

The Influence of Habitus in the Relationship Between Socioeconomic Status, Cultural Capital, and Academic Success

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Scholars routinely use cultural capital theory in an effort to explain class differences in academic success but often overlook the key concept of habitus. Rich, longstanding debates within the literature suggest the need for a closer examination of the individual effects of cultural capital and habitus. Drawing upon the writings of Pierre Bourdieu, I use a longitudinal dataset to examine the effects of multiple operationalizations of cultural capital and test habitus as a mediator. Using first difference models to control for time-invariant unobserved characteristics, I find that typical operationalizations of cultural capital (e.g. high-arts participation and reading habits) have positive effects on GPA that are completely mediated through habitus. The results provide some support for the cultural mobility thesis: only poor youth benefit from cultural capital, although all youth benefit from habitus. Overall, these results stress the importance of habitus in the relationship between SES, cultural capital, and academic success.

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INTRODUCTION

Despite a plethora of research in the past few decades using Bourdieu's (1977a, 1984) concept of cultural capital to explain educational inequalities, researchers have shied away from the fuzzy but critically important concept of habitus. Bourdieu (1977a, p. 495) suggests that a lack of cultural capital adversely shapes the attitudes and outlooks of youth who come from disadvantaged backgrounds. This resulting negative disposition towards school, otherwise known as an individual's habitus, ultimately affects educational achievement and attainment. Thus, although habitus plays an important mediating role in the relationship between cultural capital and academic outcomes, it has been woefully ignored in the literature.

Cultural capital research has sparked much debate among scholars: how best to operationalize and interpret Bourdieu's ideas of cultural capital (Kingston 2001; Lareau and Weininger 2003; Wildhagen 2010), whether cultural capital reproduces the social structure or leads to mobility (DiMaggio 1982; DiMaggio and Mohr 1985), and whether the effects of cultural capital have been overstated due to omitted variable bias (Jæger 2011). Unfortunately, scholars from all viewpoints have often neglected to include habitus in their research. Despite early evidence of the importance of habitus alongside cultural capital (Dumais 2002), no research has provided follow-up investigation. Recent studies on habitus absent cultural capital (Horvat and Davis 2011) and mediators of cultural capital (Wildhagen 2009) stress the need for new attempts to operationalize and analyze habitus. Such examinations of cultural capital with habitus are long overdue and may help scholars return to the basic question of cultural capital that is critical to our understanding of educational inequality: do schools reproduce the social structure or provide a pathway to upward mobility?

In the present research, I draw upon a longitudinal dataset to examine the effects of

multiple operationalizations of cultural capital, variations by SES, and habitus as a potential mediator. My primary goal is to build upon the limited work on cultural capital alongside habitus and analyze the direct and indirect effects of cultural capital as mediated through habitus. First, I evaluate the effects of cultural capital on GPA by SES, paying close attention to the differences in the effects of multiple operationalizations of cultural capital, particularly high-arts participation, cultural lessons, and reading habits. Using first difference models to account for time-invariant unobserved characteristics, I establish a baseline of cultural capital effects absent habitus measures and provide some insight into the debates of reproduction vs. mobility and operationization. I then include habitus measures and conduct mediation tests to more fully test the influence of habitus in the relationship between SES, cultural capital, and academic success. I conclude by reflecting on the importance of these findings within the broader cultural capital debate and stress the need to continue to incorporate habitus into education research.

BACKGROUND AND SIGNIFICANCE

Cultural Capital and Educational Inequality

“[T]he educational system demands of everyone alike that they have what it does not give...[and] can only be produced by family upbringing when it transmits the dominant culture.”

- Pierre Bourdieu, 1977a, p. 494

Pierre Bourdieu's writings on *capital*, *habitus*, and *field* often explain inequality in an extended metaphor for life as a game (1977a, 1977b, 1984, 1990, 1997, 1998a, 1998b). *Capital* (social, cultural, economic, etc.) represents the resources that an individual has at her disposal that are valued in the game, *habitus* represents an individual's disposition that stems from her standing in the game or her “feel for the game” (1998b, p. 80), and a *field* represents the social world within which an individual plays a particular game. In the education *field*, students are

one set of actors whose goal in the game is to meet the standards of teachers in order to move to the next level of the game (i.e. grade level or tier of schooling). To achieve success, students must use the *capital* they have received from their families, communities, and prior experiences. Proper use of *capital* typically results in success and positive feedback from teachers and also builds students' confidence, thus altering their *habitus*.

There are winners and losers in this game and Bourdieu (1977a, 1984, 1997) suggests that inequalities in capital and the resulting differences in habitus affect academic outcomes. His theory of cultural reproduction suggests that a lack of familiarity with the dominant culture (cultural capital¹) and thus the absence of the proper disposition that typically comes from such familiarity (habitus) serves as a barrier to upward mobility for youth from low socioeconomic status (SES) backgrounds. He argues that the various actors in schools value certain cultural characteristics, which are conveyed through speech, attitudes, behavior, knowledge, and other interactions in the school environment. Youth from middle- and high-SES backgrounds are exposed to this cultural capital through their home life, interactions with their parents, and the various activities encouraged or organized by their parents. Cultural capital helps these youth develop the proper habitus to navigate the education system. Conversely, youth from low-SES backgrounds are not exposed to what is necessary to build cultural capital and are placed at a disadvantage when they do not display the proper habitus in school. Thus, schools reproduce inequalities based on SES because teachers and principals reward displays of dominant culture and those rewards translate into higher levels of educational achievement and attainment.

In contrast to the cultural reproduction thesis, DiMaggio and colleagues (DiMaggio 1982; DiMaggio and Mohr 1985) posit that cultural capital has greater benefits for youth from low-SES backgrounds. Rather than block upward mobility, cultural capital benefits low-SES youth by

allowing them to better navigate the education system and interact with educational gatekeepers than they otherwise would. Cultural capital allows low-SES youth to fit into a world that values middle- and high-SES culture. Although these two theories disagree on who benefits from cultural capital there is a bounty of research throughout the literature that finds support for cultural reproduction (Aschaffenburg and Maas 1997; Bernstein 1977; Roscigno and Ainsworth-Darnell 1999), just as there is support for cultural mobility (De Graaf et al. 2000; DiMaggio 1982; DiMaggio and Mohr 1985; Dumais 2006). Thus, the first goal of the present research is to address the cultural mobility and reproduction literatures by testing whether the effects of cultural capital and habitus vary by SES.

Measuring Cultural Capital

Previous research differs in defining and measuring cultural capital, perhaps due in part to Bourdieu's own vagueness on the topic (Lamont and Lareau 1988; Kingston 2001). Among the various operationalizations of cultural capital, two empirical measurements dominate the quantitative literature: high-arts participation (such as museum visits, play attendance, etc.) and time spent reading. Other quantitative work expands the operationalizations of cultural capital to include cultural classes or lessons (Dumais 2008; Dumais and Ward 2010; Roscigno and Ainsworth-Darnell 1999; Wildhagen 2009), extracurricular activities (Cheadle 2008; Covay and Carbonaro 2010; Jæger 2011), discussion of culture between child and parent (Jæger 2009; Tramonte and Willms 2010), teacher perceptions of habits and skills (Farkas et al. 1990; Farkas 1996), attitudes towards and knowledge about culture (Mohr and DiMaggio 1995), and expansive views of concerted cultivation (Bodovski and Farkas 2008; Cheadle 2008, 2009; Lee and Bowen 2006).

The cultural reproduction versus cultural mobility debate remains unresolved and

complicated by multiple operationalizations of cultural capital. In support of the cultural reproduction thesis, research finds positive effects of high-arts participation (Jæger 2011; Roscigno and Ainsworth-Darnell 1999), cultural classes (Aschaffenburg and Maas 1997; Dumais and Ward 2010), and reading habits (Jæger 2011) on educational outcomes for middle- and high-SES youth. However, other studies support the cultural mobility thesis by finding no differing effects of cultural capital by SES (Dumais 2008) or larger positive effects for low-SES youth (Dumais 2006). My second goal is to examine differences by SES in the effects of four operationalizations of cultural capital that are typical in the quantitative literature: museum visits, play attendance, cultural lessons, and reading habits.

The Link Between Cultural Capital and Habitus

Although quantitative researchers have been limited in their exploration of the mechanisms of cultural capital, qualitative researchers more thoroughly address the transmission of culture from families to youth to teachers and its subsequent advantages in education. Prior research using in-depth field work provides great insight into the differences between poor, working-class, and middle-class parents in terms of parenting styles, language use in the home, and the school-related assistance they are able to offer (Lareau 2000, 2002, 2003; Lareau and Horvat 1999). This research suggests that middle-class parents instill a sense of entitlement in their children that helps them navigate social worlds such as the education system. Essentially, culture shapes an individual's habitus, which may then affect outcomes such as educational achievement and attainment. Thus, habitus may prove a useful concept to uncover more specific links between SES, cultural capital, and academic outcomes.

Unfortunately, cultural capital research often ignores or gives short shrift to Bourdieu's concept of habitus, perhaps due to the inherent difficulties in measuring such a concept. To

Bourdieu, habitus is “a system of lasting, transposable dispositions which, integrating past experiences and actions, functions at every moment as a *matrix of perceptions, appreciations, and actions.*” (1977b, p. 82-3, emphasis in original). McClelland argues that habitus “represents the past as well as the present” (1990, p. 104) and is shaped through the cumulative effects of capital and a history of feedback on success or failure. Although Bourdieu (e.g. 1984) often emphasizes the class basis of habitus and sometimes hints at the rigidity of habitus, other scholars suggest that habitus can change on the basis of an individual's ever-evolving collection of interactions and experiences (DiMaggio 1979; Horvat and Davis 2011; Reay 2004). If youths' “feel for the game” of education can change, it may be an important mediator between cultural capital and academic outcomes.

The limited number of studies that examine habitus typically operationalize it as future aspirations or expectations (Dumais 2002; McClelland 1990; Reay 1995) or general self-esteem, belief in abilities, and sense of value (Horvat and Davis 2011).² These scholars recognize that although such characteristics capture a portion of Bourdieu's notion of habitus, the measures are far from perfect.³ Still, this research presents interesting insights on the links between cultural capital, habitus, and academic outcomes. Dumais (2002) finds that cultural capital has a positive effect on GPA for eighth graders, even with controls for prior ability. However, when the author adds habitus into her model, she finds that the effect of cultural capital shrinks and is dwarfed by the effect of habitus. Only one other study examines cultural capital alongside a measure of habitus (Wildhagen 2009).⁴ The author explores the effects of cultural capital in 8th grade on achievement in 12th grade, using educational expectations and teachers' perceptions in 10th grade as mediators. She finds that cultural capital has both a direct and indirect effects on achievement through educational expectations (habitus).

I suggest that these prior studies lay the groundwork for forging new insights on educational inequality. Better operationalization of habitus and exploration of its connection to both cultural capital and academic outcomes are the necessary next steps. In “Cultural Reproduction and Social Reproduction,” Bourdieu outlines a clear, testable path:

“...the negative predispositions towards the school which result in the self-elimination of most children from the most culturally unfavoured classes and sections of a class—such as self-depreciation, devaluation of the school and its sanctions, or a resigned attitude to failure and exclusion—must be understood as an anticipation, based upon the unconscious estimation of the objective probabilities of success possessed by the whole category, of the sanctions objectively reserved by the school for those classes or sections of a class deprived of cultural capital.”

- Bourdieu, 1977a, p. 495

I interpret this passage to indicate that cultural capital influences an individual's habitus, which I measure as an individual's attitude about her own educational success (“self-depreciation...[and] a resigned attitude to failure and exclusion”) and her belief about the value of school (“devaluation of the schools and its sanctions”). Thus, my next goal is to examine if habitus mediates the effects of cultural capital on GPA.

In summary, the literature on cultural capital is inconclusive. Debate continues as to whether the benefits from cultural capital differ by SES. I contribute to this debate by examining the differing effects by SES of four measures of cultural capital: museum visits, play attendance, cultural lessons, and reading habits. Furthermore, quantitative researchers have been slow to incorporate measures of habitus in their models, despite the important connections made by qualitative researchers. I build upon the work of Dumais (2002) and Wildhagen (2009) by including measures of habitus that are very similar to key components of habitus suggested by Bourdieu (1977a) and examined by Horvat and Davis (2011).

DATA AND METHODS

Sample

I address my research questions using a longitudinal dataset collected from youth who participated in the Big Brothers/Big Sisters of America program (BBBSA) during the 1990s. There are a number of advantages in using this dataset to address my research questions. First, multiple cultural capital operationalizations are included in this dataset: museum visits, play attendance, cultural lessons, and reading habits. This dataset also includes other variables critical to my analysis, particularly attitudinal measures regarding school value and academic success, as well as GPA. Thus, I can examine the direct effects of cultural capital on educational achievement and the mediating effects of habitus.

Program staff collected data from 959 youth between the ages of 9 and 16 who were BBBSA applicants waiting for assignment to a mentor in eight selected cities (Philadelphia, PA; Rochester, NY; Minneapolis, MN; Columbus, OH; Wichita, KS; Houston, TX; San Antonio, TX; and Phoenix, AZ).⁵ These individuals and their parent or guardian completed a baseline interview (time 1) and a follow-up interview 18 months later (time 2). Table 1 includes descriptive statistics on the sample. All of the variables, including GPA, are self-reported by each youth.

(Table 1 about here)

Operationalizing Cultural Capital

I examine four operationalizations of cultural capital suggested by the literature: the number of times an individual has visited a museum, the number of times an individual has attended a play (both in the past 12 months), weekly hours spent in cultural lessons outside of school (music, art, dance, and language), and weekly hours spent reading. The quantitative literature routinely uses these variables as operationalizations of cultural capital. The descriptive

statistics in Table 1 show that on average youth decreased slightly in the number of museum visits (-0.18) and plays attended (-0.21) in the past 12 months between time 1 and time 2, but the standard deviations indicate that there are significant variations among youth. Additionally, youth increased their weekly hours spent in cultural lessons outside of school (0.07) and weekly hours spent reading (0.28) and there are significant variations among youth.

Operationalizing Habitus

In addition to the cultural capital variables, I use two attitudinal variables, the Harter Scholastic Competence score (HSC) and the Berndt and Miller School Value score (SV), to represent a youth's habitus. The HSC score is a subscale of the Self-Perception Profile for Children (Harter 1986). This six-item composite measure assesses a youth's belief that she can succeed in school by asking each individual to compare herself to general statements regarding types of youth. For example, “Some kids feel that they are very good at their schoolwork BUT other kids worry about whether they can do the schoolwork assigned to them.” Youth compare themselves to one of the two types in each statement in one of two ways (either very similar or somewhat similar). Each item is scored from 1 (not very competent) to 4 (very competent), thus the HSC score has a potential range of 6 to 24 with $\alpha = 0.77$.

The SV score is an eighteen-item composite measure of questions that assess a youth's belief that education is valuable to her success in life (Berndt and Miller 1990). For example, “How valuable do you think your education will be in getting the job you want?” Each item is scored from 1 to 4, thus the SV score has a potential range of 18 to 72 with $\alpha = 0.86$.

These measures closely capture each youth's “feel for the game” in the educational field because they require each youth to report her belief of individual value and the possibility of success in school as well as her belief about the value of school. These measures follow

Bourdieu's own words quite closely: “self-depreciation...[and] a resigned attitude to failure and exclusion” and “devaluation of the schools and its sanctions” (1977a, p. 495). The descriptive statistics in Table 1 show that on average individuals' SV scores (-0.89) decreased between time 1 and time 2 and HSC scores (0.75) increased between time 1 and time 2. See Appendix A for the full list of items included in the HSC and SV measures.

Other Variables of Interest

My main dependent variable of interest is self-reported GPA. Although the literature suggests internal validity may be a concern, particularly for lower-achieving youth, reliability is likely not an issue for self-reported GPA (see Kuncel, Credé and Thomas 2005 for a review). The descriptive statistics in Table 1 show that on average youth decreased slightly in GPA (-0.12) between time 1 and time 2. Additionally, the control variables I use are: age, sex, race, SES, location (city), urbanicity, family household structure, number of siblings, if a youth has a learning disability, and if a youth was assigned to a mentor.⁶ The SES variable is a trichotomy coded 0 for poor, 1 for working class, and 2 for middle class or greater.⁷ This variable is a composite of household income and parent's occupational status. Youth are coded as poor if their parent's occupational status is non-professional, their parent does not work full-time, and either (a) their household income is less than \$10,000, or (b) their household receives welfare assistance. Youth are coded as working class if their parent's occupational status is non-professional and their parent works full-time. Youth are coded as middle class or greater if their parent's occupational status is professional.⁸

Missing Data

To deal with missing data, I employ multiple imputation using the ICE command in Stata 10 (Royston 2004). Each imputation model includes the control and other independent variables

listed in each of the main regression tables. I exclude cases that require imputed dependent variables from the analysis, as these cases may bias the estimates (von Hippel 2007). I impute interaction values using an approach recommended by Allison (2002) in which I first create all relevant interaction variables and then impute values for any missing variables. In total, I create five datasets for each dependent variable for combined use in the analysis. The ICE command corrects standard errors due to the resulting adjusted sample size.

Analytic Strategy

A portion of the existing literature on cultural capital focuses on simple cross-sectional analysis, often with no measure of prior achievement or proxy for ability (e.g. DeGraaf et al. 2000; Dumais 2002; Sullivan 2001). However, a cross-sectional analysis cannot establish a causal effect because it is threatened by omitted variable bias or unobserved heterogeneity (Halaby 2004; Schneider et al. 2007). Estimates of the effects of cultural capital may be biased if both cultural capital and outcome measures are correlated with omitted variables (Jæger 2011; Kingston 2001). One way to control for this omitted variable bias is to include a lagged dependent variable that can serve as a proxy for the unobserved variable (Wooldridge 2008).

Although this type of longitudinal model is an improvement over cross-sectional models, any remaining unmeasured time-invariant characteristics that may be correlated with both cultural capital measures and outcomes are problematic. Thus, I focus my analysis on a series of first difference models. A first difference model is a two-period case of a fixed effects model that removes any time-invariant characteristics, both observed and unobserved, and thus uses only within-subject variation (Allison 2009). I derive the first difference equation by subtracting all variables at time 1 from all variables at time 2 to get:

$$Y_{ijt2} - Y_{ijt1} = (\zeta_{jt2} - \zeta_{jt1}) + (\mu_{it2} - \mu_{it1}) + \beta_1(CC_{ijt2} - CC_{ijt1}) + \beta_2(X_{ijt2} - X_{ijt1}) + \beta_3(Z_{ij} - Z_{ij})$$

$$+ (\varepsilon_{i,jt2} - \varepsilon_{i,jt1}) + (\alpha_{ij} - \alpha_{ij}) \quad (1a)$$

or rewritten in reduced form:

$$\Delta Y_{ij} = \Delta \zeta_{jt} + \Delta \mu_{ij} + \beta_1 \Delta CC_{ij} + \beta_2 \Delta X_{ij} + \Delta \varepsilon_{ij} \quad (1b)$$

Equations 1a and 1b show that the time-invariant characteristics, both the observed (Z_i) and the unobserved (α_i), drop out of the equation (notation based on Rabe-Hesketh and Skrondal 2008 and Allison 2009). To test for possible differences in effects by SES I analyze separate first difference models.⁹

Additionally, I explore the possibility that habitus (student attitudes) mediates any potential effects of cultural capital on GPA. First, I compare models without the habitus variables with models that include those variables. I use Baron and Kenny's (1986) four criteria to determine if a variable is a mediator: (1) the independent variable significantly accounts for variation in the mediator variable, (2) the independent variable significantly accounts for variation in the dependent variable, (3) the mediator variable significantly accounts for variation in the dependent variable while controlling for the independent variable, and (4a) controlling for the mediator variable reduces the effect (partial mediation) of the independent variable on the dependent variable or (4b) controlling for the mediator variable eliminates the effect (complete mediation) of the independent variable on the dependent variable. Figure 1 illustrates my predicted pathways of the effects of cultural capital and habitus on GPA. I calculate the indirect effect of cultural capital on GPA by multiplying the effect of cultural capital on habitus (β_a) with the effect of habitus on GPA (β_b). If my results fit Baron and Kenny's criteria, I test the significance of the indirect effect of cultural capital on GPA through habitus by using a Sobel (1982) test for mediation. Using the notation from Figure 1, the first step of the Sobel test is to calculate the standard error of the indirect effect using the following equation:

$$SE(\beta_b\beta_a) = \text{sqrt} [(\beta_b^2)*((\beta_a/t_a)^2) + (\beta_a^2)*((\beta_b/t_b)^2)] \quad (2)$$

where β is the coefficient from each path in Figure 1 and t is the t-test of each associated coefficient. After obtaining the standard error of the indirect effect, the next step of the Sobel test is to calculate a Z-score using the following equation:

$$Z(\beta_b\beta_a) = \beta_b\beta_a / SE(\beta_b\beta_a) \quad (3)$$

With each Z-score, I can evaluate the significance of each indirect effect. Together, this information will provide more insight on the links between SES, cultural capital, and habitus than previous quantitative research on the subject.

(Figure 1 about here)

In the following section, I examine the effects of cultural capital on both GPA and habitus. First, to examine whether cultural capital has direct effects on GPA I analyze first difference models, both with and without the habitus variables. These results help me address my first two research questions: (1) Does cultural capital have greater effects for poor, working-class, or middle-class youth, or similar effects for all youth? and (2) Do different operationalizations of cultural capital vary in these effects? Then, I analyze the effect of cultural capital on students' habitus, operationalized as attitudes of scholastic competence and school value (HSC and SV scores as outcomes), to examine the combined effects of cultural capital and habitus. These results help me to further explore my first two research questions and address my final research question: (3) Does habitus mediate the effect of cultural capital on educational achievement?

RESULTS

Models Predicting GPA

In Table 2 I show the results of eight first difference models assessing the direct effects of

cultural capital and habitus on GPA. Models 1 through 4 examine cultural capital absent habitus and models 5 through 8 include measures of habitus (HSC and SV). Compared to coefficients from longitudinal models (see Appendix Table B), nearly all of the coefficients from the first difference models are closer to zero and some lose significance, which justifies controlling for unobserved time-invariant effects to avoid producing biased estimates. Moreover, a summary analysis shows that anywhere from approximately 15-35% of the variation in the cultural capital and habitus variables comes from within-subject variation while heteroskedasticity tests suggest the standard errors are not underestimated in the first difference models.¹⁰ These results and the theoretical and methodological concerns raised earlier support the use of first difference models, which examine only within-subject variation.

(Table 2 about here)

In the full sample first difference model without the habitus variables as covariates (model 1), I find that change in museum visits (0.034) and time spent reading (0.013) have significant effects on change in GPA, while change in play attendance and cultural lessons do not have significant effects on change in GPA. When I analyze separate models by socioeconomic status (models 2, 3, and 4), I find that both change in time spent reading and change in museum visits have significant effects on change in GPA only for poor youth. These results establish a baseline of cultural capital effects similar to previous findings that do not include habitus measures.

In models 5 through 8 I add the habitus variables into the models to examine potential mediating effects. When I include change in HSC score and change in SV score in the full sample model (5), both habitus variables have significant positive effects on change in GPA and, surprisingly, none of the cultural capital variables retain significant effects on GPA. Once I

include the habitus variables, the direct effects of cultural capital on GPA also are not significant in any of the different SES models (6, 7, and 8). In these models the effects of habitus are still very strong, although the coefficients do not differ significantly across models.

Overall, these results indicate strong positive effects for habitus on GPA even when controlling for cultural capital and prior ability via first differences. However, adding habitus measures into the models erases any significant effects of cultural capital on GPA. Presumably, this change is due to a direct effect of cultural capital on habitus. I formally examine these effects and the mediation process in the final two results sections.

Models Predicting Habitus

The next step to examine potential mediating effects is to use measures of cultural capital to predict habitus. In Table 3 I examine how cultural capital affects student attitudes regarding their own ability to succeed academically (HSC – models 1 through 4) and the value of school (SV – models 5 through 8). An examination of longitudinal models (see Appendix Table B) once again justifies the use of first difference models.

(Table 3 about here)

In the full sample first difference models (1 and 5), I find that change in museum visits (0.182) and change in time spent reading (0.075) have positive and significant effects on change in HSC score, although the coefficients are somewhat smaller than their longitudinal counterparts. Additionally, change in museum visits (0.394), change in cultural lessons (0.547), and change in time spent reading (0.096) have positive and significant effects on change in SV score. Overall, these results suggest that both HSC and SV may be mediators of the effects of cultural capital on GPA.

Separate first difference models by SES show that the effect of change in museum visits

on change in HSC is significant only for the poor youth sample (0.296), while the effect of change in museum visits on SV is marginally significant ($p < 0.10$) for both the poor youth sample (0.502) and the working class youth sample (0.454). The SES pattern for changes in cultural lessons is mixed, as the effect on HSC is only significant for middle class youth (0.609) and the effect on SV is only significant for poor youth (0.771). Additionally, the effects of change in time spent reading on change in HSC (0.121) and change in SV (0.221) are only significant for poor youth..

The results from the models presented in Tables 2 and 3 lead me to a number of important conclusions. First, I find that various measures of cultural capital have significant effects on both GPA and habitus for youth. Second, I find some interesting differences by SES in the effects of cultural capital on GPA or habitus. In most cases, these differences suggest that cultural capital has effects on GPA only for poor youth, cultural capital has effects on habitus for poor or working class youth, and habitus has effects on GPA for all youth. Third, the first difference models indicate that traditional estimations of cultural capital may be biased from unobserved individual characteristics. For all of the dependent variables, the coefficients for the cultural capital variables usually move closer to zero and occasionally drop significance in models controlling for unobserved time-invariant factors. Finally, the inclusion of the habitus variables in the models predicting GPA indicates that cultural capital may have direct effects on habitus. When I examine those models in Table 3 I find that some measures of cultural capital have effects on habitus. Overall, these results lead me to formally test mediation effects in the following section.

Mediation and Indirect Effects

A few cultural capital and habitus combinations meet Baron and Kenny's (1986) criteria

for mediation. Museum visits, play attendance, and time spent reading all have some direct effects on either HSC or SV score and GPA.¹¹ These results point to potential mediator effects, so in Table 4 I conduct Sobel tests of mediation to examine the indirect effects of cultural capital on GPA through HSC and SV. I calculate indirect effects using the appropriate model from Table 3 (to get β_a from Figure 1) combined with the appropriate model from Table 2 (to get β_b from Figure 1). The products of these coefficients ($\beta_a * \beta_b$) are listed in Table 4. I calculate the standard errors and Z-scores as previously outlined in the Analytic Strategy section.

(Table 4 about here)

The coefficients indicate that two typical measures of cultural capital in quantitative research, museum visits and time spent reading, have consistently significant indirect effects. In the longitudinal models, the Sobel tests indicate that both HSC and SV mediate the effects of cultural capital on GPA. The indirect effect of museum visits on GPA through HSC is 0.011 and through SV is 0.009 and the indirect effects of time spent reading on GPA through HSC is 0.005 and through SV is 0.003. Play attendance only has a marginally significant ($p < 0.10$) indirect effect on GPA through SV. Since there are no direct effects of these measures of cultural capital on GPA in the longitudinal models when I include the habitus variables (see Appendix Table B), I conclude that these effects are fully mediated by habitus.

The full sample first difference results provide evidence that the effects of change in museum visits (0.006) and change in time spent reading (0.003) on GPA are still mediated through HSC score once I control for time-invariant unobserved characteristics. Additionally, the effect of change in museum visits on GPA is mediated through SV score (0.007). Time spent reading only has a marginally significant ($p < 0.10$) indirect effect on GPA through SV. These indirect effects hold for time spent reading when I examine just the models for poor youth, but

there are no significant indirect effects for working or middle class youth. Thus, there is some evidence that (1) even when controlling for time-invariant unobserved characteristics habitus mediates the effect of time spent reading on GPA and (2) these effects may only work for poor youth.

DISCUSSION

Prior examinations of Bourdieu's theory on cultural capital have avoided the critical mediating factor of habitus. This oversight has left researchers with an incomplete view of the mechanisms of cultural capital. Building on earlier work on cultural capital (Dumais 2002; Wildhagen 2009) and habitus (Bourdieu 1977a; Horvat and Davis 2011), I examine how habitus mediates the relationship between cultural capital and GPA. By investigating differences by SES, this research also contributes to the debate over whether cultural capital provides benefits for youth from low-SES backgrounds (cultural mobility) or simply serves to provide additional advantages for youth from middle- and high-SES backgrounds (cultural reproduction). After evaluating a series of first difference models that control for time-invariant characteristics, I find that cultural capital has positive effects on GPA mostly for poor youth. Mediation tests reveal that these effects are fully mediated by habitus: the effect of cultural capital on GPA works by positively altering what Bourdieu refers to as an individual's "feel for the game" (1998b, p. 80).

Perhaps the most important general finding of this research is that all direct effects of cultural capital on GPA disappear once I include measures of habitus in the models. Traditional quantitative measures of cultural capital, particularly museum visits and time spent reading, have some small but significant indirect effects on GPA. These findings suggest that cultural capital changes a student's view of their own ability to succeed academically and the value of school in their lives. These measures of habitus also have positive effects on youths' GPA.

Overall, one standard deviation change in habitus results in 0.15 (SV) or 0.16 (HSC) standard deviation change in GPA. This is a promising outcome considering that the sample had a negative change in GPA over the eighteen months of the study. Moreover, HSC and SV have similar effects on GPA.

The findings also suggest that cultural capital contributes to cultural mobility rather than cultural reproduction. In most analyses, I find that cultural capital effects are only significant for poor students. The major exception is cultural lessons, which works through HSC for middle class youth but through SV for poor youth. This difference perhaps can be attributed to the rough measure of cultural lessons: poor and middle-class youth might participate in qualitatively different activities that were captured in the same quantitative measure in this dataset.

Additionally, the indirect effects of cultural capital on GPA for poor youth have similar effects whether mediated through HSC or SV. However, an important discovery in this research is that although cultural capital effects differ by SES, habitus has similar effects for all youth regardless of SES. Exploration of this finding in datasets with a nationally representative sample is crucial to fostering a better understanding of habitus.

Although I recognize that my measures of habitus are not all encompassing, this research suggests that future investigations of cultural capital should include measures of habitus to more adequately capture the process of educational inequality. I must stress that these measures were not created with habitus in mind even though they fit well in a strict interpretation of Bourdieu's writings. In effect, Bourdieu's conception of habitus within the educational field includes two parts: (1) the negative stance towards school and education that is (2) brought about by responses from and interaction with the institution. I think the questions included in both the HSC and SV scales, as well as the time order and modeling strategy align clearly with this

definition of habitus. However, much like existing differences within the literature on cultural capital between strict interpretations (i.e. high-arts participation and reading as measures of cultural capital) and more expansive alternatives (i.e. concerted cultivation and interaction styles), I believe there is room for debate regarding the best measures of habitus. Although additional research is necessary to fully test the finding that habitus serves as a mediator between cultural capital and academic outcomes, this research represents a strong methodological entry into the discourse.

The findings presented here also support recent research that suggests time-invariant unobservables may bias estimates of cultural capital (Jæger 2011). Compared to models with a lagged dependent variable, the first difference models consistently show smaller cultural capital effects and sometimes a loss of significance, despite maintaining enough variation in the measures of interest. Cultural capital researchers must be more aware of this potential bias and carefully interpret models that cannot fully account for unobservables. Still, the first difference models are not without their own limitations. These models cannot make up for the lack of measures for time-varying characteristics, such as SES, which likely influence cultural capital, habitus, and academic outcomes.

One final point of discussion concerns the use of reading habits as a measure of cultural capital. Although much debate exists regarding the use of any measure that has direct cognitive value in educational outcomes (see Kingston 2001; Lamont and Lareau 1988; Lareau and Weininger 2003), Bourdieu (1977a, 1984) himself suggests reading as a measure of cultural capital. Others suggest that time spent reading may represent dominant culture though its impact on sociolinguistics and styles of speech and writing valued by teachers (Bernstein 1960, 1962, 1977; Orr 1987) and in general may help children become more acculturated to the educational

process (Bourdieu and Passeron 1977; DeGraaf et al. 2000). Still, my choice to include reading habits stems from its influence on habitus and the focus of this research on the full process surrounding habitus. Scholars consistently note lagging reading abilities of low-SES youth across grade levels and at school entry (Crosnoe and Cooper 2010; Entwisle, Alexander, and Olson 2007; Kieffer 2010) and a detrimental effect of poor reading skills on educational engagement (Kelly 2008). Thus, the strong effects of reading habits for poor students on both measures of habitus may represent a cognitive effect through improved performance and the resulting positive feedback from teachers. Although I include reading habits as cultural capital in this research, I suggest that more refined measures would be more appropriate in partialling out cognitive and cultural effects of reading habits.

A number of shortcomings to this research remain. First, it is circumscribed somewhat by a limited set of outcome variables. Although I examine multiple dimensions of cultural capital and mediation through habitus, the data limit my examination to effects on GPA. Additionally, the measure of GPA is self-reported, which may be subject to larger validity problems for lower-achieving students than higher-achieving students. Second, the short time frame (18 months) between initial data collection and follow-up limits the opportunity to witness large scale change during this time, particularly for cultural capital and GPA. This is perhaps reflected in the small effect sizes. Third, the age range of the sample may also downwardly bias the results, as the processes examined here were already in motion by the time data collection began. Fourth, the sample is not nationally representative sample and raises concerns particularly regarding the skewed SES distribution of the sample and the fact that these youth are classified as “at-risk” by the nature of the program. Although these issues hurt the generalizability of this research, future research should continue to explore cultural capital and habitus over a longer time frame, starting

earlier in the lives of youth, with a more representative sample, and using an expanded set of outcomes . Testing the robustness of these results using test scores, dropout, graduation, college enrollment, and other important educational outcomes is crucial to our understanding of cultural capital. Nonetheless, the present research furthers the literature on cultural capital by suggesting the importance of socioeconomic status and habitus in the translation of cultural capital into academic success during early adolescence.

Table 1. Descriptive Statistics

Controls	n	mean	sd
Age	951	12.26	1.382
Male	951	0.620	0.486
White	951	0.420	0.494
Black	951	0.412	0.492
Hispanic	951	0.104	0.305
Other	951	0.064	0.244
Poor	951	0.435	0.492
Working class	951	0.390	0.479
Middle class or greater	951	0.175	0.376
Learning disabled	951	0.153	0.361
Columbus	951	0.230	0.421
Houston	951	0.140	0.347
Minneapolis	951	0.013	0.114
Philadelphia	951	0.124	0.330
Phoenix	951	0.146	0.353
Rochester	951	0.098	0.297
San Antonio	951	0.058	0.234
Wichita	951	0.192	0.394
Youth has a mentor	951	0.523	0.500
Number of siblings	951	1.507	0.677
Urbanicity	951	0.758	0.429

Cultural Capital	t1		t2		Δ	
	mean	sd	mean	sd	mean	sd
Museum visits (last 12 months)	1.17	1.53	0.99	1.55	-0.18	1.85
Play attendance (last 12 months)	1.14	1.82	0.93	1.61	-0.21	2.28
Cultural lessons (hours per week)	0.32	0.96	0.39	1.07	0.07	1.32
Time spent reading (hours per week)	2.29	3.80	2.57	4.31	0.28	4.73

Habitus	mean	sd	mean	sd	mean	sd
Harter Scholastic Competence score	16.04	4.32	16.79	4.64	0.75	4.58
B&M School Value score	56.91	6.86	56.02	7.54	-0.89	7.96

Academic Achievement	mean	sd	mean	sd	mean	sd
GPA	2.80	0.84	2.67	0.85	-0.12	0.92

Table 2. First Difference Models Predicting GPA

	(1) All	(2) Poor	(3) Working Class	(4) Middle Class	(5) All	(6) Poor	(7) Working Class	(8) Middle Class
<u>Cultural Capital</u>								
Museum visits	0.034* (0.016)	0.042* (0.020)	0.025 (0.024)	0.004 (0.035)	0.012 (0.016)	0.009 (0.020)	0.002 (0.024)	-0.016 (0.035)
Play attendance	0.008 (0.013)	-0.004 (0.017)	0.006 (0.021)	0.034 (0.027)	0.008 (0.012)	-0.004 (0.017)	0.007 (0.021)	0.035 (0.027)
Cultural lessons	-0.003 (0.021)	0.015 (0.033)	-0.029 (0.038)	-0.023 (0.065)	-0.015 (0.021)	0.006 (0.032)	-0.041 (0.038)	-0.047 (0.065)
Time spent reading	0.013* (0.006)	0.027** (0.009)	0.001 (0.012)	-0.013 (0.014)	0.006 (0.006)	0.011 (0.009)	0.002 (0.012)	-0.002 (0.014)
<u>Habitus</u>								
HSC score					0.033*** (0.005)	0.039*** (0.009)	0.028* (0.011)	0.030* (0.013)
School value score					0.017*** (0.004)	0.018*** (0.005)	0.020** (0.006)	0.014* (0.007)
Constant	-0.112* (0.053)	-0.045 (0.089)	-0.131 (0.084)	-0.100 (0.100)	-0.100* (0.049)	-0.054 (0.084)	-0.116 (0.080)	-0.086 (0.098)
Observations	951	414	371	166	951	414	371	166

Notes: Standard errors in parentheses. Each model also controls for mentorship status and includes a random intercept for location.

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

Table 3. First Difference Models Predicting Habitus

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	HSC	HSC	HSC	HSC	SV	SV	SV	SV
	All	Poor	Working Class	Middle Class	All	Poor	Working Class	Middle Class
<u>Cultural Capital</u>								
Museum visits	0.182*	0.296*	0.031	0.243	0.394*	0.502+	0.454+	0.304
	(0.084)	(0.137)	(0.146)	(0.160)	(0.160)	(0.299)	(0.263)	(0.350)
Play attendance	-0.042	0.010	-0.096	-0.025	0.020	-0.077	-0.003	0.006
	(0.062)	(0.104)	(0.107)	(0.117)	(0.125)	(0.225)	(0.228)	(0.280)
Cultural lessons	0.097	-0.081	0.205	0.609*	0.547*	0.771*	0.542	0.305
	(0.106)	(0.168)	(0.176)	(0.262)	(0.206)	(0.350)	(0.374)	(0.592)
Time spent reading	0.075*	0.121*	0.031	0.041	0.096*	0.221*	0.010	-0.028
	(0.031)	(0.049)	(0.057)	(0.064)	(0.049)	(0.095)	(0.140)	(0.141)
Constant	0.214	0.306	0.588	-0.066	-1.087*	-0.599	-1.583*	-0.362
	(0.267)	(0.371)	(0.543)	(0.454)	(0.422)	(0.647)	(0.713)	(1.220)
Observations	942	409	368	165	749	335	297	117

Notes: Standard errors in parentheses. Each model also controls for mentorship status and includes a random intercept for location.

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

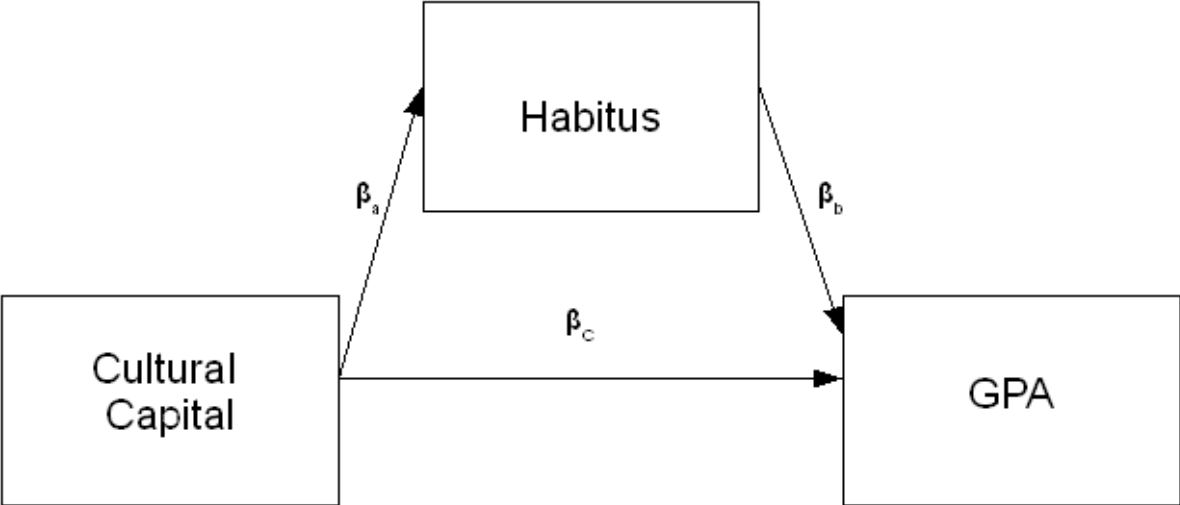
Table 4. Indirect Effects of Cultural Capital on GPA

	(1) Longitudinal		(2) First Difference All		(3) First Difference Poor	
	HSC	SV	HSC	SV	HSC	SV
Museum visits	0.011* (0.004) [2.401]	0.009** (0.003) [2.602]	0.006* (0.003) [2.016]	0.007* (0.003) [2.131]	0.012* (0.006) [1.967]	0.009 (0.006) [1.541]
Play attendance	--	0.005+ (0.003) [1.932]	--	--	--	--
Time spent reading	0.005** (0.002) [2.880]	0.003* (0.001) [2.283]	0.003* (0.001) [2.215]	0.002+ (0.001) [1.779]	0.005* (0.002) [2.198]	0.004* (0.002) [1.994]

Notes: This table uses Sobel tests of mediation to test the indirect effects of cultural capital on GPA through attitudes. Coefficients are the product of their respective coefficients in Appendix Table B (longitudinal models) or Table 2 and Table 3 (first difference models). Standard errors and Z-scores are calculated using Equations 2 and 3 respectively. Coefficients for cultural capital variables not shown (including first difference models for working and middle class youth) do not meet at least 1 of the criteria for mediation from Baron and Kenny (1986). Standard errors in parentheses, Z-scores in brackets.

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

Figure 1. Pathways of Direct and Indirect Effects of Cultural Capital



NOTES

1. Bourdieu (1997) suggests there are different types of cultural capital (embodied, institutionalized, and objectified), but I mean embodied cultural capital when I refer to cultural capital throughout this article.

A majority of the literature to date examines only embodied cultural capital.

2. Although not specifically about habitus or cultural capital, a long line of prior research finds that academic attitudes and beliefs directly affect academic achievement and attainment, even when controlling for ability (e.g. Guay, Boivin, and Hodges 1999; Guay, Marsh, and Boivin 2003; Miserandino 1996; Valentine DuBois, Cooper 2004).

3. For instance, Susan Dumais (2002) suggests that her research is “really only a first attempt to operationalize the concept of habitus alongside the concept of cultural capital” (62). Also, see Reay 2004 for an extended discussion of the multiple aspects of habitus.

4. The author does not specifically mention habitus, but she recognizes concepts similar to Bourdieu's notion and other authors' operationalization of habitus: “Participation in high-status cultural activities, then, should affect students' educational expectations *because students who participate in high-status cultural pursuits are participating in a cultural realm that is widely recognized as superior and legitimate*. Just as working-class students develop a sense of 'what is not for them' partly in response to their relative lack of exposure to dominant cultural capital, so too do privileged students develop a sense of what they are entitled to, partly in response to their exposure to high-status cultural capital.” (Wildhagen, 2009:178; emphasis in original).

5. The original data collection design is a quasi-experimental design based on the random assignment of youth to mentors.

6. Although I control for whether a youth is assigned to a mentor or not, an examination of the intersection of social and cultural capital is beyond the scope of this article (see Gaddis 2012 for research on the effect of mentors on cultural capital using this dataset). Other research using these data reports mostly positive effects of mentors on various academic and behavioral outcomes (see Gaddis

forthcoming).

7. It is important to note the SES skew of this sample and the resulting lack of representativeness. 43.5% of youth in this sample are classified as poor, 39.0% as working class, and 17.5% as middle class or greater.

8. This trichotomy is similar to one adopted by Annette Lareau's qualitative work in *Unequal Childhoods* (2003). A simple dichotomy of professional vs. non-professional masks the differences between categorizations of poor and working class households. The official poverty line during the time of data collection was slightly above the lowest recorded category of less than \$10,000 (U.S. Department of Health and Human Services, 2011). Moreover, the highest recorded category of greater than \$25,000 is slightly below the median income during this time (U.S. Census Bureau 1995). Although other quantitative research on cultural capital often uses quartile or quintile categories of SES, this is not an option for the present research due to the sample (see note 7). Alternative analyses using only individual categories of income or occupational prestige result in similar conclusions regarding SES differences (available from author upon request).

9. Because household income, parental education, and occupational status were only recorded at time 1, SES must be treated as a fixed characteristics and thus it drops out of the first difference equation. This is a potential problem in the FD models, as changes in SES might lead to changes in cultural capital.

10. I use the `estat hettest` command in Stata 10 to test for heteroskedasticity in all of the first difference models (results not shown). In every model I fail to reject the null hypothesis that all of the error variances are equal, suggesting that the standard errors are not underestimated in the first difference models (Wooldridge 2008).

11. The cultural lessons variable does not have a direct effect on GPA in the longitudinal or first difference models, thus failing to meet one of the four criteria. I do not conduct Sobel tests of mediation in those instances.

APPENDIX A.

HSC – 6 items

Which group sounds more like you? (Pick one and respond with either “really true for you” or “sort of true for you”).

1. (a) Some kids feel they are very good at their schoolwork
 (b) Other kids worry about whether they can do the schoolwork assigned to them
2. (a) Some kids feel like they are just as smart as other kids their age
 (b) Other kids aren't so sure and wonder if they are as smart
3. (a) Some kids are pretty slow in finishing their schoolwork
 (b) Other kids can do their schoolwork quickly
4. (a) Some kids often forget what they learn
 (b) Other kids remember things easily
5. (a) Some kids do very well at their classwork
 (b) Other kids don't do well at their classwork
6. (a) Some kids have trouble figuring out the answers in school
 (b) Other kids can almost always figure out the answers

SV – 18 items

Possible responses for 1 through 11 include: hardly ever, not very often, sometimes, and pretty often

1. Do you think your school work is boring?
2. Do you think your homework is fun to do?
3. Do you think the things you learn in school are worthless?
4. Do you care about doing your best in school?
5. Do you feel you want to know even more about something you've learned in school?
6. Do you try to just get by in school, rather than trying to do the best you can?
7. Do you think your school work this year will help you in preparing for high school?

8. Are you interested in the work your teachers give you?
9. Do you think the facts you learn in school are of no value?
10. Do you think you're assigned homework just to keep you busy?
11. Do you care about being as successful in school as you are in other things?

Possible responses for 12 through 18 include: not at all (useful, important, etc.), not very, somewhat, and very

12. How useful is what you learn in school for the job you want to have as an adult?
13. How important to you is getting good grades?
14. How interested are you in the things you learn in school?
15. How upset would you be if you got a low grade for one of your subjects?
16. How valuable do you think your education will be in getting the job you want?
17. How important to you is being a good student?
18. How useful is school for helping you to make good decisions in your life?

Appendix Table B. Longitudinal Models Predicting GPA

	(1) GPA	(2) GPA	(3) GPA	(4) GPA	(5) HSC	(6) HSC	(7) SV	(8) SV
<u>Cultural Capital</u>								
Museum visits	0.031*	0.039 ⁺	-0.001	0.024	0.227*	0.103	0.578***	0.437
	(0.015)	(0.020)	(0.016)	(0.020)	(0.090)	(0.148)	(0.160)	(0.274)
Museum*Working Class		-0.034		-0.037		0.057		0.248
		(0.035)		(0.037)		(0.223)		(0.413)
Museum*MidClass		-0.004		-0.014		0.248 ⁺		0.210
		(0.023)		(0.022)		(0.129)		(0.224)
Play attendance	0.028 ⁺	-0.037	0.007	-0.040	0.081	-0.037	0.329*	0.354
	(0.015)	(0.027)	(0.013)	(0.026)	(0.075)	(0.145)	(0.146)	(0.308)
Play*WorkingClass		0.030		-0.003		0.148		-0.012
		(0.034)		(0.020)		(0.199)		(0.492)
Play*MidClass		0.067 ⁺		0.050		0.091		0.022
		(0.035)		(0.033)		(0.103)		(0.217)
Cultural lessons	0.008	0.008	-0.006	-0.015	0.166	0.090	0.576*	1.182**
	(0.022)	(0.028)	(0.021)	(0.028)	(0.119)	(0.184)	(0.223)	(0.389)
Lessons*Working Class		0.005		0.015		0.128		-0.616
		(0.057)		(0.056)		(0.287)		(0.584)
Lessons*MidClass		0.049		0.008		0.146		-0.592
		(0.034)		(0.032)		(0.177)		(0.397)
Time spent reading	0.018**	0.029*	0.007	0.010	0.096**	0.133**	0.179*	0.290**
	(0.006)	(0.009)	(0.006)	(0.008)	(0.031)	(0.047)	(0.058)	(0.094)
Reading*Working Class		-0.016		-0.008		-0.082		-0.316*
		(0.013)		(0.013)		(0.084)		(0.153)
Reading*MidClass		-0.006		-0.005		-0.027		-0.011
		(0.009)		(0.009)		(0.044)		(0.082)
<u>Habitus</u>								
HSC score			0.047***	0.042***				
			(0.006)	(0.009)				
HSC*Working Class				0.009				
				(0.014)				
HSC*MidClass				0.0098				
				(0.008)				
School value score			0.015***	0.021***				
			(0.004)	(0.006)				
SV*WorkingClass				-0.010				
				(0.011)				
SV*MidClass				-0.002				
				(0.005)				
Observations	951	951	951	951	942	942	749	749

Notes: Standard errors in parentheses. Each model also controls for whether the youth is learning disabled, mentorship status, family structure, number of siblings, parent's educational attainment, and urbanicity, and includes a random intercept for location.

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

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