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# Closing the Social-Class Achievement Gap: A Difference-Education Intervention Improves First-Generation Students' Academic Performance and All Students' College Transition

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## Abstract

College students who do not have parents with 4-year degrees (first-generation students) earn lower grades and encounter more obstacles to success than do students who have at least one parent with a 4-year degree (continuing-generation students). In the study reported here, we tested a novel intervention designed to reduce this social-class achievement gap with a randomized controlled trial ( $N = 168$ ). Using senior college students' real-life stories, we conducted a difference-education intervention with incoming students about how their diverse backgrounds can shape what they experience in college. Compared with a standard intervention that provided similar stories of college adjustment without highlighting students' different backgrounds, the difference-education intervention eliminated the social-class achievement gap by increasing first-generation students' tendency to seek out college resources (e.g., meeting with professors) and, in turn, improving their end-of-year grade point averages. The difference-education intervention also improved the college transition for all students on numerous psychosocial outcomes (e.g., mental health and engagement).

## Keywords

sociocultural factors, social class, culture, higher education, intervention

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A paradox is undermining social mobility in the United States. On the one hand, earning a 4-year college degree is the surest path to higher socioeconomic status (Bowen, Kurzweil, & Tobin, 2005). On the other hand, college students who do not have parents with 4-year college degrees (i.e., *first-generation* students) receive lower grades and drop out at higher rates than students who have at least one parent with a 4-year degree (i.e., *continuing-generation* students; Pascarella, Pierson, Wolniak, & Terenzini, 2004; Sirin, 2005). Consequently, over the past 50 years, U.S. colleges and universities have continued to reproduce and widen, rather than close, the *social-class achievement gap* (Duncan & Murnane, 2011;

Fiske & Markus, 2012). In the current article, we report a novel intervention that significantly reduces this gap.

Many colleges and universities seek to mitigate social-class disparities by offering programs to help first-generation students transition into higher education (e.g., Engle, Bermeo, & O'Brien, 2006; Inkelas, Daver, Vogt, & Leonard, 2007). These programs are often founded on the assumption that first-generation students lack the

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financial resources (e.g., money for books) or academic skills (e.g., extra preparatory coursework) that they need to be successful. For example, the standard approach of many institutions is to offer “bridge” programs that teach students general academic tips and strategies, such as how to study for exams or choose a major.

Although financial resources and academic skills are necessary, they do not guarantee success for first-generation students as they transition into the world of higher education. First-generation students also need psychological resources, including the belief that people who have backgrounds like theirs deserve to attend college and can thrive there (Oyserman & Destin, 2010; C. M. Steele, 2010; Stephens, Markus, & Fryberg, 2012). Compared with their continuing-generation peers, first-generation students are especially likely to feel left out and to have trouble finding their place (Housel & Harvey, 2009; Johnson, Richeson, & Finkel, 2011; Ostrove & Long, 2007). Many also struggle to navigate the middle-class culture of higher education, learn the “rules of the game,” and take advantage of college resources (Housel & Harvey, 2009; Ostrove & Long, 2007). For example, first-generation students frequently lack knowledge about how to select a major, find an internship, or build their resumes (Reay, Crozier, & Clayton, 2009). These background-specific obstacles can undermine first-generation students’ academic performance and limit their opportunity to succeed (Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012; Stephens, Townsend, Markus, & Phillips, 2012). Because U.S. colleges and universities seldom acknowledge how social class can affect students’ educational experiences,<sup>1</sup> many first-generation students lack insight about why they are struggling and do not understand how students “like them” can improve.

Interdisciplinary research on multicultural education suggests that one way to provide students with this insight is to educate them about how their different backgrounds matter (cf. Denson, 2009; Gurin & Nagda, 2006; Gurin, Nagda, & Zuniga, 2013; Milem, Chang, & Antonio, 2005). For example, in a semester-long series of weekly intergroup dialogues, Gurin and colleagues (2013) encouraged students from diverse backgrounds to explore how significant social differences—such as race, ethnicity, gender, social class, and sexual preference—can shape their own and others’ experiences and opportunities in college and in life. They found that students’ participation in these dialogues increased intergroup understanding and collaboration, empathy, and civic engagement. This research indicates that helping students understand how their different backgrounds matter is a powerful insight that has the potential to not only increase students’ sense of comfort and ability to operate in diverse settings, but also equip them to better navigate their own college experience.

Building on the intergroup dialogue paradigm, we asked whether educating first-generation students about how their different backgrounds matter can improve their transition to college and enable them to overcome background-specific obstacles to success. To examine this question, we developed a difference-education intervention in which students learned about difference and why it matters; in particular, they were shown how their social-class backgrounds can affect what they experience in college. To ensure that the intervention was empowering and identity safe, rather than stigmatizing or threatening, we emphasized how students’ different backgrounds can be a source of both challenge and strength, and provided students with strategies that they need to be successful (cf. D. M. Steele & Cohn-Vargas, 2013). To evaluate the intervention’s effectiveness, we compared it with a control condition modeled after the bridge programs used by many colleges and universities—the standard approach.

In both intervention conditions, a demographically diverse group of junior and senior college students (panelists) shared stories with incoming students (participants) about how they adjusted to and found success in college. The key difference between conditions was whether the panelists’ stories highlighted how their social-class backgrounds mattered for their college experience—that is, whether the participants learned content that was background specific. In the difference-education condition, the contrast between first-generation and continuing-generation students’ stories provided participants with a framework to understand how their backgrounds matter. This framework included the understanding that students’ different backgrounds can shape the college experience in both positive and negative ways and that students need to utilize strategies for success that take their different backgrounds into account. Students in the standard control condition, in contrast, were exposed to similar stories, yet these stories did not convey background-specific information about how students’ college experiences and strategies for success can differ according to their social class.

We theorized that the difference-education intervention would provide first-generation students with a framework to understand how difference matters, thereby equipping them with the psychological resources they need to effectively transition to college and improve their academic performance. Specifically, this framework should help students to make sense of their particular college experiences, increase students’ overall sense of comfort, and improve their ability to transition and adjust to the novel college context. This framework should also provide them with the strategies they need to tackle the background-specific obstacles that they are likely to encounter and improve their academic performance. As

noted earlier, a background-specific obstacle that first-generation students frequently experience is being unaware of the “rules of the game” (e.g., knowing that professors expect students to seek out extra help when they need it). Thus, we assessed students’ tendency to seek out college resources because first-generation students tend to underutilize the resources available to them, and seeking out these resources holds great potential to improve their academic success (Calarco, 2011; Kim & Sax, 2009).

By providing students with a framework to understand how their backgrounds matter, we hypothesized that the difference-education intervention would improve first-generation students’ college transition and equip them to better take advantage of college resources. We also expected that their increased use of resources would, in turn, help them improve their academic performance and close the social-class achievement gap.

## Method

### Participants

Using a convenience-sampling method, we sent all first-generation students and a targeted group of continuing-generation students at a private university an e-mail invitation to participate in the “[university name] Student Project.” (See the Supplemental Material available online for recruitment methods and the sampling procedure.) Specifically, 1 month before the start of the academic year, they were asked to attend a student panel led by a culturally diverse group of their senior peers. To avoid stigmatizing participants, we told them that the goal of this project was to improve all students’ college transition.

During the first month on campus, incoming first-year students ( $N = 168$ ; mean age = 18.05 years,  $SD = 0.41$ ; 86 females, 82 males) attended an hour-long student discussion panel about college adjustment. Participants received \$50 for attending the panel and \$20 for completing a survey at the end of the academic year. Twenty-one participants did not complete the end-of-year survey assessing the study’s key outcomes, so they were excluded from all analyses. (See the Supplemental Material for information about sample representativeness and attrition analyses.)

Of the 147 participants who completed the full study, 66 were first generation (neither parent had a 4-year college degree), and 81 were continuing generation (at least one parent had a 4-year college degree). As indicated by official university records, the majority of first-generation students (59.10%) were low income (i.e., received Pell grants), compared with a minority of continuing-generation students (8.64%),  $\chi^2(1, N = 147) = 43.05, p = .000$ .

Participants’ race or ethnicity did not differ significantly according to their generation status.<sup>2</sup> Among first-generation students, 45.45% self-identified as White, 16.67% as Asian or Asian American, 13.63% as African American, and 24.24% as Latino. Among continuing-generation students, 51.85% self-identified as White, 24.70% as Asian or Asian American, 7.41% as African American, 14.81% as Latino, and 1.23% as Native American.

The study also included a campus-wide control group of all other students in the same academic cohort as the intervention participants. This control group was used for analyses of grade point averages (GPAs) and made it possible for us to compare the end-of-year cumulative GPAs of first-generation and continuing-generation intervention participants with (a) the 87 nonparticipants identified as first generation by the university and (b) the 1,697 nonparticipants identified as continuing generation by the university.

### Intervention manipulation

We used panelists’ real-life stories to educate students about how their different backgrounds matter in college (Gurin et al., 2013). Participants were randomly assigned to two discussion panels: a difference-education panel (experimental condition;  $n = 75$ ) and a standard panel (control condition;  $n = 72$ ).<sup>3</sup> Across both conditions, participants heard the same demographically diverse group of college seniors (three first generation, five continuing generation) respond to a series of planned questions asked by a moderator. Panelists’ responses across conditions highlighted how they adjusted to and found success in college and were also comparable in valence, length, and appeal. (See the Supplemental Material for supporting analyses and additional intervention methods.)

The key difference between the two conditions was whether the panelists’ stories highlighted how their backgrounds mattered for their college experience—that is, whether students learned content that was background specific. In the difference-education condition, panelists’ stories provided this framework by linking the content of the stories to panelists’ social-class backgrounds. For instance, panelists in the difference-education condition were asked, “Can you provide an example of an obstacle that you faced when you came to [university name] and how you resolved it?” One first-generation panelist responded, “Because my parents didn’t go to college, they weren’t always able to provide me the advice I needed. So it was sometimes hard to figure out which classes to take and what I wanted to do in the future. But there are other people who can provide that advice, and I learned that I needed to rely on my adviser more than other students.” In contrast, after previously mentioning her parents’ graduate-level degrees, one continuing-generation panelist

responded, “I went to a small private school, and it was great college prep. We got lots of one-on-one attention, so it was a big adjustment going into classes with 300 people. I felt less overwhelmed when I took the time to get to know other students in the class.” As these two examples reveal, panelists’ stories not only highlighted their different social-class backgrounds (e.g., parents’ educational attainment), but also linked those backgrounds to their particular college experiences (e.g., the first-generation student found it difficult to choose classes) and strategies needed to be successful (e.g., the first-generation student found it helpful to get extra advice).

In the standard condition, panelists’ stories provided general content that was not linked to their social-class backgrounds. Therefore, participants did not gain a framework to understand how their different social-class backgrounds can affect their college experience. For example, panelists were asked, “What do you do to be successful in your classes?” One panelist advised, “Go to class, and pay attention. If you don’t understand something or have a hard time with the material, meet with your teaching assistant or professor during office hours.” As this example reveals, like participants in the difference-education condition, participants in the standard condition learned about panelists’ different experiences in college (e.g., a student found coursework to be difficult) and strategies needed to be successful (e.g., a student found it helpful to meet with a professor). This content, however, was not background specific. (See the Supplemental Material for the full list of questions and sample responses.)

### **Postintervention measures**

After the panel concluded, participants completed a short survey and created a video testimonial, which served as a manipulation check. (See the Supplemental Material for the full list of questions.) First, to assess whether the difference-education condition provided students with a framework to understand how their diverse backgrounds matter, participants responded to two open-ended questions: “What are the top three lessons you learned from the student panel today?” and “If you were going to advise future incoming students based on what you learned today, what would you say?” Next, participants created a short video testimonial that would allegedly be used to share the panel’s main teachings with next year’s students. This activity provided a chance for students to internalize what they learned through the *saying-is-believing* effect (Yeager & Walton, 2011), as well as additional content to assess the manipulation’s effectiveness.

### **End-of-year outcomes**

We obtained participants’ official first-year cumulative GPAs from the university registrar. Seven participants

who did not consent to have their grades accessed were excluded only from analyses involving grades (i.e., academic performance and mediation). Six GPA outliers were excluded from all subsequent analyses reported in the main article.<sup>4</sup>

Participants’ GPAs in the standard condition were statistically equivalent to those in the campus-wide control group, which suggests that the standard condition provided the typical content that students receive when they transition to college. This was true for both first-generation students (standard condition:  $M = 3.16$ , campus-wide control condition:  $M = 3.21$ ),  $F(1, 110) = 0.77$ ,  $p = .38$ , and continuing-generation students (standard condition:  $M = 3.46$ , campus-wide control condition:  $M = 3.39$ ),  $F(1, 1728) = 1.00$ ,  $p = .32$ .

Participants also completed an end-of-year survey assessing three key outcomes. First, to evaluate whether participants retained what they learned in the difference-education condition, we measured their understanding of how difference matters (i.e., appreciation of difference) and willingness to consider different perspectives (i.e., perspective taking; Gurin et al., 2013). Second, to assess the tendency to take advantage of college resources, we asked participants how often they e-mailed or met with professors, or sought extra help. Third, to evaluate their college transition, we assessed how well participants fared on a wide range of psychosocial measures (i.e., stress and anxiety, psychological adjustment, academic engagement, and social engagement). (See the Supplemental Material for additional information.)

## **Results**

### **Manipulation check**

We created a hypothesis-driven coding scheme to assess whether participants in the difference-education condition learned that students’ diverse backgrounds can shape their college experiences. Two themes emerged across participants’ open-ended responses to the postintervention survey and video-testimonial activity: (a) People’s different backgrounds matter, and (b) people with backgrounds “like mine” can succeed. We therefore pooled the data across these two open-ended measures. Two undergraduate coders, blind to hypotheses and condition, identified whether each coding category was present or absent in participants’ responses. After we coded the data and achieved substantial reliability ( $\kappa = .61-.65$ ; Landis & Koch, 1977), we resolved the remaining coding disagreements through consensus.

Confirming that the difference-education condition increased participants’ understanding of how students’ diverse backgrounds matter in college, chi-square analyses revealed that participants in the difference-education condition more often mentioned that people’s different backgrounds matter and that people with backgrounds

like theirs can succeed than did participants in the standard condition. (See Table 1 for the percentage of responses in each condition that fell into the two coding categories, as well as sample responses.)

### End-of-year outcomes

**Academic performance.** To ensure that the effects resulted from the intervention rather than from preexisting differences in students' demographic characteristics or academic skills, we controlled for race and ethnicity,<sup>5</sup> gender, income, highest SAT scores, and high school GPA in all analyses. A 2 (generation status: first vs. continuing) × 2 (intervention condition: difference education vs. standard) analysis of covariance on cumulative GPA revealed a main effect of intervention condition,  $F(1, 125) = 7.75$ ,  $p = .006$ , qualified by the predicted Generation Status × Intervention Condition interaction,  $F(1, 125) = 4.34$ ,  $p = .039$ . Whereas a gap of .30 grade points emerged between first-generation and continuing-generation students in the standard condition,  $F(1, 61) = 6.56$ ,  $p = .01$ , their grades did not differ significantly in the difference-education condition,  $F(1, 59) = 0.004$ ,  $p = .95$ . In fact, the achievement gap in the difference-education condition was 63% smaller than in the standard condition.<sup>6</sup>

Further supporting our hypotheses, results showed that first-generation students in the difference-education condition had higher GPAs than did first-generation students in the standard condition,  $F(1, 53) = 14.61$ ,  $p = .0004$ ; Cohen's  $d = 0.70$  (see Fig. 1).<sup>7</sup> They also earned higher GPAs than did first-generation students in the campus-wide control group,  $F(1, 110) = 5.60$ ,  $p = .02$ ; Cohen's  $d = 0.49$ . In contrast, continuing-generation students in the difference-education condition did not differ from continuing-generation students in the standard condition,  $F(1, 67) = 0.19$ ,  $p = .66$ , nor from continuing-generation students in the campus-wide control group,  $F(1, 1726) = 2.69$ ,  $p = .10$ . Notably, the intervention's GPA

effects could not be explained by differences in students' course selection (the Supplemental Material provides supporting analyses).

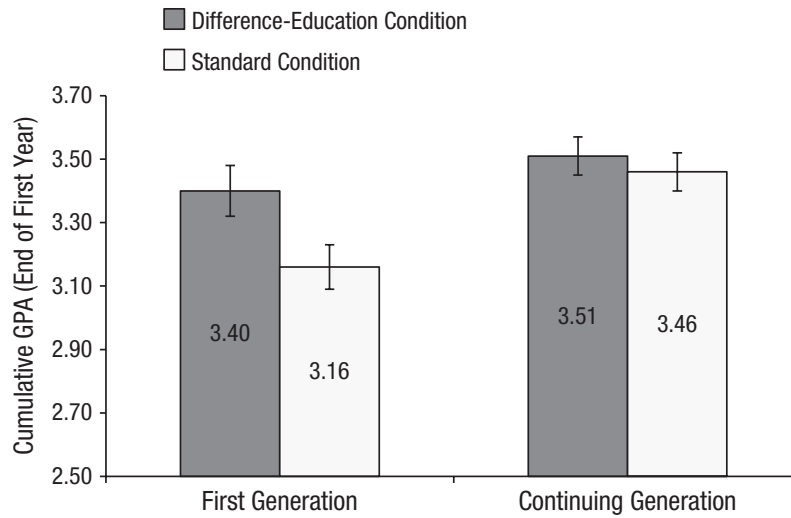
**Tendency to seek college resources.** The difference-education intervention also equipped first-generation students to take advantage of college resources and improve their academic performance. Examining whether students sought college resources, we found a significant Generation Status × Intervention Condition interaction,  $F(1, 129) = 3.99$ ,  $p = .048$ .<sup>8</sup> Whereas first-generation and continuing-generation students in the standard condition showed the typical social-class gap in their tendency to take advantage of college resources,  $F(1, 62) = 9.46$ ,  $p = .003$ , the gap in the difference-education condition was statistically eliminated,  $F(1, 62) = 0.40$ ,  $p = .53$ . In addition, first-generation students in the difference-education condition sought college resources marginally more often than did first-generation students in the standard condition (i.e., 30% more often),  $F(1, 55) = 3.05$ ,  $p = .087$ ; Cohen's  $d = 0.43$ . For continuing-generation students, the tendency to seek college resources did not differ significantly by intervention condition,  $F(1, 69) = 1.38$ ,  $p = .24$  (see Fig. 2).

**Mediation analyses.** We used mediated moderation analyses to test whether the difference-education condition influenced academic performance by equipping first-generation students to more fully take advantage of college resources (e.g., by e-mailing or meeting with professors).<sup>9</sup> Specifically, we examined whether the observed differences in seeking college resources explained the Generation Status × Intervention Condition interaction on cumulative GPA. The mediation model included generation status by intervention condition as the independent variable, the tendency to seek resources as the mediator, and our standard set of covariates. Using the indirect SPSS Version 20 macro, we conducted a

**Table 1.** Between-Conditions Comparison of the Percentage of Responses Coded Within Each Coding Category

Coding category	Sample responses	Difference-education		$\chi^2(1, N = 140)$
		condition	Standard condition	
People's different backgrounds matter	"People from different backgrounds have different expectations of college." "College means very different things to different people."	44.29	12.86	16.94***
People with backgrounds "like mine" can succeed	"People have come from a background like mine." "I feel like I'm in the right place because students from backgrounds like mine understand the stresses I have."	67.14	18.57	33.72***

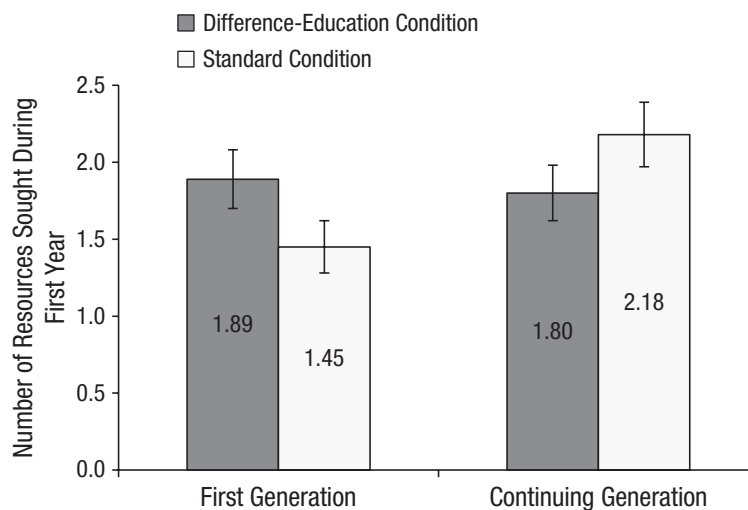
\*\*\* $p \leq .001$ .



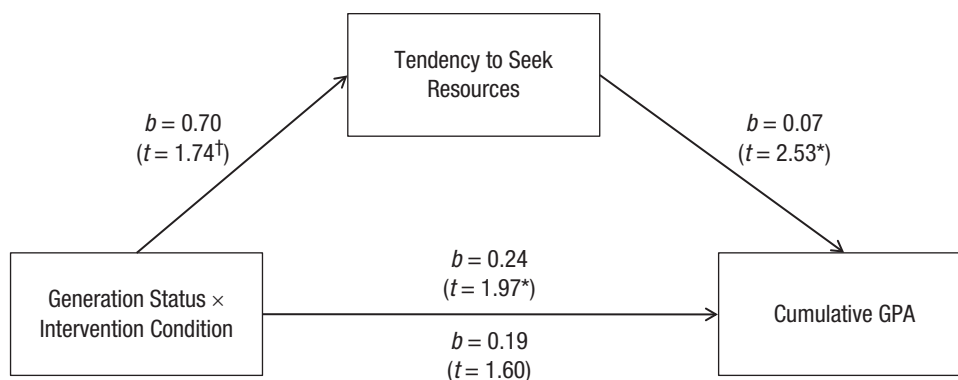
**Fig. 1.** Mean end-of-year cumulative grade point average (GPA) as a function of generation status and intervention condition. Error bars show standard errors of the mean.

mediated moderation analysis with 5,000 bootstrap resamples (Preacher & Hayes, 2008). This procedure yields an inference about the proposed mediator's indirect effect size and a 95% confidence interval based on the sample distribution. If the confidence interval does not include zero, the mediation pathway is considered significant. As predicted, we found that the tendency to seek college resources (point estimate = 0.05, 95% confidence interval = [0.003, 0.12]) significantly mediated the Generation Status  $\times$  Intervention Condition interaction on cumulative GPA. (See Fig. 3 for regression coefficients for each mediation path.)

As hypothesized, the results reveal that first-generation students in the difference-education condition more fully took advantage of college resources and that this behavioral change improved their academic performance. Taken together with the earlier results, these findings demonstrate that exposure to a 1-hr difference-education panel equipped students with strategies that students with backgrounds like theirs needed to tackle the particular obstacles they face, take advantage of the college experience, and improve their academic performance. As a result, the social-class achievement gap was statistically eliminated between first-generation and continuing-generation students.



**Fig. 2.** Mean number of college resources sought as a function of generation status and intervention condition. Error bars show standard errors of the mean.



**Fig. 3.** Mediation model showing the effect of the Generation Status  $\times$  Intervention Condition interaction on students' cumulative grade point average (GPA), as mediated by their tendency to seek resources. Symbols indicate the significance level of coefficients ( $^\dagger p \leq .10$ ,  $^* p \leq .05$ ). Along the lower path, the values above the arrow show the total effect of the Social Class  $\times$  Intervention Condition interaction on cumulative GPA, and the values below the arrow show the direct effect.

**Psychosocial outcomes.** Because we assessed the quality of students' college transition with a wide range of psychosocial measures, we used multivariate analysis of covariance (MANCOVA) to evaluate the effects of the intervention. A 2 (generation status)  $\times$  2 (intervention condition) MANCOVA on students' end-of-year psychosocial outcomes revealed a significant overall effect of intervention condition,  $F(8, 119) = 2.44$ ,  $p = .02$ ; Wilks's  $\Lambda = 0.86$ , but no significant interactions. Univariate analyses revealed that participants in the difference-education condition experienced less stress and anxiety, better adjustment to college life, and more academic and social engagement than did participants in the standard condition (see Table 2).<sup>10</sup> These results demonstrate the power of difference education to improve the college transition not only for first-generation students, but also for continuing-generation students.

**Difference-education framework.** Finally, we examined whether participants retained the understanding that students' different backgrounds matter throughout the first year in college. We conducted 2 (generation status)  $\times$  2 (intervention condition) analyses of covariance, which revealed main effects of intervention condition, but no significant interactions. Participants in the difference-education condition reported both greater appreciation of difference and perspective taking than did participants in the standard condition. (See Table 3 for results and the Supplemental Material for measures.)

## Discussion

We asked whether an educational experience designed to help students understand how difference matters could

be utilized to enable first-generation students to more effectively transition to college and overcome background-specific obstacles to success. The answer is yes. Using the personal stories of senior college students, a 1-hr difference-education intervention at the beginning of college reduced the social-class achievement gap among first-generation and continuing-generation college students by 63% at the end of their first year and also improved first-generation students' college transition on numerous psychosocial outcomes (e.g., psychological adjustment and academic and social engagement).

The intervention provided students with the critical insight that people's different backgrounds matter and that people with backgrounds like theirs can succeed when they use the right kinds of tools and strategies. Because first-generation students tend to experience a particularly difficult transition to college and confront background-specific obstacles that can undermine their opportunity to succeed, this framework for understanding how students' backgrounds matter is especially beneficial to them. Yet, at the same time, given the intervention's clear benefits for continuing-generation students' psychological health and levels of engagement, our results suggest that this difference-education experience holds the potential to ease all students' transition to college.

This study contributes to a growing literature on interventions to reduce achievement gaps among students from diverse social groups (e.g., Blackwell, Trzesniewski, & Dweck, 2007; Destin & Oyserman, 2009; Johns, Schmader, & Martens, 2005; Wilson, 2011; Yeager et al., 2013). Several successful interventions take a threat-reduction approach, which seeks to protect students from threats that can arise from having a potentially



**Table 2.** Multivariate Analysis of Covariance Results for the Psychosocial Measures

Measure	Sample item	Difference-education condition	Standard condition	$F(1, 126)$
Stress and anxiety				
Psychological distress	“During the past 30 days, how much of the time did you feel worried?”	2.24 (0.09)	2.49 (0.09)	3.65 <sup>†</sup>
Social-identity threat	“Other students at [university name] make unfair assumptions about me based on my background and previous experiences.”	2.80 (0.16)	3.23 (0.15)	3.75 <sup>†</sup>
Psychological adjustment				
Psychological well-being	“At present, how satisfied are you with your life?”	3.40 (0.08)	3.16 (0.08)	4.73*
Social fit	“I expect that I will belong as a student at [university name].”	5.63 (0.12)	5.13 (0.11)	9.45**
Academic engagement				
Perceived preparation	“I am well prepared to be academically successful as a student at [university name].”	5.93 (0.13)	5.60 (0.13)	3.40 <sup>†</sup>
Academic identification	“How important is being a college student to you?”	6.41 (0.11)	6.06 (0.11)	5.12*
Social engagement				
Social support	“How often do you feel like you have someone who understands your problems?”	3.39 (0.08)	3.19 (0.08)	3.53 <sup>†</sup>
Maintain relationships	“Number of hours talking on phone to family and friends from home.”	4.76 (0.50)	3.03 (0.48)	6.11*

Note: Numbers in the condition columns are estimated marginal means. Numbers in parentheses are standard errors of the mean. All analyses included race and ethnicity (0 = disadvantaged, 1 = advantaged), gender (0 = male, 1 = female), income (0 = not low income, 1 = low income), highest SAT scores, and high school grade point average as covariates.

<sup>†</sup> $p \leq .10$ . \* $p \leq .05$ . \*\* $p \leq .01$ .

stigmatized background or particular social identity (e.g., Cohen, Garcia, Apfel, & Master, 2006; Harackiewicz et al., 2013; Sherman et al., 2013; Walton & Cohen, 2007, 2011). A common assumption in this literature is that difference is a source of threat for students from stigmatized groups; therefore, the most effective way to intervene is to shift attention away from difference. Drawing on the literature on multicultural education (e.g., Denson, 2009; Gurin et al., 2013; Milem et al., 2005), we theorize that difference need not be a source of threat, and, further, we challenge the notion that difference-blind approaches are

the optimal way to reduce threat. Indeed, our difference-education approach reveals that engaging students about difference can be empowering if students have the opportunity to learn about the significance of their backgrounds in a supportive, constructive, and identity-safe manner. Specifically, difference-education can help students to make sense of the source of their particular experiences in college and, at the same time, equip them with the tools they need to manage and overcome the challenges their different backgrounds might present (cf. Markus, Steele, & Steele, 2000).

**Table 3.** Analysis of Covariance Results for the Difference-Education-Framework Measures

Measure	Sample item	Difference-education condition	Standard condition	$F(1, 130)$
Appreciation of difference	“Students with different backgrounds can find their own way of being successful at [university name].”	5.84 (0.09)	5.59 (0.09)	3.91*
Perspective taking	“Before criticizing somebody, I try to imagine how I would feel if I were in their place.”	3.85 (0.06)	3.67 (0.06)	4.00*

Note: Numbers in the condition columns are estimated marginal means. Numbers in parentheses are standard errors of the mean. All analyses included race and ethnicity (0 = disadvantaged, 1 = advantaged), gender (0 = male, 1 = female), income (0 = not low income, 1 = low income), highest SAT scores, and high school grade point average as covariates.

\* $p \leq .05$ .

Unlike most other interventions designed to close achievement gaps in educational settings, our difference-education intervention improved psychosocial outcomes not only for the disadvantaged group but also for mainstream students. These results indicate that understanding how people's different backgrounds matter is a powerful insight that can improve all students' transition to the novel context of university life. The difference-education framework, therefore, likely benefits students in multiple ways. For example, educating students about how their different backgrounds matter may improve all students' comfort with and ability to navigate across their own and others' experiences of difference. Likewise, it may render their differences a normal, rather than stigmatizing, part of the college experience. By changing the perspectives of both first-generation and continuing-generation students, the intervention can also begin to challenge the mostly middle-class cultural norms and assumptions that typically structure U.S. higher education (Fryberg & Markus, 2007; Stephens, Fryberg, et al., 2012). A difference-education approach has the potential to foster college contexts that are more inclusive and accepting of the different perspectives and experiences of students from diverse sociocultural backgrounds.

Although the current study suggests that a difference-education approach can be effective for both reducing achievement gaps and improving all students' college transition, future research should specify the precise mechanisms through which the intervention produced these benefits. For example, although all students in the difference-education condition fared better than did those in the standard condition on numerous psychosocial outcomes, these main effects could have unfolded in different ways over time for first-generation and continuing-generation students. The mediation analyses also revealed that first-generation students' increased tendency to take advantage of college resources explained their academic gains in the difference-education condition. Yet many other related processes—such as an increased sense of entitlement, confidence, or resilience—also likely contributed to these changes in behavior. In addition, future studies should consider whether education about how different backgrounds or identities matter can empower other disadvantaged groups (e.g., women in predominantly male fields) to overcome background-specific obstacles.

Educators at leading colleges and universities increasingly identify understanding and navigating sociocultural diversity as a critical 21st-century competency. This study presents an initial blueprint for educating students about difference and equipping them to more effectively participate in higher education. This approach has the potential to not only facilitate students' transition to college but also provide them with the skills to be informed,

engaged, and productive citizens in our multicultural world. Although the intervention targeted first-generation college students, its main message—people's different backgrounds matter, and people with different backgrounds can be successful—can and should be leveraged to foster more inclusive and equitable schools, workplaces, and communities.

### Author Contributions

N. M. Stephens and M. G. Hamedani designed the study, developed the theory, and wrote the manuscript. N. M. Stephens was primarily responsible for data collection and data analysis. M. Destin contributed to the study design, assisted with data collection, and provided suggestions on manuscript revisions. All authors approved the final version of the manuscript for submission.

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### Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

### Supplemental Material

Additional supporting information may be found at <http://pss.sagepub.com/content/by/supplemental-data>

### Notes

1. American society rarely acknowledges how social class shapes people's opportunity to succeed (Kingston, 2000; Mantsios, 2006).

2. A series of chi-square analyses comparing generation status in each of the five racial categories revealed that none of the racial categories significantly differed by generation status, all  $ps > .10$ .

3. Follow-up analyses indicated that random assignment was successful. (See the Supplemental Material.)

4. Outliers—that is, students with GPAs greater than 2 standard deviations below the mean—were distributed across generation status and intervention condition. They were excluded because the intervention was designed to help students overcome background-specific obstacles, not extreme life challenges (e.g., depression, lack of academic skills) that often lead to severe underperformance.

5. We created a dummy variable (0 = advantaged, 1 = disadvantaged) to control for race and ethnicity. Given the relationship between race and academic performance in the United States (e.g., Kao, 1995; Steele, 2010), Whites and Asians or Asian Americans were classified as advantaged, whereas African Americans, Latinos, and Native Americans were classified as disadvantaged.

6. For all analyses involving end-of-year GPAs and the tendency to seek college resources, we report raw means to make the observed differences between conditions clear.

7. The pattern of results was identical when we included GPA outliers. That is, in the difference-education condition, first-generation students performed significantly better than in the standard condition, and the achievement gap was statistically eliminated.

8. Analyses of the tendency to seek resources included individuals who did not provide permission to access their grades.

9. Mediation analyses excluded individuals who did not provide consent to access their grades. The reduced sample size is the reason why the effect of the Generation Status  $\times$  Intervention Condition interaction on the tendency to seek resources (see Fig. 3) was marginally significant compared with prior analyses.

10. The multivariate effect of intervention condition held even after we included the nonsignificant dependent measures reported in the Supplemental Material,  $F(16, 109) = 1.76, p < .05$ ; Wilks's  $\Lambda = 0.80$ .

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