When poor students attend rich schools:  
Do affluent social environments increase or decrease participation?

Tali Mendelberg  
*ORCID: 0000-0002-4494-7541*  
*John Garrett Professor of Politics, Princeton University*  
*Mailing address: 001 Fisher Hall*  
*Princeton NJ, 08544*  
*Email: talim@princeton.edu*  
*Phone: (609)-258-4750*

Vittorio Merola  
*ORCID: 0000-0002-2099-2372*  
*Assistant Professor of Political Science*  
*Stony Brook University*  
*Mailing address: N-721 Social and Behavioral Sciences Building*  
*Stony Brook University, Stony Brook, NY 11794*

Tanika Raychaudhuri  
*ORCID: 0000-0002-1927-3768*  
*Ph.D. Candidate, Department of Politics, Princeton University*  
*Mailing address: 001 Fisher Hall*  
*Princeton NJ, 08544*

Adam Thal  
*ORCID: 0000-0001-5004-5950*  
*Postdoctoral Researcher,*  
*Institution for Social and Policy Studies,*  
*Yale Univerist*  
*Mailing address: 77 Prospect St,*  
*New Haven, CT, 06511*

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Abstract

College is a key pathway to political participation, and lower-income individuals especially stand to benefit from it given their lower political participation. However, rising inequality makes college disproportionately more accessible to higher-income students, creating many predominantly-affluent campuses. Do low-income students gain a participatory boost from attending college? How does the prevalence of affluent students on campus affect this gain? Predominantly-affluent campuses may create participatory norms that elevate low-income students’ participation. Alternatively, they may create affluence-centered social norms that marginalize these students, depressing their participation. Using a large panel survey (201,011 students), controls on many characteristics, and tests for selection bias, we find that predominantly-affluent campuses increase political participation to a similar extent for all income groups, thus failing to close the gap. We test psychological, academic, social, political, financial, and institutional mechanisms for the effects. The results carry implications for the self-reinforcing link between inequality and civic institutions.

Keywords: Economic inequality; Affluence; Education; Political participation
Low-income Americans receive lower levels of political representation than other Americans (Butler 2014). By some accounts, they receive no meaningful political representation at all (L. M. Bartels 2008; Gilens 2012). This may be partly due to their vastly lower levels of political participation and leadership (Carnes 2013; Hajnal and Trounstine 2005; Hill and Leighley 1992; Schlozman, Verba, and Brady 2012).

Arguably, no route to participation and influence is more effective than education (Verba, Schlozman, and Brady 1995). Expanding educational opportunities for low-income people could thus be an effective means of addressing the problem of unequal representation. However, with rising income inequality, the gap in college completion between rich and poor students has increased by about 50 percent since the late 1980s (Bailey and Dynarski 2011; Mettler 2014).

By making college much more accessible to affluent families, income inequality has two consequences. First, it distributes access to a major pathway to political activity unequally. Second, it creates affluent social environments: the median four-year institution draws approximately half of its students from the top 25% of the income distribution.¹ That is, on many campuses, affluent students are the majority, rendering college an affluent social setting (Armstrong and Hamilton 2013; Stevens, Armstrong, and Arum 2008; Mendelberg, McCabe, and Thal 2017). These trends are eliciting a growing public debate about economic diversity in higher education (Anderson 2017). In an era of low economic diversity in the educational institutions central to democracy, it is important to understand how affluent environments affect the low-income individuals who attend them.

¹Calculated from Mettler (2014), Figure 1.2. Recent data from 48 million college students attending 13,890 schools shows a similar distribution (Chetty et al. 2017).
How do predominantly-affluent campuses affect the participation rates of low-income students? We derive two opposing expectations. First, these campuses may narrow the SES engagement gap by raising the level of engagement of low-income students. Affluent adults are much more likely to engage with politics (Schlozman et al. 2012), and high concentrations of affluent individuals may create norms of engagement (Campbell 2006). Low-income students attending affluent campuses may adopt these norms, leading them to become more politically engaged. Because these are impressionable years, the effects likely last over the lifetime, muting inequalities of representation downstream (Sears and Funk 1999).

On the other hand, affluent environments may instead reinforce participatory inequality (Kelly and Enns 2010; Solt 2010). Affluent campuses may create psychological, academic, social, or financial difficulties for low-income students, which in turn may interfere with the development of political engagement (Armstrong and Hamilton 2013). Campuses with many affluent students could thus enhance the income gap in political engagement. This finding would support theories that emphasize that institutions or interventions carry different effects for people with different participatory resources (Schlozman et al. 2012).

In arbitrating between these competing hypotheses, this paper aims to contribute to the study of the effects of education on political engagement (Campbell 2009). In recent decades, “every significant indicator of political engagement has fallen by at least half” (Galston 2001: 219), with the decline led by the young (Stoker and Bass 2011). What higher education can do to elevate those low rates as adolescents enter adulthood is thus a central question that goes to the heart of democratic practice. This paper enters the debate not by comparing those with and without education, but in comparing different types of college settings. If education sorts
individuals into relative social rank (Campbell 2009), the question becomes what types of educational experiences reinforce this class inequality.

Several studies have assessed the effects of college experiences (Astin 1993; Dey 1996; Hillygus 2005; Sidanius et al. 2008). However, these studies have not found a link between college experiences and political action (as we elaborate below). Nor do they focus on how political socialization differs by socio-economic class, or on the concentration of affluence. These questions about education and political participation flow directly from questions about rising income inequality and American democracy, yet they have not received much attention. Why lower-income individuals participate far less than others remains an under-explored question despite its importance to inequality (Schlozman et al. 2012).

We examine these questions with a large two-wave panel of 201,011 students in 571 schools. The panel data cannot fully account for all confounders, including the well-known problem of self-selection. However, the data does allow us to improve on current attempts to deal with self-selection into educational settings, by accounting for the student’s pre-treatment starting point. To that end, we estimate the affluent campus effect separately at different levels of pre-college political engagement (following, for example, Nall 2018). This self-selection test is a useful but missing feature in many studies of higher education and of context effects more generally. We also control on a host of competing explanations. An additional strength of the data is that it allows us to examine an extensive array of psychological, academic, social, financial, institutional, and political mechanisms. We find that relative to their counterparts in non-affluent campuses, low-income students emerge from largely-affluent campuses moderately more politically engaged. For some outcomes, the effect obtains only when these students receive generous financial aid. In fact, concrete aid emerges as perhaps the most important
mechanism, suggesting that this is the experience that matters for low-income students’ ability to gain from college attendance. However, on most forms of participation, low-income students benefit no more than their higher-income peers. These parallel effects mean that the SES gap fails to close. These findings contribute to the emerging literature on how institutions affect the social reproduction of unequal power (Lerman and Weaver 2014; Mettler and Soss 2004). Among these institutions are colleges, and their consequences derive partly from their concentration of affluence.

**College effects and social norms**

Foundational studies of participation conclude that education is the biggest predictor of political participation (Highton and Wolfinger 2001; Verba et al. 1995). However, recent studies cast doubt on the causal impact of college (Berinsky and Lenz 2011; Kam and Palmer 2008; Nie, Junn, and Stehlik-Barry 1996; Henderson and Chatfield 2011). Even the specific experiences that education is thought to provide may not have a causal impact on participation. There is also no evidence of a causal effect of civics curricula, service learning, participation in student-led activities, volunteering, or democratic classroom climates on political action (Niemi and Junn 1998; Pascarella and Terenzini 2005).

However, higher education may matter indirectly. Sociological studies emphasize the social nature of the college environment, where many “activities are explicitly social, oriented around forging, maintaining, and displaying bonds with peers” (Stevens et al. 2008, 132). Because students are highly motivated to gain acceptance from their college community, college peers have well-documented effects on academic achievement, career decisions, alcohol consumption, study habits, joining organizations, and voting (Nickerson 2008; Sacerdote 2011). Beyond the dyadic effect of a roommate, the characteristics of the entire student body may also
matter. Such characteristics have a bigger association with political attitudes and behaviors than other institutional features, including selectivity, size, private status, or vocational orientation (Pascarella and Terenzini 2005). Because students are affected by their peer community, the community’s social characteristics may act as powerful agents of political socialization, often by creating norms (Campbell 2006).

One such social characteristic is the affluence of the student body. This variable creates norms that shape class-relevant attitudes, even after accounting for selection and other competing explanations (Mendelberg et al. 2017). One question that follows from this finding is how predominantly-affluent campuses affect political engagement, especially for those who come from lower-SES backgrounds and correspondingly lower levels of participatory resources. Do affluent social settings elevate lower-income students’ participation? Or do they instead depress participation, functioning as institutions that reproduce class inequality in politics?

**Negative effects of campus affluence on low-income students**

Negative expectations for campus affluence effects derive from theories of class that emphasize its cultural aspects (Lamont and Molnar 2002). Bourdieu is perhaps the best known of these theorists (1984; Bourdieu and Passeron 1990). Class-culture theory has three elements. First, class generates deeply internalized class identities, behavioral scripts, and norms. In that sense, class is not merely a set of concrete resources, but also a type of culture. Second, class is a social rank. Groups with resources are assigned higher symbolic value, and their cultural practices become powerful social norms (Russell and Fiske 2008). Third, educational institutions aid the social reproduction of class across generations by assigning a higher value within the institution to upper-class norms (Bourdieu and Passeron 1990; Stevens et al. 2008, 133). They do so by admitting many high-income students and facilitating upper-class lifestyles within the
The institution thus creates a community where upper-class ways of life are the norm and carry prestige and esteem. Low-income students are valued less, institutionally and socially, and derive fewer gains from attending the institution (Aries and Seider 2005; Goldrick-Rab 2016). These educational institutions cultivate the habits of mind and behaviors that correspond to upper-status roles, but these tend to be absorbed more by high- than low-status students (Stevens et al. 2008). Because participation is more prevalent among higher SES individuals, participation forms part of an upper-class cultural role (Nie et al. 1996). Lower-income students thus may not reap the same participatory benefits from education, because they are less well-positioned to absorb the participatory norms of the upper classes within the status hierarchy of affluent campuses (Giles and Dantico 1982; Huckfeldt 1979). For example, the voting norms of a campus matter only when a student perceives a similarity to other students at the school (Glynn, Huge, and Lunney 2009). Consequently, predominantly-affluent colleges may foster political participation by individuals with higher-income backgrounds but inhibit the development of political engagement for those from low-income backgrounds. We call this the cultural mismatch hypothesis.

One mechanism through which cultural mismatch may negatively affect low-income students’ political participation is psychological injury (Sennet and Cobb 1972). Lower status people may perceive themselves as less empowered and in control of their lives. This diminished sense of personal efficacy may lead to lower political efficacy and participation (Hillygus, Holbein, and Snell 2015; Kraus, Piff, and Keltner 2011; Kraus, Rheinschmidt, and Piff 2012; Cohen, Vigoda, and Samorly 2001). If students’ lower status is made salient in affluent campuses, as suggested by cultural mismatch theory, these ‘hidden injuries of class’ may
intensify (Aries and Seider 2005, 428; Johnson, Richeson, and Finkel 2011; Lamont and Molnar 2002, 172; Stephens et al. 2015), decreasing political participation.

A second mechanism is academic struggle. Working-class people are stereotyped as less intellectually competent, and tend to arrive at college with less preparation, which may generate feelings of inadequacy (Charles et al. 2009; DiMaggio 1982; Stephens et al. 2012). Academic difficulty may contribute to self-doubt especially in largely-affluent campuses, where norms of affluence may condition low-income students to feel that they do not belong (Aries and Seider 2005; Johnson et al. 2011), inhibiting the development of their political engagement.

A third mechanism is social marginalization. As Stevens et al. put it, “having the ‘right’ clothes, body, hygiene practices, hair style, accent, cell phone, and musical tastes can matter” to one’s access to social networks on campus (2008, 133). Low-income students may have a mismatch between their experiences and those esteemed in upper-class environments (Aries and Seider 2005). The community’s affluence may create a lack of social fit, denying low-income students social ties that might facilitate political participation.

Fourth, affluent colleges may demobilize low-income students via stigmatizing institutional practices. For example, many low-income students must work on campus as part of their aid package. In largely-affluent campuses, this means serving affluent peers in the cafeteria and other social spaces, which may make their relative status salient. As another example, low-income students tend to feel marginalized by the fact that dorms close during breaks, because they cannot afford to go home (Aries and Seider 2005). This may matter more in largely-affluent campuses, where affluent students are untroubled by dorm closings. Such practices may catalyze cultural mismatch in affluent campuses, inhibiting low-income students’ political engagement.
These mechanisms of cultural mismatch may undermine the positive effect of the political norm of engagement that may exist on affluent campuses, a concept we elaborate below. A cultural mismatch may mean that norms of political engagement have less influence on low-income students. For example, the voting norms of a campus matter only when a student perceives a similarity to other students at the school (Glynn et al. 2009). It follows that a cultural mismatch may interfere with the uptake of participatory norms. This prediction is reinforced by studies of adult affluent settings which show that these spaces promote the participation of affluent individuals only (Giles and Dantico 1982; Huckfeldt 1979).

Finally, while we focus on cultural mismatch, we also recognize – and test – the importance of concrete financial hardship. That is, class may matter not only psychologically and socially, but also materially. Low-income students experience substantial hardship despite receiving financial aid, because the level of aid is inadequate, or it requires working onerous hours. For example, at one predominantly-affluent school, a quarter of students on full financial aid lacked money to buy food, and over half provide financial support to their families (Broton, Frank, and Goldrick-Rab 2014, Figure 2 and Table 4). Low-income students tend to work significant numbers of hours (Armstrong and Hamilton 2013; Pascarella et al. 2004; Stevens et al. 2008, 133). The resource model of political participation would predict that this lack of concrete resources lowers participation (Verba et al. 1995). If largely-affluent schools create more financial difficulty, they may enhance the class gap in political participation.

In sum, campus affluence may negatively affect the participation of low-income students. Low-income students may keenly feel their disadvantage in an institution that replicates the social value attached to class rank. They may experience psychological distress; academic struggle; a lack of social fit; and stigmatizing school practices. This may mean that largely-
affluent campuses inhibit low-income students’ participation. In addition to these mechanisms of cultural mismatch, largely-affluent schools may depress participation through a resource pathway, if they tend to impose a higher financial or workload burden.

Positive effects of campus affluence on low-income students

On the other hand, affluent campuses may not inhibit low-income political participation, and may even boost it, for two reasons.

First, the cultural mismatch hypothesis may simply be incorrect. Many low-income students in affluent schools seem to overcome initial social isolation and develop friendships with affluent students (Aries and Seider 2005, 432). Social isolation may thus be far lower than the mismatch hypothesis expects. In addition, when low-income individuals succeed in navigating stigmatizing institutions despite the obstacles, their internal efficacy increases (Soss 1999). Many low-income students overcome their challenges, often with a narrative of resilience that draws on positive aspects of their class identity, and many develop higher self-confidence as their academic performance improves (Aries and Seider 2005, 419; Charles et al. 2009; Crocker and Major 1989). Resilience in turn is associated with higher political engagement (Hillygus et al. 2015). These positive reports seem to be particular to affluent schools. Aries and Seider found that “explicit statements about increased self-confidence and self-respect were lacking” among students attending a low-affluence school (2005, 433). Attending a predominantly-affluent school may thus make one’s working-class identity more salient in positive ways, which could result in positive effects on political engagement.

Second, if cultural mismatch is not a barrier, low-income students on affluent campuses may absorb the stronger norm of political participation that is likely present on affluent campuses. This constitutes a political mechanism for positive campus-affluence effects. The
higher one’s SES, the more politically engaged one is (Schlozman et al. 2012; Verba et al. 1995; Walsh, Stoker, and Jennings 2004; Hill and Leighley 1992). Places with many affluent individuals tend to produce more participatory social norms (Huckfeldt 1979; Giles and Dantico 1982). Thus, campuses with more affluent peers may produce a norm of political engagement. On average, students accurately perceive campus norms of political participation (Shulman and Levine 2012; Sax 2000) and such norms are associated with more participation by individual students (Astin 1993, 116; Campbell 2006, 158, 2008, 2009; Glynn et al. 2009). The implication is that attending an affluent college may boost participation.

In sum, low-income students may gain a participation boost from largely-affluent schools. Although low-income students may experience some exclusion and difficulty, they may also develop positive class-based identities, and learn to participate through exposure to strong norms of political engagement. Of particular interest is the possibility that absorbing norms of political participation on campus may elevate low-income students so much that they close the gap with their middle- and high-income peers. In that sense, affluent campuses might carry a larger effect (gain) for low-income students than they do for middle- and high-income students.

However, affluent campuses may also provide a participatory boost to middle- and high-income students. In fact, these students may gain more than low-income students do. If participatory norms exist on affluent campuses, affluent students would be exposed to them no less than low-income students, and perhaps more so if they face fewer social and cultural difficulties. As elaborated above, some studies find that participatory norms affect students if they are socially integrated. If class culture theory is correct, middle- and high-income students may more readily absorb the participatory norms present on these campuses.
Below we outline the approach we use to arbitrate between the positive and negative predictions.

**Data and methods**

We analyze panel data collected by the Cooperative Institutional Research Program (CIRP), housed at the Higher Education Research Institute (HERI). CIRP partners with schools to survey students about various attitudes and experiences at the beginning of college (the Freshman Survey, or TFS) and again at the end of college (College Senior Survey, or CSS).

Panel data provide one way of alleviating the problems posed by self-selection. It may be the case that low-income students’ pre-college level of political engagement influences their probability of attending affluent colleges, biasing the effect of campus affluence on senior-year political engagement. As described below, the panel data allow us to partially account for this possibility in two ways. First, we use lagged dependent variable models to control on the respondent’s pre-college level of political engagement. That is, we regress the Wave 2 dependent variable on the same variable from Wave 1 (or a proxy for it). Second, as an additional test for selection bias, we subset low-income students by pre-college political engagement. Several additional tests of self-selection are also described below. These approaches do not allow the strong causal inference of randomization, but they represent a better-identified design than is currently common in the literature on educational contexts.

The freshman wave spans incoming cohorts from 1989-2009. The senior re-interview wave spans 1994-2013. The response rate is extremely high, typically above 75%. The effective sample consists of up to 201,011 students: 13,363 low-income, 91,257 middle-income, and 96,391 high-income students. (We explain our income measure below.) The sample includes up to 571 schools that vary considerably in size, public or private status, geographic location,
selectivity, and student demographics. When calculating cohort-level predictors we pool consecutive pairs of cohorts, drawing from a larger, supplementary freshman CIRP sample with approximately eight million respondents. We use cohorts with a minimum of 100 individuals.

We use multilevel models with random intercepts for schools and cohorts, and graduation-year fixed effects (Gelman and Hill 2007). The year fixed effects allow us to account for changes over time, including changes in the school’s affluent composition. We use multilevel logistic regression for binary outcomes and multilevel linear regression for continuous outcomes, scaled to range from 0 to 1. In each model, we regress the political engagement outcome from senior year onto campus affluence, which is our predictor of interest, controlling on the respondent’s freshman response (or a proxy for it) and a range of additional control variables.

Throughout, we estimate models separately by student’s household income (low, middle, or high). This allows us to test our hypothesis that affluent campuses may affect students differently by their class background. This approach can reveal whether low-income students respond more, less, or the same as middle- and high-income students do to affluent environments. We then directly test whether the effects differ across these subsets. Question wording, coding, and distributions for all variables are in the appendix (Appendix Tables 1 to 4, starting on p. 4).

**Independent Variables:** We measure three categories of student income: *Low-income* respondents are those whose reported parental income is at or below the 20th percentile of the national household income distribution during freshman year. *High-income* respondents are those at or above the 90th percentile (following Gilens 2012). The remaining respondents are coded as *middle-income*. In other work we report robustness checks on this measure (Redacted).
Campus affluence is the proportion of high-income students in the student’s freshman cohort and the preceding freshman cohort, divided into five categories, each holding a quintile of the low-income students in our data. These categories are for cohorts with less than 23% affluent; 23% to 32% affluent; 32% to 42% affluent; 42% to 55% affluent; and more than 55% affluent students. The distribution of low-, middle- and high-income students across levels of campus affluence is displayed in Appendix Figure 1 (p. 3). We use this quintile measure because it reflects the variation in campus affluence better than larger categories, such as a binary coding. It also provides a theoretically relevant highest category of campus affluence with a majority of affluent students. Affluent students would shape the social norms most strongly where they are a clear majority. Our models focus on the effects of attending affluent campuses, comparing cohorts with less than 23% affluent students (the omitted category) to those with more than 55% affluent students.

Dependent Variables: First, we combine six items into a continuous index of passive engagement with politics (α = 0.81): interest in “political affairs,” how frequently the student “discussed politics,” desire to influence the “political structure,” desire to influence “social values,” desire to “participate in a community action program,” and desire to “become a community leader.” Second, we measure two forms of electoral participation with an indicator for voting in national elections and an indicator for working on local, state, or national election campaigns. Third, non-electoral participation is measured by an indicator of protest involvement. Finally, we examine leadership in the collective life of the college community with indicators for whether a respondent was elected to student government and led a campus organization. When educational experiences have an association with later political activity, it is often through engagement with important issues in the school community (Campbell 2008). Taking active part
in one’s community as a student is thus of particular relevance to future political action. In all, the six outcome variables allow us to examine varied forms of engagement and participation.

Control Variables: Where possible, we control for the respondent’s dependent variable in freshman year. We are able to do so for passive engagement, campaigning, and protesting. When no freshman year version of the dependent variable is available, we control for a proxy. For voting this proxy is freshman year interest in “political affairs.” For elected to student government and led a campus organization, this proxy is desire to “become a community leader.” (Mean freshman values of these measures are generally below the scale midpoint, so ceiling effects are unlikely (Appendix Table 1).)

Affluent and non-affluent campuses may differ in a variety of ways. We therefore also control for a wide variety of individual, cohort, and school level variables that may be correlated with campus affluence and with participation, all measured at the start of freshman year. Following Hillygus (2005) and other studies of college effects, we include indicators for High standardized test score\(^2\) and intention to be a Social science major, Humanities major, Science major, or Business major. We include indicators for demographics: Female, Asian, Latino, Black, Other race, Evangelical, Jewish, Catholic, Other or no religion, English second language, and age (Aged 17 or less, Aged 19, and Aged 20). Following Mendelberg et al. (2017), we control for students’ motivation for attending college (Attend to make money). Following the approach recommended by Bartels (2015), we control for aggregated versions of each of these individual-level indicators: Proportion high standardized test score, Proportion social science major, Proportion humanities major, Proportion science major, Proportion business major,

\(^2\) We also include an indicator for missing test score to avoid dropping students who do not report standardized test scores from the analysis.
Proportion Asian, Proportion Latino, Proportion other race, Proportion Jewish, Proportion Catholic, Proportion Evangelical, Proportion other or no religion, Proportion English second language, Proportion aged 17 or less, Proportion aged 19, Proportion aged 20, Proportion attend to make money, Mostly female, Mostly Black (the latter two are at the school level).

Following Hurtado et al. (2005), we also control for school-level characteristics: whether the school is a college versus a university (College), school size (Large student body), public or private status (Public), and school region (Northeast and South).

Additional Variables: We measure intervening and moderating variables to test the hypothesized mechanisms (psychological injury, academic difficulty, social exclusion, institutional stigmatization, financial hardship, and political engagement norms). We also use additional variables to test for selection effects. These are discussed below.

Results

Figure 1 shows the predicted percentage point difference in the senior year outcome between a student who attends a school in the lowest category of campus affluence (Less than 23 percent affluent) and a student who attends a school in the highest category (More than 55 percent affluent), separately for low-, middle-, and high-income students, for each dependent variable. These are based on models that control on the freshman-year outcome and the control variables listed above (Appendix Table 6, p. 37).

Low-income students benefit from attending affluent schools on three outcomes, shown in the top panels. In two of these outcomes, low-income students benefit more from attending affluent campuses than middle- or high-income students. First, low-income students experience a large, twenty-point effect on leading student organizations. They are much more likely to be leaders in affluent campuses. While the other income groups also experience a positive effect, it
is much smaller. Second, low-income students are more likely to protest in affluent campuses, while middle- and high-income students show no effect. Finally, low-income students are more likely to be passively engaged in politics in affluent schools, although the effect is small, and similar for the other students. Models that include an interaction term reinforce these findings (Appendix p. 33).

Low-income students experience no statistically significant effect on the three remaining outcomes in Figure 1, but they do not differ much from higher income students. While middle- and high-income students do see statistically significant, moderate increases in voting, the non-significant voting effect for low-income students (four points) is similar in magnitude to the effects for middle- and high-income students (six and four points, respectively), suggesting that low-income students do experience a similar modest increase in voting. Similarly, regarding campaign participation, only middle-income students benefit in a statistically discernable way, but this moderate effect is not much different in size from the non-significant effect for low-income students. Finally, on being elected to student office, no income group sees an effect. The appendix shows the results of a model without controls. The effects of campus affluence are largely consistent with those presented in Figure 1, with a loss of some statistical precision and magnitude in only four of the 18 models (Appendix Figure 2, p. 30).

These results provide the first evidence we know of about how affluent communities shape the political participation of low-income young adults. The results support the positive predictions in three ways. First, we can reject the hypothesis that campus affluence has negative

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3 Interaction models presented in the appendix provide further evidence that the effects of campus affluence on leading student organizations and protesting are greater for low-income students than they are for middle-income and high-income students (Appendix p. 33).
repercussions for low-income students on any of the six outcomes. Campus affluence never takes a statistically significant negative sign for these students. Second, campus affluence has positive effects on low-income students on passive engagement, protest, and especially the leadership of campus organizations. Protests are an important mechanism through which low-income Americans achieve policy representation (Gause 2016). By increasing their tendency to protest, affluent campuses may be providing low-income students an instrumental means of attaining representation. Similarly, when low-income students gain access to leadership positions, they are building organizational and civic skills that are likely to translate into continued leadership later in life (Verba et al. 1995). Third, these gains would be problematic if they went hand in hand with even greater gains for middle- and high-income students. However, there are only two outcomes – voting and campaigning – where middle- or high-income students gain more than low-income students, and even here the difference is very modest. Affluent campuses do not increase the income gap in participation.4

On the other hand, the results do not support the notion that college serves as a pathway to political equality. First, the statistically significant positive effects of campus affluence are restricted to forms of participation that operate outside of the formal representational system; affluent campuses do not significantly increase low-income students’ voting or campaigning. This is problematic given that the income gap in electoral power is a key political mechanism for

4 We test and reject selective attrition as a source of bias. That is, low-income students in high affluence campuses may be more likely to drop out of the panel. However, we find no association between the likelihood of taking the senior-year survey and school affluence. Moreover, including inverse propensity weights to correct for attrition does not affect our main results (Appendix p. 34).
the rise of economic inequality (Franko, Kelly, and Witko 2016). Second, on activities in which low-income students do gain, we find that high- and middle-income students often gain as well.

Extensions and Robustness Checks

We extend these results in several ways. First, we conduct additional tests to account for the possibility of self-selection. Second, we examine potential mechanisms by measuring the effect of campus affluence on intervening variables aligning with the psychological, academic, social, institutional, financial, and political mechanisms. Third, we evaluate whether these factors moderate the effects of campus affluence.

Selection Effects

Our main models already made one effort to address self-selection by controlling on a large number of selection variables, including the individual’s starting level of political engagement. However, there may still be concern that the effects are driven by politically-engaged students self-selecting into affluent campuses. To further address this concern, we examine subsets of low-income students for whom this form of self-selection is less likely.

First, we re-estimate the main models on subsets of low-income students who chose to attend their college for reasons unrelated to the number of affluent students on a campus or political engagement (Card 1995; Mendelberg et al. 2017). These are students who (1) chose a college because it was close to home, or (2) were recruited for athletics, or (3) could not afford their first-choice college. These students are relatively constrained in selecting schools, and more likely to base their choices on reasons other than the combined desire to attend campuses populated by affluent students and a propensity to become more politically active. While none is a perfect test, collectively they provide some reassurance against selection bias.
Figure 2 displays the marginal effects. These are based on models in Appendix Table 7 (p. 43). We replicate the main results for all six dependent variables among students who wanted to attend college near home, though some of the effects are less statistically precise, which is to be expected given the smaller number of observations. For students recruited for athletics or who could not afford their first choice, the results largely replicate the main findings where the tests are sufficiently powered. Though some effects fail to reach statistical significance due to smaller sample size, the magnitude generally approximates or exceeds the original estimate across all three subsets. As further evidence, the results largely replicate when we use college distance from home as an instrumental variable (Appendix p. 32).

We also examine the effects among subsets of low-income students defined by their pre-college level of political engagement. One possible explanation for the positive effects we observe for campus affluence is that affluent colleges are more likely than non-affluent colleges to enroll low-income students who are highly engaged with politics. For example, perhaps political engagement makes students more attractive to admissions officers at majority-affluent colleges. To deal with this potentially confounding variable, we subset the analysis based on students’ pre-college level of political engagement. We define these subsets based on the importance assigned to “keeping up to date with political affairs” in the freshman year survey. Based on this question we identify low-income students with a low incoming level of political engagement (those who answered “not important”), a medium incoming level of political engagement (those who answered “somewhat important”), and a high incoming level of political engagement (those who answered “very important” or “essential”) (see Appendix p. 31 for more details). We find similarly sized effects of campus affluence across all three subsets, meaning that campus affluence does not only have positive effects for low-income students who are
already engaged with politics prior to college (Appendix Figure 3, p. 32). Testing the effects of campus affluence, a non-randomized treatment, at various fixed levels of pre-college political engagement, a potential confounder, provides added confidence in the results (Nall 2018, 60-62).

**Intervening Outcomes**

Next, to test the proposed mechanisms, we examine the effect of campus affluence on a set of theoretically relevant intervening outcomes. These intervening variables may help explain the positive effects of campus affluence if they themselves are positive outcomes of campus affluence (for example, the cohort’s political norm). If they are negative outcomes of campus affluence (for example, low self-confidence), they may imply that the positive engagement effects of campus affluence may be muted by negative counter-veiling mechanisms. We measure these variables at the individual and aggregate levels, as theoretically appropriate.

At the individual level, we include emotional health and motivation to lead (psychological mechanism); academic competence (academic mechanism); social self-confidence and social satisfaction (social mechanism); and the number of hours worked for pay (financial mechanism). These assess mechanisms pertaining to the student’s individual experiences and resources. The models again control for the freshman-year outcome and are otherwise identical to the main models.

At the aggregate level, we include two intervening variables. First, we measure the cohort’s freshman level of passive engagement (the political norm mechanism). Second, we measure the proportion of low-income students’ educational expenses that is paid by the school, the ‘low-income aid ratio’ (the institutional practices mechanism). These average the responses of all students, or all low-income students, respectively, in the student’s freshman cohort. We choose to measure these variables at freshman year as they test hypotheses about characteristics
of the campus in place at the beginning of the student’s college experience. This allows us to assess whether students who matriculate to more affluent campuses are also matriculating to campuses with stronger norms of political participation (as the political norm mechanism suggests) or practices that may especially affect low-income students (as the institutional mechanism suggests). As these are cohort-level outcomes, all aggregate measures from the main model are retained as controls, the intercept randomly varies at the school level, and the number of individuals used to estimate each cohort value is used as a weight in the analysis.

All measures are in the appendix, as are additional robustness measures (Appendix p. 22). (The robustness measures are less ideal, since they have more missing observations and lack freshman-year values, but the results are similar).

The results are in Table 1, which displays the marginal effects (based on Appendix Tables 11 and 12 pp. 49 - 50). Consistent with its positive effects on political engagement, campus affluence generally provides a more positive college experience for all students, including those from low-income backgrounds. We observe positive effects for low-income students for the psychological mechanism (emotional health and motivation to lead), the academic mechanism (academic competence), the social mechanism (social self-confidence, but not social satisfaction), and the political mechanism (the cohort political norm). These findings reflect a broad range of ways in which low-income students may benefit from attending predominately affluent campuses, all of which may contribute to the positive effects of campus affluence on low-income students’ political engagement.

To test whether any of these mechanisms might account for campus affluence effects, we conduct mediation analyses. To be sure, it is difficult to estimate mediation effects without bias. We thus treat the mediation analysis as merely suggestive. We focus on the cohort political
norm, which was the only cohort measure associated with campus affluence in Table 1, and thus has the best potential to explain the positive effects of affluent campuses. When we include the cohort’s freshman level of passive engagement in our main models of low-income students, the positive effects of campus affluence show modest declines of 15% and 27% on passive engagement and campus organization leadership respectively, and the effect of campus affluence on campus organization leadership loses statistical significance (Appendix p. 32). This is consistent with an explanation in which norms of political engagement contribute somewhat to the positive effects we find for campus affluence. However, the other campus affluence effects remain mostly unaffected, indicating that campus affluence might also matter independently of the cohort political norm. Thus, while it is clear that more affluent campuses are also more politically active, the effects of campus affluence do not appear to generally rest on the levels of political activity on campus.

This test also helps to further address concerns about selection bias in the estimated effect of campus affluence. While the mediation analysis considers the freshman cohort’s level of engagement as a substantive mechanism, it may alternatively be regarded as a confound, as we noted in the section on selection effects. We do not regard this variable as a potential confound – it is implausible that a cohort’s freshman-year engagement causes that cohort’s freshman-year

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5 A more formal test using the “mediation” package in R estimates a similarly sized mediation effect for low-income students’ passive engagement (there is insufficient data to run the analysis for campus organization leadership) (Appendix pp. 24 - 26). The mediation analysis also examines the other intervening variables that are positively related with campus affluence in Table 1. None of these variables mediates a large share of the campus affluence effect.
household affluence. But even if it was a potential confound, the results of the mediation test suggest that it does not function that way in practice, as little of the campus affluence effect can be attributed to it. This mediation analysis thus reinforces the results of the subset analysis in the selection effects section. The campus affluence effect is seemingly not driven by politically-active students self-selecting into affluent campuses.

We note that Table 1 also reveals some ways in which low-income students fare poorly at affluent colleges. Low-income students do not gain, while more affluent students do gain, on social satisfaction (a social mechanism) and on working fewer hours for pay (a financial mechanism). Still, these do not translate into a net negative participation effect on low-income students, as we did not find such effects in Figure 1.

Overall, this analysis reveals a broad range of ways in which low-income students benefit from attending affluent campuses. However, we do not find that any of these benefits can entirely explain the positive effects we find for low-income students’ political participation. Our effects thus appear to come directly from attending an affluent college campus. As we cannot rule out omitted confounders, this conclusion is tentative and requires further study, but it is consistent with our previous results.

*Moderation Effects*

Finally, we examine variables that may *condition* the effect of campus affluence on low-income students. Unlike the intervening variables analysis, this moderation analysis only includes variables that meet the exogeneity assumption: they are uncorrelated with campus affluence and are measured in the freshman wave (with an exception explained below). We measure these at the individual and aggregate levels where possible (Appendix pp. 27 – 29).
These variables correspond to the mechanisms discussed in the theory section. For the psychological mechanism, we use the individual’s emotional health and motivation to lead (not the cohort versions, which are correlated with campus affluence). For the academic mechanism, we use the individual’s academic competence (not the cohort version, which is correlated with campus affluence). For the social mechanism, we use social self-confidence at the individual and cohort levels (neither is correlated with campus affluence). All the foregoing variables are freshman-year versions of senior-year measures from the intervening analysis. For the financial mechanism, we replace the measure of working fewer hours for pay, which is unavailable in the freshman wave, with three measures that are available in the freshman wave: the individual-level financial aid ratio (defined above), and individual- and aggregate-level measures of concern with one’s ability to finance college (measured for low-income students). For the institutional mechanism, we omit the aggregate financial aid ratio used above because it is correlated with campus affluence, replacing it with a binary measure of whether dorms and dining halls remain open during breaks. This institutional practice may pose particular hardships for low-income students, who often lack the funds to travel home during breaks. To create this measure, we collected novel data from the schools in our dataset. By searching schools’ websites and

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6 Social satisfaction, which also appeared in the intervening variables analysis, is excluded here because it cannot be measured at freshman year.

7 We used the aggregate version of this financial aid ratio as an intervening variable. That version is marginally correlated with campus affluence, so we exclude it here. In the intervening variable analysis, we treated the aggregate version as an institutional rather than a financial mechanism, as it captures schools’ decisions about assisting low-income students. Here we treat the individual-level version as a financial mechanism as it reflects a person’s concrete resources.
contacting schools directly, we are able measure this variable for 248 of our 571 schools (43%). Finally, we omit the cohort’s political norm, which was used in the previous intervening analysis, as it is correlated with campus affluence.

The results are in Table 2. Only one variable has statistically significant moderating effects for low-income students on at least two outcomes: The individual’s financial aid ratio. This financial aid variable boosts the positive campus affluence effect on low-income students’ passive engagement and protest. Only those who receive more generous financial aid experience the positive effects of campus affluence; students who receive relatively little aid show a null campus affluence effect (Appendix p. 28).\(^8\) That is, low-income students benefit from attending affluent schools only when they are provided financial assistance. This finding carries policy implications, as aid is a resource that schools partially control and could increase.

**Conclusion**

Family income is a powerful predictor of whether a young person obtains a college degree. This in turn means that most colleges are composed of a plurality or majority of affluent students, even in schools established to provide upward mobility. What are the effects of these affluent places on the SES gap in political engagement? Given that a college degree is associated with high levels of political participation and influence, does it function as a democratic equalizer when it comes to civic and political action?

We find that predominantly affluent campuses are associated with higher levels of participation compared to campuses with few affluent students, on most types of political engagement, even when accounting for students’ political engagement at the beginning of

\(^8\) Conversely, this moderator reduces the campus affluence effect on voting, because campus affluence helps those otherwise attending non-affluent schools with low aid (Appendix p. 28).
college. The magnitude of the campus affluence effect is comparable to the effects of other predictors of participation, such as turnout interventions (Nickerson 2008). By aggregating many individuals with a proclivity to engage with politics, affluent campuses may create stronger norms of political engagement (Campbell 2006). These norms may help to account for the positive impact of predominantly affluent schools.

Low-income students see a modest but substantively and statistically meaningful positive effect on leading a student organization, protesting, and passive political engagement, where their gains from attending predominantly affluent campuses are at least as great, if not greater, than those of other income groups. They also see a substantively meaningful though statistically imprecise effect on voting, where their gains are similar to those of others. On the two remaining forms of engagement, campaigning and being elected to student government, low-income students do not experience meaningful gains, but neither do other income groups.

These findings fail to support the predictions from the theory of cultural mismatch. We do not find any evidence that affluent campuses stigmatize low-income students psychologically, academically, socially, or through exclusionary institutional practices, nor do they cause these students higher financial distress than non-affluent campuses. To be sure, affluent campuses do better by affluent than low-income students when it comes to satisfaction with the campus social experience and reducing the hours spent working for pay. But low-income students do not experience a decline in these, or any other mechanism, from attending affluent versus non-affluent campuses. Moreover, none of the intervening variables substantially weakens the positive effects of campus affluence on their political engagement. While some studies support the idea that people internalize their lower-class status and feel stigmatized in affluent environments, we do not find evidence for these ‘hidden injuries of class’. Instead, the results
support the hypothesis that low-income students overcome the adversity of class-cultural mismatch and develop psychological and political empowerment. That conclusion is consistent with Soss (1999), who found that class-stigmatizing experiences are associated with low external but high internal political efficacy. More generally, these findings support the increasing scholarly focus on resilience in the face of difficulty (Hillygus et al. 2015).

That said, class disadvantage does affect the ability of individuals to benefit from affluent environments, through concrete resources. Financial aid conditions the positive effect of affluent campuses for low-income students on some forms of political engagement. When it comes to protesting and to developing an interest in politics, low-income students benefit from affluent campuses only if they receive aid. Concrete resources matter for the SES gap in participation, not only directly, but by shaping how a person responds to the social environment. The policy implications point toward the need for financial support for low-income students. More generally, the results point to the type of educational experiences that reinforce class inequality, and highlight the importance of concrete resources among those experiences.

The longstanding conclusion that education is a major predictor of political behavior has been called into doubt by recent findings that college may not carry a causal effect (Berinsky and Lenz 2011; Kam and Palmer 2008). The findings here, which rely on a panel design, various tests for selection effects, cross-campus measures of particular college experiences, and an unusually large sample, suggest that college may matter. However, the effects of college may accrue not by mere attendance as much as through particular types of experiences (Hillygus 2005). Among those experiences is the neglected variable of campus affluence.

The results carry implications for college as an engine of political and social mobility. Mettler recently labeled American higher education a “caste system, separate and unequal for
students with different family incomes” (2014). Concentrated affluence is one way in which this claim may be true. The few low-income students who manage to attend predominantly affluent schools do gain participatory resources relative to those who attend non-affluent schools, and the vast majority, who do not attend such schools, lose out on that benefit. However, on most forms of political engagement, affluent campuses do not provide a substantially larger boost for low-income students than their higher-income counterparts. In that sense, affluent schools neither expand nor narrow the SES gap in political engagement. Given that many campuses are disproportionately affluent, the contemporary system of higher education may not be serving as a powerful force muting inequality in politics.
References:


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Figures and Tables:

Figure 1: Marginal Effect of Majority-Affluent Campuses on Six Types of Political Engagement, by Student’s Household Income

Figure 2: Marginal Effect of Majority-Affluent Campuses on Six Types of Political Engagement, for Three Low-Income Subsets with Limited Selection
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