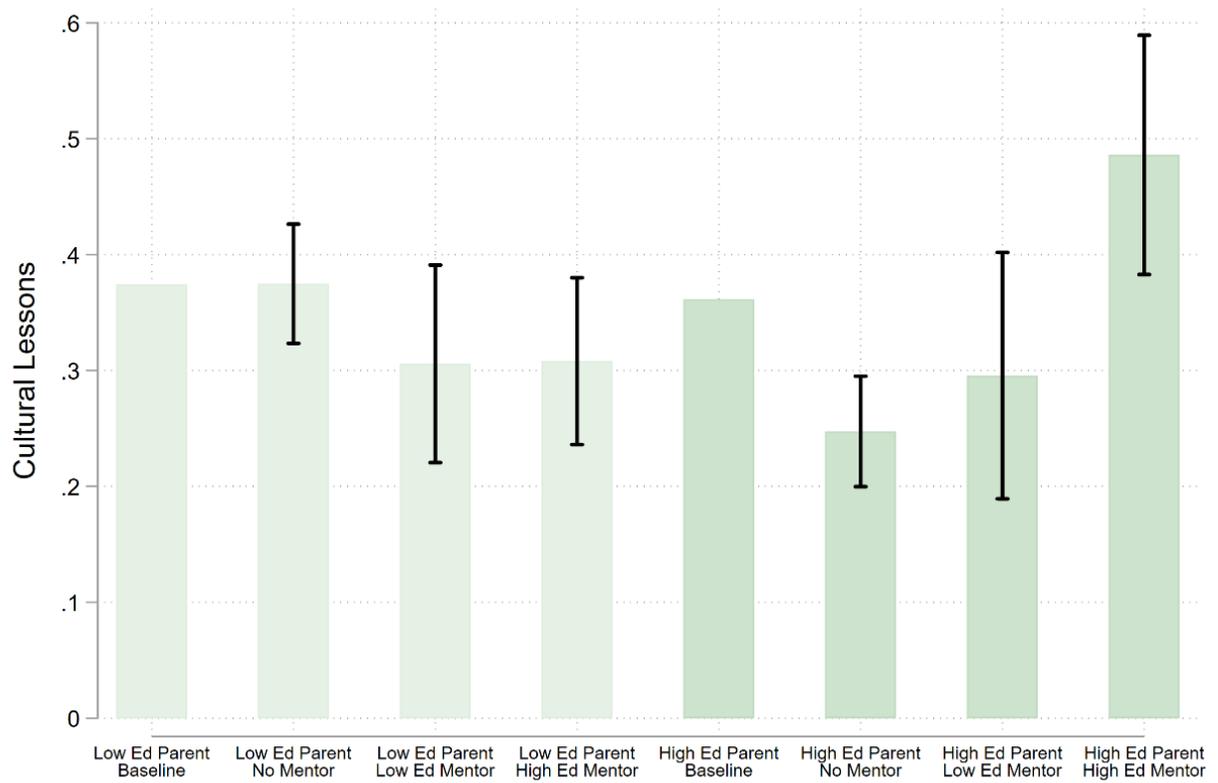
Note: Predicted values based on Model 2 from Table 2. Lines show 95% confidence interval.

Figure 3. Predicted Values – Play Attendance



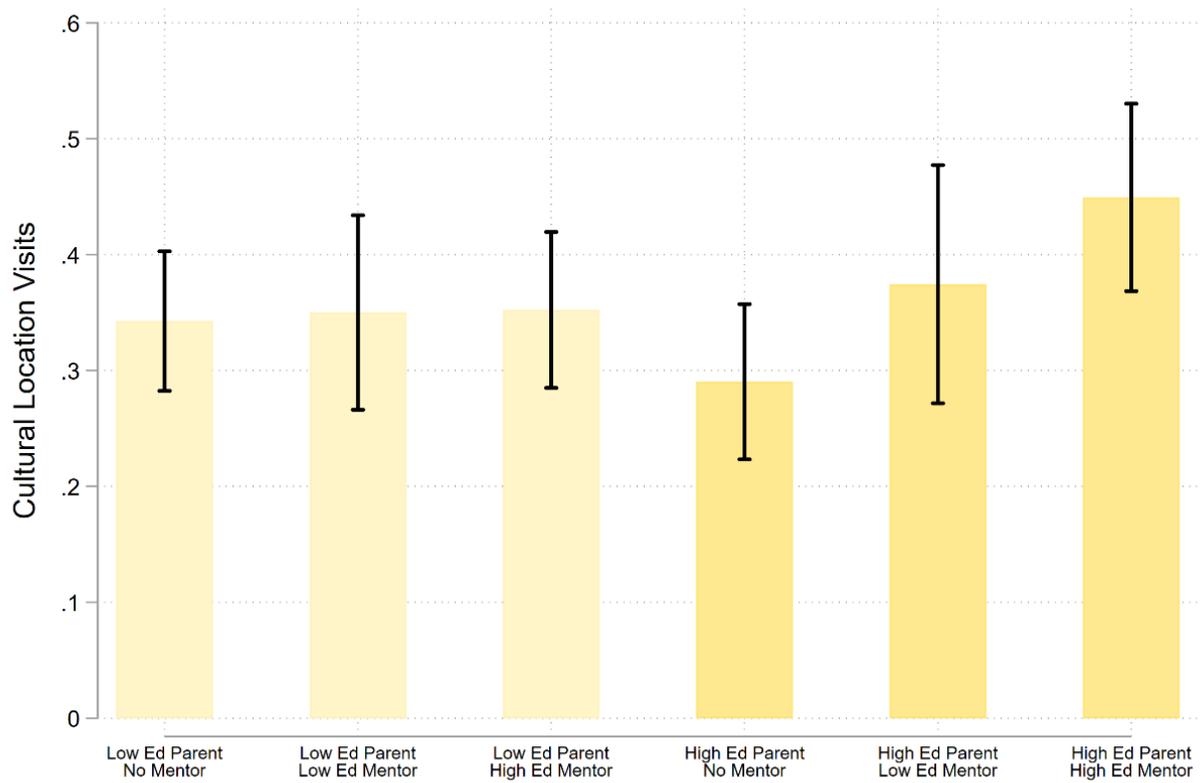
Note: Predicted values based on Model 3 from Table 2. Lines show 95% confidence interval.

Figure 4. Predicted Values – Cultural Lessons



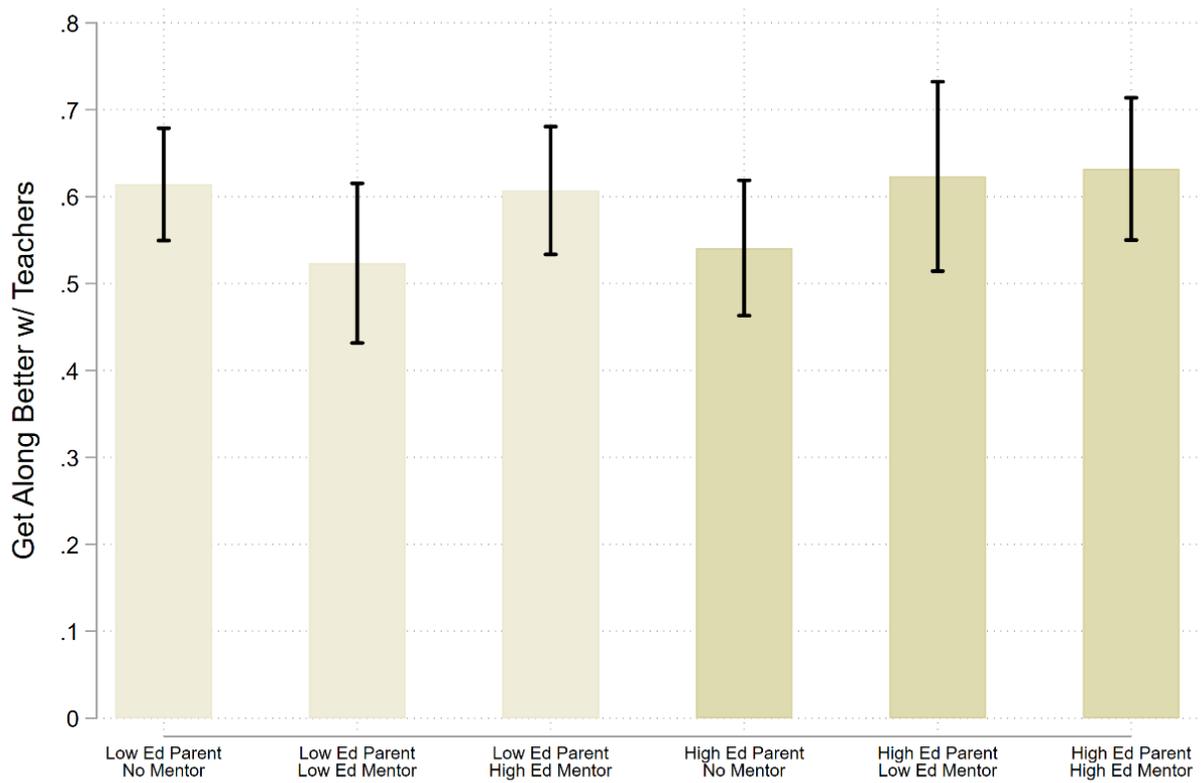
Note: Predicted values based on Model 4 from Table 2. Lines show 95% confidence interval.

Figure 5. Predicted Values – Cultural Location Visits



Note: Predicted values based on Model 5 from Table 2. Lines show 95% confidence interval.

Figure 6. Predicted Values – Get Along Better with Teachers



Note: Predicted values based on Model 6 from Table 2. Lines show 95% confidence interval.

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