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What is This?

Creating Cultural Consumers: The Dynamics of Cultural Capital Acquisition

**Brian Kisida[1], Jay P. Greene[1], and
Daniel H. Bowen[2]**

Abstract

The theories of cultural reproduction and cultural mobility have largely shaped the study of the effects of cultural capital on academic outcomes. Missing in this debate has been a rigorous examination of how children actually acquire cultural capital when it is not provided by their families. Drawing on data from a large-scale experimental study of schools participating in an art museum's educational program, we show that students' exposure to a cultural institution has the effect of creating "cultural consumers" motivated to acquire new cultural capital. We find that the experience has the strongest impact on students from more disadvantaged backgrounds. As such, our analysis reveals important aspects about the nature of cultural capital acquisition. To the extent that the evidence supporting cultural mobility is accurate, it may be because disadvantaged children can be activated to acquire cultural capital, thus compensating for family background characteristics and changing their habitus.

Keywords

Bourdieu identified cultural capital as a valuable resource that acts as a gateway to children's future academic, social, and economic success. Additionally, Bourdieu's theory of cultural reproduction posits that cultural capital is inherited at an early age within privileged families but is lacking in disadvantaged families. As a result, cultural capital inequalities reproduce social class inequalities (Bourdieu 1977; Bourdieu and Passeron 1977).

Later, DiMaggio (1982) put forward a theory of cultural mobility that suggests that cultural capital can be acquired throughout one's life and that the benefits of cultural capital extend across social classes. DiMaggio further suggested that returns from cultural capital may actually be larger for children from disadvantaged families. The reproduction and mobility arguments emphasize differences not only with respect to who is most likely to benefit from cultural capital but also in terms

of where and how it is acquired (Nagel, Damen, and Haanstra 2010; Roksa and Potter 2011).

A large body of research attempts to adjudicate between the theories of cultural reproduction and mobility, but the processes that drive the acquisition of cultural capital have not been sufficiently studied. To address this, we focus on the motivation for possession of cultural capital rather than the effects of possession. The theory of cultural reproduction suggests that without the initial transmission of cultural capital from the family, one

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cannot acquire sufficient additional cultural capital. Cultural mobility theory suggests that disadvantaged children can effectively acquire cultural capital from sources outside of the family. But under what conditions might disadvantaged students acquire cultural capital? Although scholars generally assume cultural capital is transmitted from one generation to the next in high-status families, the impetus for children from disadvantaged families to acquire cultural capital is unknown and largely unexplored. If cultural mobility exists, then at some point the process of disadvantaged children acquiring cultural capital must be initiated, even though their disadvantaged status inhibits them from doing just that.

We provide a new perspective on children's attitudes toward cultural activities and the characteristics that drive cultural capital acquisition using original data from a large-scale experimental study of school-facilitated visits to an art museum. Learning more about the nature of cultural capital acquisition and disadvantaged populations' formation of cultural tastes informs the dynamics of cultural reproduction and cultural mobility as well as the dynamics of habitus and its formation. Such empirical evidence is particularly relevant in a time when data suggest that cultural consumption has been declining, especially among disadvantaged children (Rabkin and Hedberg 2011).

THEORETICAL FRAMEWORK

Bourdieu (1977:488) defined cultural capital as "instruments for the appropriation of symbolic wealth socially designated as worthy of being sought and possessed." Bourdieu's theory of cultural reproduction holds that cultural capital is inherited early in life from one's family, and successful accumulation of additional cultural wealth is dependent on this early family bestowal. As such, "it is difficult to break the cycle where cultural capital is added to cultural capital," and inequalities in cultural capital thus consistently reproduce and reinforce existing class disparities (Bourdieu 1977:493).

Bourdieu describes various forms of cultural capital that are relevant to childhood education. Embodied cultural capital includes the knowledge and skills necessary to appreciate and understand cultural goods; objectified cultural capital refers to material goods such as books or paintings in the home; and institutionalized cultural capital refers to educational credentials or qualifications that are socially recognized by the upper class (Bourdieu 1997). Embodied cultural capital, if properly activated, provides the basis for the acquisition of additional embodied, objectified, and institutional cultural capital.

Bourdieu (1977) argues that schools reinforce cultural capital inequalities because they are effective in transmitting cultural capital only to individuals who have already gained an early understanding of the world of art from their families. In this way, the education system "demands of everyone alike that they have what it does not give" (Bourdieu 1977:494). As a result, schooling provides greater academic capital to students with existing cultural capital.[1]

DiMaggio (1982) suggests that cultural capital deficiencies in disadvantaged populations may be more mutable. Unlike Bourdieu, who views family-based cultural capital as a necessary primer, DiMaggio suggests that disadvantaged children can also acquire cultural capital, and the cultural capital they acquire in childhood and adolescence can have positive academic and social benefits. Under this view, cultural capital is assumed to benefit all children, but children from disadvantaged backgrounds aspiring toward upward mobility may choose to acquire cultural capital to compensate for their disadvantaged status. Because disadvantaged students typically lack other family background characteristics that they could use to their advantage in status cultures, returns on investments in cultural capital may be highest for these children.

Most empirical studies on the effects of cultural capital follow Bourdieu's three categorizations. Institutionalized cultural capital has been measured using parental education (e.g., Kraaykamp and van Eijck 2010). Objectified cultural capital has been measured using home possessions related to high culture, such as art works, books of poetry, and classical literature (e.g., Byun, Schofer, and Kim 2012; Marteleto and Andrade 2014; Yamamoto and Brinton 2010). The bulk of research, however, focuses on embodied cultural capital, which has been measured using student attendance at cultural institutions or involvement in cultural activities like art, music, or dance lessons. A large number of studies include visits to museums or art galleries as a measure of embodied cultural capital (e.g., Byun et al. 2012; De Graaf, De Graaf, and Kraaykamp 2000; DiMaggio

1982; Dumais 2002; Jæger 2009; Kaufman and Gabler 2004; Nagel et al. 2010). Bourdieu (1977) noted that analyzing museum attendance as a measure of cultural capital was especially informative because in many cases the economic constraints that dictate class differences are removed, yet the relationship between class and attendance remains robust. Empirical studies in the United States confirm a strong relationship between socioeconomic status and children's museum attendance (Dumais 2006).

Using these measures, the generally positive relationship between cultural capital and socioeconomic status has been well established (e.g., Byun et al. 2012; DiMaggio and Useem 1978; Roksa and Potter 2011; Roscigno and Ainsworth-Darnell 1999). Plenty of evidence also shows that cultural capital is transmitted from one generation to the next (e.g., DiMaggio and Useem 1978; Kraaykamp and van Eijck 2010; Roksa and Potter 2011). The exact effects of cultural capital on academic outcomes and social mobility, however, are less clear. A growing body of research finds a positive relationship between measures of cultural capital and academic achievement (e.g., Aschaffenburg and Mass 1997; DiMaggio 1982; Dumais 2002; Roscigno and Ainsworth-Darnell 1999; Yamamoto and Brinton 2010). Jæger (2011), however, demonstrates that academic effects are often overstated and subject to significant omitted variables bias and endogeneity concerns.

In terms of the competing theories of cultural reproduction and cultural mobility, the research is even less clear. Some studies find evidence supporting cultural mobility theory (e.g., De Graaf et al. 2000), others support cultural reproduction theory (e.g., Roscigno and Ainsworth-Darnell 1999), and still more research finds mixed evidence supporting both perspectives (e.g., Aschaffenburg and Mass 1997; DiMaggio 1982; Jæger 2011; Roksa and Potter 2011).

Although some studies demonstrate the presence of intergenerational cultural mobility (Roksa and Potter 2011), existing research does not clearly identify the causal mechanisms underlying cultural capital acquisition, particularly for disadvantaged families. If cultural mobility actually occurs, then somehow the process of disadvantaged families choosing to acquire cultural capital must be initiated, yet their status, according to cultural reproduction theory, inhibits them from doing so. Prior research hints at potential ways the disadvantaged might acquire cultural capital. Some researchers speculate that upwardly mobile working-class parents can adopt what Lareau (2002) calls "concerted cultivation" by organizing culturally enriching activities for their children (Roksa and Potter 2011; see also Kaufman and Gabler 2004). Furthermore, there is evidence that children play an active role in determining their own cultural interests, distinct from that of their parents. In their ethnographic study, Chin and Phillips (2004) find that children actively contribute to the process of acquiring cultural capital. They identify "child capital," which includes children's own human capital, social capital, and cultural capital. Chin and Phillips (2004:185) argue that child capital strongly influences children's activities, "sometimes compensating for parents' lack of resources and sometimes impeding parents' efforts."

A child's preference to acquire cultural capital can be viewed as a component of a child's habitus—a set of internal dispositions and attitudes derived from social class that provide an orientation to the world and ultimately shape one's expectations and aspirations (Bourdieu 1984; Dumais 2006; McClelland 1990).[2] Some scholars suggest that Bourdieu's conception of habitus works as an important mediator of cultural capital (Gaddis 2013; Reay 2004). Unfortunately, the role of habitus has rarely been operationalized alongside the concept of cultural capital (Dumais 2002), and little is known about the potential for children's inherited habitus to change. Some work criticizes Bourdieu's theory of cultural reproduction and his notion of habitus for depicting children as overly determined by their parents' status with no opportunity for mobility (Giroux 1983; King 2000; Lareau 1987). Such a definition would fail to account for the independent choices and preferences of children, whose relationships to their parents' dispositions may involve rejection as much as duplication (Connell et al. 1982). Other scholars argue that Bourdieu's notion of habitus is dynamic and allows for individuals to be transformed by processes that change one's expectations or aspirations (Lee and Kramer 2013; McClelland 1990; Reay 2004).[3] A surprisingly limited amount of empirical research examines the transformation of one's habitus (Lehmann 2014), and even less work examines the transformation as a function of deliberate school policies (Barrett and Martina 2012). Moreover, the malleability of one's habitus has rarely been examined using experimental methods. An exception is a study of a policy experiment that introduced

a cultural and artistic education program to teenagers in Dutch schools, which found no significant effects on cultural participation or attitudes (Nagel et al. 2010).

To address these gaps in the literature, we examine a scenario where students were primed to express an interest in acquiring cultural capital. To the extent that the evidence supporting cultural mobility is accurate, it may be because disadvantaged children can be activated to acquire cultural capital, thus compensating for family background characteristics and changing their habitus.

SAMPLE AND DATA

The Crystal Bridges Museum of American Art opened in Bentonville, Arkansas, in November 2011.[4] With a permanent endowment exceeding $800 million, it is the first major museum dedicated to American art to open in 50 years (Vogel 2011). In March 2012, the museum launched a program that offered tours to area students. A generous portion of the museum's endowment covers the cost of these tours, allowing school groups to visit the museum at virtually no cost to the schools or students. This endowment covers transportation, admission, substitute teachers, lunch at the museum, and pre- and post-visit curricular materials. Because the opening of a major art museum in an area where one did not previously exist was a significant event, and the cost of tours was covered, demand for school tours far exceeded availability. The museum received applications from 525 school groups representing 38,347 students in grades kindergarten through 12 during the first two semesters of the program. The majority of applications were for entire elementary or middle school grade levels within schools. To allocate visits to the museum in a fair method, available slots were awarded through a lottery that we conducted in partnership with Crystal Bridges.

To strengthen statistical power, we incorporated a stratified randomization procedure. Use of a stratified randomization procedure can increase the balance between treatment and control groups while preserving the advantages of random assignment (Schneider et al. 2007). Given that we were especially interested in ensuring that the treatment and control groups had equal representation of important pretreatment characteristics, we first paired applicants with similar demographics (e.g., grade, region, and free or reduced-price lunch [FRL] status) and performed separate randomizations within these pairings. Applicant groups that won the lottery constitute the treatment group; the corresponding matched applicants who did not win the lottery make up the control group. As an incentive to participate in the study, applicant groups that did not win an immediate spot but participated in our data collection efforts (control group applicants) were guaranteed a spot for the following semester.

Through the random allocation of available slots, 92 groups were awarded a guided tour of the museum in the spring and fall of 2012 (the treatment groups); another 92 groups had their tours deferred (the control groups). Applicant groups not selected to be in the treatment or control groups received apologetic letters informing them they had not been selected to visit the museum during this period and encouraging them to apply in future rounds.

THE TREATMENT

Prior to their visits, were sent teachers of treatment group students a packet containing a five-minute video orientation for teachers and students to watch. In addition to covering museum etiquette, the video emphasized that the tours would be student driven and that students would be encouraged to contribute to discussions about art. Teachers were also provided a selection of three images the students would see on their tour, information about the themes of the tour, and essential questions to ask their students before the visit. These questions were intended to familiarize students with the types of themes they would learn about on their tour and the dialogue-driven nature of the tour.

Tours were led by trained museum educators who followed a constructivist-based learning approach. In a typical tour, students were split into groups of 10 to 15 that focused on four or five paintings or sculptures in the museum's collection. This open-ended, student-centered approach, facilitated by museum educators, encouraged students to think together, engage with each work of art on a deep level, and seek out their own unique interpretations. When appropriate, museum educators supplied a work's historical and sociological context to facilitate greater student understanding.

Trained members of the research team visited students in their classrooms and administered surveys to the treatment and its paired control group three weeks, on average, after the treatment group's visit to Crystal Bridges (M = 21.8 days, SD = 12.1). In total, 160 matched applicant groups (80 treatment and 80 control) representing a total of 10,912 students at 123 schools completed surveys. Due to tour cancellations or erroneous application information, we excluded 12 matched pairs that were originally part of the lottery. Because participation in data collection was packaged as a mandatory component of receiving an immediate or deferred school tour, all of the remaining treatment groups that visited the museum and their matched control groups completed surveys. The survey contained questions regarding student demographics, attitudes toward cultural institutions, attitudes toward art consumption, and knowledge of art.

OUTCOME MEASURES

We measured how the museum experience affected students' interest in cultural capital acquisition in two ways—with survey items and

a behavioral measure. The surveys administered to the treatment and control groups contained a number of items intended to capture students' attitudes toward future cultural capital acquisition through visiting an art museum or similar cultural institution.

For students in grades 3 through 12, the survey included eight items designed to gauge student interest in visiting an art museum or cultural institution. Together, responses to these items demonstrate a high level of internal consistency, with a Cronbach's alpha of .90. We included a second set of survey questions designed to gauge students' interest in engaging with art more generally. The internal consistency of these measures is strong, with a Cronbach's alpha of .80. Table 1 reports the means, standard deviations, and ranges of all variables used in our outcome measures.

For our analyses, we converted the responses to these two sets of questions into two indices of cultural consumption by first converting each set of responses into standard deviation units. We then took the average of the standardized measures across all items for each student. Finally, we rescaled this composite to have a mean of 0 and

Table 1. Descriptive Statistics of Individual Survey Components of Outcome Measures

Survey Item	Mean	Standard Deviation	Minimum	Maximum
Interest in engaging with art museums				
I plan to visit art museums when I am an adult.[a]	1.99	0.99	0	3
Trips to art museums are interesting.[a]	2.17	0.89	0	3
I would tell my friends that they should visit an art museum.[a]	1.83	1.03	0	3
Trips to art museums are fun.[a]	2.14	0.92	0	3
How interested are you in visiting art museums?[b]	1.92	0.93	0	3
If your friends or family wanted to go to an art museum, how interested would you be in going?[b]	2.01	0.93	0	3
Would your friend like to go to an art museum on a field trip?[c]	0.63	0.48	0	1
Would you like more museums in your community?[c]	0.78	0.41	0	1
Interest in engaging with art				
I like art class.[a]	2.13	0.98	0	3
I feel comfortable talking about art.[a]	1.90	0.99	0	3
Art is an important part of our country's culture and history.[a]	2.29	0.85	0	3
Art is interesting to me.[a]	2.14	0.97	0	3

a. Response categories include *strongly disagree, somewhat disagree, somewhat agree,* and *strongly agree.*
b. Response categories include *not interested, a little interested, interested,* and *very interested.*
c. Response categories include *no* and *yes.*

a standard deviation of 1. This approach allows us to express any outcomes in terms of standard deviation effect sizes.

Finally, we incorporated a behavioral measure of acquiring cultural capital. All students in grades kindergarten through 12 who participated in the study during the first semester of data collection ($n = 5{,}791$), including students who did not receive tours, were provided coupons that gave them and their families free entry to a special exhibit at Crystal Bridges. The coupons were coded so we could determine the applicant group to which students belonged. Students had up to five months to use their coupons.

HYPOTHESES

Cultural reproduction theory suggests that initial cultural capital is an important prerequisite to additional cultural capital acquisition. As Aschaffenburg and Mass (1997) point out, if early cultural socialization is required to activate future returns, then students who already possess cultural capital should be the most likely to desire more. Cultural mobility theory, however, suggests that more disadvantaged students might have a greater incentive to acquire more cultural capital. Along these lines, we first hypothesize that baseline indicators of students' advantaged status will be positively related with the desire to acquire additional cultural capital. That is, absent any additional activation, student characteristics will align with Bourdieu's model of cultural reproduction.

Turning to the experimental part of our analysis, it is important to note that in the population we are examining, most students had never been to an art museum. Our surveys indicate that only a third of the students in the treatment and control groups had ever visited Crystal Bridges outside the context of the school tour. Additionally, less than 10 percent had ever previously visited any other art museum. This is largely due to the fact that Crystal Bridges is the first major art museum to be built within a reasonable travel distance to this population. As such, we hypothesize that being randomly assigned to visit the art museum, and exposure to pre- and post-tour activities, will serve as a catalyst that activates an interest in cultural participation for the treatment group.

Finding a treatment effect in itself, however, does not fully inform the dynamics of cultural capital acquisition. The effect of the treatment could be driven primarily by advantaged or by disadvantaged students. To investigate this, we test for heterogeneous treatment effects that may be moderated by prior levels of cultural capital and other socioeconomic and community indicators. We hypothesize that the treatment will have differential effects on students based on important indicators of their social status. If we observe larger effects for more advantaged students, it would suggest that cultural reproduction is likely to persist even when disadvantaged students are introduced to a cultural experience. If, however, the treatment experience has greater effects on disadvantaged students' dispositions, these findings would add an important contribution to our understanding of the process of cultural mobility.

EMPIRICAL STRATEGY

Because mere chance determined whether a group was selected for a tour, the treatment and control groups are largely identical except for whether they participated in the museum's program. Any outcomes that differ between the treatment and control groups can thus confidently be attributed to participating in the museum's school tour and related activities. Comparisons between the treatment and control groups on key variables show that the stratified randomization procedure achieved the goal of producing comparable balance. The bulk of the analysis reported here comes from students in grades 3 through 12 ($n = 8{,}239$), as these students were given surveys that collected deeper information. Table 2 compares the grades 3 through 12 treatment and control groups. The average grade for students was approximately sixth grade ($M = 5.9$; $SD = 2.4$). In terms of the distribution, over half of the students were in grades 3, 4, or 5 (54.3 percent), slightly less than a third were in grades 6, 7, or 8 (31.0 percent), and the remaining students were in grades 9 through 12 (14.7 percent). There are no significant differences between the treatment and control groups in terms of student characteristics including, gender, ethnicity, grade, and student reports of previous cultural activities. School and community characteristics are also comparable.

Because randomization generated comparable treatment and control groups, we can use straightforward analytic techniques to estimate effects of the treatment. In its most basic form, this technique could estimate simple mean differences

Table 2. Treatment/Control Balance on Key Characteristics, Grades 3 through 12 Analytic Sample

Characteristic	Treatment (*n* = 3,746)	Control (*n* = 4,493)	Difference
Percentage female	51.98	51.25	0.73
Percentage white	59.21	59.96	−0.75
Percentage Hispanic	18.84	18.76	0.08
Percentage black	2.80	3.72	−0.91
Percentage other ethnicity	19.14	17.56	1.58
Previous cultural activities	0.93	0.89	0.04
Grade	5.90	5.81	0.10
School percentage FRL	54.20	55.86	−1.66
School size	634.82	672.94	−38.12
Town size	39,814	43,078	−3,263

Note: School percentage FRL = percentage of students receiving free or reduced-price lunch. Bivariate regression revealed no significant differences across treatment and control groups on any items. An additional 2,634 students from grades kindergarten through 2 were also randomized and participated in data collection. While the amount of demographic information collected from this younger sample was less detailed, there were no significant differences between the treatment (*n* = 1,445) and control (*n* = 1,189) groups on percentage female, school FRL levels, average grade, distance to the museum, school size, or town size.

using the following equation for outcome *CC*, the standardized cultural consumption score, of student *i* in matched pair *m*:

$$CC_{im} = \alpha + \beta_1 Treat_i + \beta_2 Match_{im} + \beta_3 Grade_{im} + \varepsilon_{im}. \quad (1)$$

The binary variable $Treat_i$ is equal to 1 if a student is in the treatment group, which was randomly assigned to participate in the museum's school tour program, and equal to 0 otherwise. Because we created the groups using a stratified randomization procedure within matched applicant group pairs, we include $Match_{im}$ in the model as a vector of dummy variables that have the statistical effect of estimating within, as opposed to across, matched pairs. Moreover, we include dummy variables for grade level to statistically adjust for matched pairs that were composed of adjacent grades in the same school. Finally, ε_{im} is a stochastic error term clustered at the applicant group level to take into account the spatial correlation from students nested within applicant groups.

While proper randomization generates comparable experimental groups, these groups are not perfectly identical. The basic regression model may be improved by adding controls for observable characteristics to increase the precision of the estimated impact. Moreover, by adding observable characteristics to the regression model, we can examine effects of these characteristics on the outcome measures. This yields the following equation:

$$CC_{ims} = \alpha + \beta_1 Treat_i + \beta_2 Match_{im} + X_i\beta_x + Z_s\beta_z + \varepsilon_{ims}. \quad (2)$$

X_i is a vector of student characteristics, and Z_s is a vector of school and community characteristics. Important student characteristics are gender and ethnicity. We include gender in our models as a binary measure equal to 1 if a student is female, and we collapse ethnicity into a simple binary measure indicating if a student is nonwhite. Additionally, our surveys included a measure of students' prior cultural activities, which serves as an indicator of baseline levels of cultural capital. For this measure, students reported if, outside of school, they had ever taken dance lessons (21 percent responded yes), music lessons (28 percent responded yes), art classes (20 percent responded yes), or drama classes (23 percent responded yes). We sum the number of affirmative responses to these questions into a composite measure of cultural activities. School characteristics are school percent FRL and school size. Finally, we use the population of the children's town of residence as an indicator of rural status.

In addition to estimating overall impacts, we test for the possibility of heterogeneous effects on particular types of students. We estimate heterogeneous effects by augmenting equation 2 to include interactions between the binary treatment

variable and student and school characteristics. For our analysis, we explore potential interaction effects using ethnicity, our baseline measure of cultural activities, school FRL levels, school size, and town size. All of these measures serve as indicators of students' socioeconomic and cultural status. Minority students tend to face more economic disadvantages, as do students at higher FRL schools. Moreover, students in smaller schools and towns have likely had fewer opportunities to acquire cultural capital.

RESULTS

Results show that randomly receiving a school tour increased students' desire to engage with an art museum. The overall treatment effect is 9 percent of a standard deviation in the parsimonious model (see Table 3, column 1), a modest but meaningful effect in the overall context of randomized studies of group-based educational interventions (Lipsey et al. 2013:34). Expressed another way, an average student who began at the 50th percentile on our outcome measure would move to the 54th percentile after the intervention. Adding control variables does little to change the overall effect, which is to be expected when analyzing experimental data (see Table 3, column 2). Moreover, interesting patterns emerge with inclusion of these baseline characteristics. Female students, on average, show greater interest in engaging with art museums, as do nonwhite students. Our measure of preexisting cultural capital is also positive and significant. Students with higher existing levels of cultural capital are, on average, more interested in engaging with cultural institutions, with each reported activity (ever receiving music, dance, art, or drama lessons outside of school) corresponding with a 9 percent of a standard deviation increase. We find no significant relationship between school FRL levels and our outcome.[5]

When we interact our various measures of students' status, we see no differential effects for female and male students, nor do we observe differential effects for white and nonwhite students. The interaction of treatment and cultural activities, however, is negative and significant (see Table 3, column 5). A student with no reported participation in cultural activities experienced a 14 percent of a standard deviation gain in our outcome measure, which translates to a move from the 50th to

the 56th percentile on our outcome measure. The interaction of treatment and school size is also negative and significant, suggesting the effect is stronger for students in smaller schools. The interaction of treatment and town size is negative and marginally significant, suggesting students from smaller towns receive a greater effect from the treatment. Finally, the interaction of treatment and school FRL levels is positive and highly significant, demonstrating that the treatment effect is larger for students attending higher-poverty schools. Based on our statistical model, the average impact for a student attending a school with 75 percent FRL students, all else being equal, would be 17 percent of a standard deviation (equivalent to moving from the 50th to the 57th percentile on our outcome measure); the effect for a student at a school with 90 percent FRL students would be 23 percent of a standard deviation (equivalent to moving from the 50th to the 59th percentile).[6]

In summary, these data consistently show that disadvantaged students have larger gains in their attitudes toward acquiring cultural capital as a result of the treatment. This is true for students with less preexisting cultural capital, students at schools with higher FRL levels, students at smaller schools, and students from rural areas.

Next, we examine our outcome that assesses students' desire to engage with art generally (see Table 4). Results on this outcome are less robust than our measure of art museum engagement, but the pattern of results is similar. Consistent with our previous results, female students and students with higher levels of preexisting cultural capital have more positive attitudes toward the arts, independent of the treatment. The overall treatment effect is weak and only marginally significant in the model including control variables (see Table 4, column 2). When we look at the treatment interacted with other variables that signal students' cultural and socioeconomic status, however, the pattern of findings is similar to our previous outcome measure. Students from smaller schools, students from poorer schools, and rural students see the greatest effect from the treatment. In summary, disadvantaged students are more likely to express an interest in engaging with art as a result of being randomly selected to receive the treatment experience.

Our survey data shed light on the workings of cultural participation and habitus formation, but they are limited to self-reports. Importantly, we

Table 3. Regression Estimates of Treatment Effects on Students' Interest in Visiting Art Museums

	1 Effect Size (Standard Error)	2 Effect Size (Standard Error)	3 Effect Size (Standard Error)	4 Effect Size (Standard Error)	5 Effect Size (Standard Error)	6 Effect Size (Standard Error)	7 Effect Size (Standard Error)	8 Effect Size (Standard Error)
Treatment	0.09*** (0.03)	0.09*** (0.03)	0.11** (0.04)	0.09** (0.04)	0.14*** (0.04)	0.22*** (0.06)	−0.14 (0.08)	0.17*** (0.05)
Female		0.32*** (0.02)	0.34*** (0.03)	0.32*** (0.02)	0.32*** (0.02)	0.32*** (0.02)	0.32*** (0.02)	0.32*** (0.02)
Nonwhite		0.09*** (0.03)	0.09*** (0.03)	0.09** (0.04)	0.09*** (0.03)	0.09*** (0.03)	0.09*** (0.03)	0.09*** (0.03)
Cultural activities		0.09*** (0.01)	0.09*** (0.01)	0.09*** (0.01)	0.11*** (0.01)	0.09*** (0.01)	0.09*** (0.01)	0.09*** (0.01)
School size		0.03 (0.02)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)
Percentage FRL		0.33 (0.33)	0.34 (0.34)	0.33 (0.34)	0.31 (0.33)	0.22 (0.30)	0.13 (0.32)	0.11 (0.34)
Town size		−0.01 (0.01)	−0.01 (0.01)	−0.01 (0.01)	−0.01 (0.01)	−0.01 (0.01)	−0.01 (0.01)	−0.01 (0.01)
Treatment × Female			−0.04 (0.05)					
Treatment × Nonwhite				0.01 (0.05)				
Treatment × Activities					−0.05** (0.02)			
Treatment × School Size						−0.02*** (0.01)		
Treatment × Percentage FRL							0.41*** (0.14)	
Treatment × Town Size								−0.02* (0.01)
Observations	7,835	7,835	7,835	7,835	7,835	7,835	7,835	7,835
R^2	.11	.15	.14	.15	.15	.15	.15	.15

Note: School percentage FRL = percentage of students receiving free or reduced lunch. Estimates are obtained from ordinary least squares regression models estimated on survey outcome data from students in grades 3 through 12. Effect sizes are in terms of standard deviation units. Robust standard errors are clustered by applicant group. All models control for grade level and lottery pair. Cultural activities are the sum of self-reported previous cultural activities students participated in outside of school, including dance lessons, music lessons, art classes, and theater participation. School size is expressed in 100s. Town size is expressed in 10,000s.
$*p < .10. **p < .05. ***p < .01$ (two-tailed).

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Table 4. Regression Estimates of Treatment Effects on Students' Interest in Engaging with Art

	1 Effect Size (Standard Error)	2 Effect Size (Standard Error)	3 Effect Size (Standard Error)	4 Effect Size (Standard Error)	5 Effect Size (Standard Error)	6 Effect Size (Standard Error)	7 Effect Size (Standard Error)	8 Effect Size (Standard Error)
Treatment	0.03 (0.03)	0.04* (0.03)	0.04 (0.04)	0.03 (0.04)	0.06* (0.03)	0.13*** (0.05)	−0.10* (0.06)	0.13** (0.05)
Female		0.39*** (0.03)	0.39*** (0.04)	0.39*** (0.03)	0.39*** (0.03)	0.39*** (0.03)	0.39*** (0.03)	0.39*** (0.03)
Nonwhite		0.00 (0.03)	0.00 (0.04)	−0.01 (0.04)	0.00 (0.03)	0.00 (0.03)	0.00 (0.03)	−0.00 (0.03)
Cultural activities		0.12*** (0.01)	0.12*** (0.03)	0.12*** (0.01)	0.13*** (0.01)	0.12*** (0.01)	0.12*** (0.01)	0.12*** (0.01)
School size		0.04 (0.02)	0.04 (0.02)	0.04 (0.02)	0.04 (0.02)	0.04* (0.02)	0.04 (0.02)	0.04 (0.02)
Percentage FRL		0.05 (0.33)	0.05 (0.33)	0.06 (0.33)	0.04 (0.33)	−0.02 (0.31)	−0.08 (0.32)	−0.22 (0.32)
Town size		0.01 (0.01)	0.01 (0.00)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Treatment × Female			0.00 (0.05)					
Treatment × Nonwhite				0.03 (0.05)				
Treatment × Activities					−0.02 (0.02)			
Treatment × School Size						−0.01** (0.01)		
Treatment × Percentage FRL							0.27*** (0.09)	
Treatment × Town Size								−0.02** (0.01)
Observations	7,810	7,810	7,810	7,810	7,810	7,810	7,810	7,810
R^2	.08	.15	.15	.15	.15	.15	.15	.15

Note: Percentage FRL = percentage of students receiving free or reduced lunch. Estimates are obtained from ordinary least squares regression models estimated on survey outcome data from students in grades 3 through 12. Effect sizes are in terms of standard deviation units. Robust standard errors are clustered by applicant group. All models control for grade level and lottery pair. Cultural activities are the sum of self-reported previous cultural activities students participated in outside of school, including dance lessons, music lessons, art classes, and theater participation. School size is expressed in 100s. Town size is expressed in 10,000s.
*p < .10. **p < .05. ***p < .01 (two-tailed).

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Table 5. Behavioral Measure of Cultural Interest: Observed and Expected Rates of Students Returning to the Museum (in percentages)

	Treatment Observed Rate	Treatment Expected Rate	Treatment Effect
All visitors	57.8	48.8	+ 9.0***
Adults	58.0	48.8	+ 9.2***
Children	57.4	48.8	+ 8.6**

Note: The significance between expected and observed rates of treatment group usage of coupons was generated with a chi-square test. A total of 658 visitors returned to the museum with coupons (adult n = 374, student n = 284).
**p < .05. ***p < .01.

also have a behavioral measure: coded coupons that verify whether students were actually more likely to return to the museum as a result of the treatment. The coupons contained codes that indicated whether they were used by members of the treatment or control group and identified the school that students attended. Unfortunately, we lack detailed individual-level data to examine the full range of characteristics of the students who used the coupons. We are limited to analyzing their treatment status and school- and community-level characteristics.

Treatment group students composed 49 percent of this sample, yet they accounted for 58 percent of all students and accompanying adults who used coupons to return to the museum (see Table 5). In other words, the families of students who received tours were 18 percent more likely to return to the museum than we would expect if their rate of coupon use were the same as their share of distributed coupons. We did not detect any statistically significant interaction effects between the treatment and school or community characteristics, which may be due to the smaller sample size of coupon users.

The overall effect is noteworthy given that treatment group students had recently visited the museum. The treatment group's desire to visit a museum might have been satiated, whereas the control group might have been curious to visit Crystal Bridges for the first time. Yet despite having recently been to the museum, students who received a school tour came back at higher rates. Considering that most of these students had never visited an art museum previously, these results further suggest that some amount of initial cultural exposure is necessary to activate an interest in acquiring cultural capital. Furthermore, these results demonstrate that students' self-reports are meaningful indicators of their intentions, giving extra validity to our findings from survey responses.

DISCUSSION

The experience students in the treatment group received was modest: They were briefly exposed to curricular materials in their classrooms, and they spent roughly half a day at a world-class art museum with museum educators. Yet for many of these students, this was the first time they had ever visited an art museum. In this instance, even a minimal intervention produced significantly positive and meaningful changes in students' desire to consume culture. Because these results are derived from a randomized controlled trial, we can be especially confident that the experience caused the effects we observe.

Descriptively speaking, our data indicate that students with higher levels of preexisting cultural capital show a greater interest in cultural consumption, which is consistent with cultural reproduction theory. Yet being randomly assigned to receive a school tour causes an increase in students' desire to consume culture. This finding alone, however, does not tell us which students are driving the treatment effect. When we examine the interaction of a number of characteristics that signal students' status, we observe strong and consistent evidence that the treatment had the strongest effect on disadvantaged students. Whether we examine students' disadvantaged status as measured by preexisting cultural capital levels, school indicators, or community indicators, the pattern is consistent. When students are primed through some initial exposure to a cultural institution, this interacts with characteristics associated with low cultural capital and produces higher preferences for cultural consumption. Cultural

mobility is likely driven, in part, by disadvantaged children becoming activated to acquire cultural capital, thus compensating for family background characteristics and changing their habitus.

Our findings have important implications for the processes by which cultural mobility can occur. Cultural reproduction theory may not fully consider the dynamic way cultural capital acquisition can be driven by children's own interests. Reproduction theory largely depicts students as dependent on inheriting initial cultural capital from their families in order to acquire more. At the same time, prior research supporting cultural mobility has not shown how disadvantaged populations might be prompted to invest in cultural capital. Our results help clarify two important aspects of cultural consumption. First, our results show that students with more cultural capital, on average, show more enthusiasm for cultural consumption. Second, disadvantaged students, who typically receive less cultural capital from their families, can be primed to have a more favorable attitude toward cultural consumption through a cultural experience. In this case, disadvantaged students, as a result of being randomly assigned to experience a cultural activity, experienced larger gains in their desire to consume culture than did advantaged students. When disadvantaged students are activated through some form of initial exposure to culture, future cultural capital acquisition is more likely to occur.

Our study does have important limitations. We cannot be certain which specific aspects of the exposure received by the treatment group caused them to have more favorable attitudes toward cultural institutions and art. Although an experimental design is often considered the most reliable way to determine the causal impact of an experience, we are unable to determine the precise mechanisms driving our results. These effects could be driven by exposure to the art itself, the museum setting, or the combination of both. It is important to consider that the tour was a deliberate and structured experience, not simply a day of play at an art museum. Our survey data suggest that students were not simply responding positively to missing a day of school.[7] Rather, these data suggest that learning about art likely played an important role. In our surveys, we found that students retained a great deal of factual information about the art they viewed on the tour, including many historical and sociological themes (Greene, Kisida, and Bowen 2014). This suggests

that viewing the art itself was a memorable and thought-provoking experience for the students. Future research could attempt to unpack the precise aspects of cultural experiences that increase the desire for cultural consumption.

We cannot specifically say that possessing cultural capital will lead to academic advantages and social mobility for these students. First, we do not know if these disadvantaged students will seek to increase their level of cultural capital in the long term. Students in our sample were surveyed, on average, three weeks after they visited the museum, yet some were surveyed as long as eight weeks later. When we interact this temporal measure with our outcomes of interest, we see no signs of the effects diminishing during this time period. While this provides some support that the desire to participate in cultural activities may endure, we cannot rule out the possibility that these effects will fade. Future research should examine the longer-term effects of cultural exposure on disadvantaged students' dispositions.

We also cannot determine if the change in students' disposition toward cultural activities will effectively translate into embodied cultural capital or lead to the acquisition of objectified or institutional cultural capital. Students may be showing an interest in cultural activities because they find the activities enjoyable, but they may not acquire the skills needed to decipher cultural codes. As Lareau and Horvat (1999) note, there is a difference between the possession of cultural capital and its effective use.

From a policy perspective, this research demonstrates that schools can play an important role in providing disadvantaged students meaningful cultural experiences. Exposure to the arts within schools, however, has been decreasing (Rabkin and Hedberg 2011), and U.S. schools are facilitating fewer visits to cultural institutions (Associated Press 2012; Blair 2008; Ellerson 2010; Lewin 2010; Mehta 2008). Although disadvantaged families who want their children to gain an interest in cultural activities might be able to engage in the same types of concerted cultivation (Lareau 2002) as advantaged families, material inequalities will remain an obstacle (Chin and Phillips 2004).

Finally, although a large body of research demonstrates that cultural capital is a valuable good with important academic and social benefits, a number of researchers note that participation in highbrow arts activity may have limited utility as an indicator of cultural capital in the U.S. context,

where elite culture is more diverse (Dumais 2006; Peterson 1992; Peterson and Kern 1996). This would be particularly important if the academic benefits of cultural capital were obtained mostly by signaling elite group membership and preferential treatment from teachers, as Bourdieu suggested. It is also possible, however, that familiarity with cultural knowledge and participation in high-brow cultural activities leads to legitimate increases in academic competence. In a separate analysis, we find that students in the treatment group demonstrated stronger critical thinking skills when composing an essay about a work of art, and these benefits were greatest for disadvantaged students (Bowen, Greene, and Kisida 2014). This finding is in line with previous research that shows cultural capital is more important for reading achievement than for other subjects (Chiu 2010; DiMaggio 1982; Hampden-Thompson, Guzman, and Lippman 2008). Participation in cultural activities may spark a genuine interest in learning and thinking more deeply about the world. Kaufman and Gabler (2004) find that active participation in arts activities is especially predictive of college attainment, suggesting that enriching arts activities, more than simple exposure, may increase students' investment in school and enhance their intellectual curiosity. This "modified cultural capital" perspective suggests that cultural capital operates more as a form of human capital and not simply as a credentialing mechanism. Still, this and most existing research on the effects of cultural capital have significant endogeneity concerns, and the ability to draw strong causal inferences is limited (Jæger 2009). As such, it is difficult to separate the benefits of various forms of cultural capital from other advantageous family and student characteristics. Future experimental work that examines the influence of different types of exogenously derived cultural capital on different populations' academic achievement and social mobility would be an especially valuable contribution.

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NOTES

1. Bourdieu's portrayal of schools was largely influenced by the time and place of his work (1960s France). His depictions were not explicitly directed at schools in the United States.

2. Empirical studies examining habitus typically operationalize the concept as academic, educational, or professional aspirations (see, e.g., Dumais 2002, 2006; Gaddis 2013; McClelland 1990). Bourdieu's (1984:173) complete concept of habitus, however, is broadly described as the "unifying, generative principle of all practices," which certainly includes dispositions and attitudes toward cultural capital and its acquisition.

3. King (2000) points out the discrepancy between Bourdieu's originally strict depiction of habitus in text versus his later characterizations of the concept when confronted with claims that it was overly deterministic.

4. Located in northwest Arkansas, Bentonville had a population of just over 35,000 in 2010. The city is part of a larger metropolitan area approaching a half million residents, which is surrounded by a mostly rural area. The most recently reported median family income was $46,558; the median family income for the metropolitan area was $38,118.

5. In a separate analysis, we find larger overall treatment effects for the grades kindergarten through 2 sample ($n = 2,634$, $ES = .20$) and a similar positive relationship for female students using a similar outcome measure. However, we find no interaction effects when examining school size, school free or reduced-price lunch (FRL) levels, or town size (we do not have data on cultural activities or ethnicity for the K–2 sample). The lack of interaction effects for these younger students could signal that their underlying characteristics have yet to translate into differential preferences.

6. In our sample, schools' FRL levels ranged from 9 to 96 percent.

7. It is unlikely that students saw the museum visits simply as a chance to escape the drudgery of school. On the student surveys, all students were asked if they "liked school" or if they thought "school was boring." When we add these measures to the regressions that produce our results, we see a positive and statistically significant relationship between liking school and our outcome measures, and a negative and significant relationship between thinking school is boring and our outcome measures. There is no significant interaction, however, between these variables and the treatment. In other words, students who like school are interested in acquiring cultural capital, but the treatment effect does not seem to be mediated through the relationship of a student's affinity for school. Finally, in our sample, the relationship between school FRL levels and liking school is

positive and significant, whereas thinking school is boring is negatively related to school FRL levels. That is, disadvantaged students tended to report liking school at higher levels. Because of this relationship, it would be difficult to explain the heterogeneous effects we see for disadvantaged students as a function of their distaste for school.

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