

Empowerment Through Difference: A Scalable Difference-Education Intervention Closes the
Social Class Achievement Gap

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Abstract

Psychological research provides the tools for universities to acknowledge the importance of students' backgrounds and close performance gaps. However, researchers have yet to produce a scalable intervention that accomplishes both of these goals. In the present work, we test an individually administered intervention that educates students about how difference matters as a route to improving the performance of first-generation students (i.e., students whose parents do not have 4-year college degrees). Across two studies ($N = 270$), first-year students read senior students' and recent alumni's stories about how they adjusted to college. In the difference-education condition, these stories linked students' backgrounds to their college experiences (i.e., challenges, strengths, and strategies). Students who received the scalable intervention were able to learn how and why difference matters (Studies 1 and 2). Importantly, the intervention improved first-generation students' grades, closing the social class achievement gap by closing the gap in academic empowerment (Study 2).

Keywords: social class, higher education, intervention, difference-education

Empowerment Through Difference: A Scalable Difference-Education Intervention Closes the Social Class Achievement Gap

On college and university campuses across the United States, gaps in academic performance persist between disadvantaged students (e.g., those who are racial minorities or the first in their family to attend college) and their relatively advantaged counterparts (Pascarella, Pierson, Wolniak, & Terenzini, 2004; Sirin, 2005; Steele, 2010). These gaps are not only the result of financial or skill-based difficulties, but also the psychological obstacles that disadvantaged students often face, including lacking a sense of fit and empowerment (Engle, 2007; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012; Walton & Cohen, 2007). In response, disadvantaged students and their allies are demanding that universities take steps to close performance gaps and acknowledge the role that students' diverse backgrounds play in shaping their experiences on campus. For example, Yale University students are calling for the creation of a center that would support low-income students by providing a space for dialogue around class-related issues.

Psychological research provides the tools to meet these demands. Social psychological interventions have demonstrated that having individuals complete relatively short reading and writing tasks can improve the long-term outcomes of disadvantaged students and close performance gaps (Cohen & Sherman, 2014; Wilson, 2011; Yeager & Walton, 2011). Importantly, these interventions have been effective at scale (Yeager et al., in press). At the same time, theory and research in organizational behavior and education suggests that recognizing how people's different backgrounds matter for their experience can create more inclusive schools or workplaces and improve students' or employees' engagement and motivation (e.g., Hoffman & Woehr, 2006; Morrison, Robbins, & Rose, 2008). Can we leverage these insights to create a

scalable intervention that educates students about how difference matters and, in doing so, improves the performance of disadvantaged students?

In the current article, we suggest the answer is yes and propose a new scalable difference-education intervention that teaches students that their backgrounds confer particular challenges, strengths, and strategies for success. We focus here on the experiences and outcomes of first-generation college students (i.e., students whose parents do not have 4-year college degrees). Our previous intervention research used in-person, group sessions to convey the difference-education message to students, and suggests that difference-education is effective in closing the academic performance gap between first- and continuing-generation students (i.e., students who have at least one parent with a 4-year degree; Stephens, Hamedani, & Destin, 2014; Stephens, Townsend, Hamedani, Destin, & Manzo, 2015). Building on this initial work, we theorize that it is not the group *format* in which the message is delivered, but the *content* of the difference-education message that is critical for improving first-generation students' academic performance. Study 1 tested whether students could learn the difference-education message in an individually administered format, which allows for the intervention to be easily scaled. Study 2 replicated this finding at a different university and examined whether the scalable difference-education intervention improves first-generation students' performance and, in particular, does so by increasing their sense of fit and empowerment on campus.

Closing the Social Class Achievement Gap

As first-generation students navigate college life, they face various background-specific obstacles that can undermine their academic achievement and chances of making it to graduation (Duncan & Murnane, 2011; Fiske & Markus, 2012). This gap in students' outcomes is referred to as the social class achievement gap. In addition to financial or skill-based obstacles (Engle, 2007;

Pascarella et al., 2004; Phinny & Haas, 2003), they also face psychological obstacles. These psychological obstacles often result from the disconnect or “mismatch” between the working-class cultural norms that are common among first-generation students and the largely middle- or upper-class norms that they encounter in college (Bourdieu & Passeron, 1990; Stephens, Markus, & Phillips, 2014; Stephens, Townsend, Markus, & Phillips, 2012). This mismatch means that first-generation students rarely see themselves and their ways of being included in the college context. As a result, first-generation students often have trouble finding their place and feeling like they fit in (Stephens, Fryberg, et al., 2012; Stephens, Brannon, Markus, & Nelson, 2015). The mismatch also leaves first-generation students relatively unfamiliar with the “rules of the game” that govern college life. Without understanding how to enact these rules, first-generation students often lack a feeling of empowerment, or a sense of preparation, efficacy, and being in control of one’s academic experience (Ostrove & Long, 2007; Reay, Crozier, & Clayton, 2009).

Difference-education Intervention: The Message not the Format

We theorize that difference-education interventions, which teach students about how their backgrounds matter in college, can improve first-generation students’ academic performance and close the social class achievement gap. In an initial test, we conducted a difference-education intervention in a *group format*. Specifically, groups of 20 to 30 incoming first-generation and continuing-generation college students attended a student panel in person. They listened to a diverse panel of juniors and seniors describe the obstacles they faced as they adjusted to college, as well as their strengths and strategies for success (Stephens, Hamedani, et al., 2014). In the difference-education intervention, panelists’ stories connected their college experiences (i.e., obstacles, strengths, and strategies) to their social class backgrounds, revealing how students’ backgrounds matter in college. Panel sessions lasted for approximately 1 hour. Supporting our

theorizing, both first-generation and continuing-generation students learned the difference-education message about how their backgrounds matter in college and retained this knowledge through at least their second year in college (Stephens, Townsend, et al., 2015). Further, first-generation students showed improved academic performance, which closed the social class performance gap. Although we theorize that this intervention's effectiveness rests in the difference-education message conveyed, it is possible that the group format drove its success by stimulating greater attention to and engagement with the information and buffering participants from social identity threat.

Listening to the student panel among a group of other first-year students, compared to reading the same material individually, may have led participants to attend more to the information and to be more likely to believe and trust it (e.g., Cialdini, 1993; Sherif, 1936; Shteynberg, 2015). Work on shared attention suggests that the experience of attending to the panel with other students may have led participants to recruit greater cognitive resources while processing the information (e.g., Shteynberg, 2015; Shteynberg & Apfelbaum, 2013). Such shared attention is associated with better memory and stronger motivation than when the same objects are attended to individually. In addition, participants may have seen other participants behaviorally or verbally demonstrating interest in the panel sessions and, thereby, signaling that they believed the information being presented was credible and important (e.g., Cialdini, 1993; Sherif, 1936). Indeed, we conducted the initial test of the difference-education approach in this group format because we theorized that seeing panelists and other participants convey and respond to the message might be critical for participants to adequately engage and learn the difference-education message.

In addition, the group format may have buffered participants from the potential experience of social identity threat that can accompany discussions of social group differences. A focus on how students differ may lead students to categorize themselves along group lines, increasing negative intergroup attitudes and the experience of social identity threat (e.g., Croizet & Claire, 1998; Tajfel & Turner, 1986; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). For example, students from lower social class backgrounds perform worse on an academic test when their backgrounds are made salient versus not made salient prior to taking the test (Spencer & Castano, 2007). Additionally, students from middle-class backgrounds respond with threat, indicated by their cardiovascular responses, when interacting with a student they believe to be from a poor background (Blascovich, Mendes, Hunter, Lickel, & Kowai-Bell, 2001). The group format of the initial intervention may have helped to buffer all participants from social identity threat in at least two ways. First, hearing directly from successful students in the panel may have led participants to feel a connection to the panelists. Second, hearing information about difference in a supportive social environment, from panelists who were comfortable in their speaking roles, may have rendered the content less threatening.

Although it is possible that the group format contributed to the intervention's effectiveness, we theorize that it is the *content* of the difference-education message, rather than format in which this message is delivered, that is critical for producing its benefits. In fact, we carefully constructed the difference-education message so that it would be experienced as identity-safe, rather than threatening. For example, to help students to experience the message positively, when panelists discussed the challenges that students are likely to face in college, they also discussed the unique strengths and strategies students can use to overcome those challenges. By offsetting the negative with positive, participants should be more likely to experience the

difference-education message as empowering (Gielan, 2016). Thus, in the present research, we test whether a new scalable difference-education intervention—one that is administered individually and online—can teach students the difference-education message and improve first-generation students' academic performance. Extending previous research, we also examine the process through which this intervention produces its benefits and, further, seek to generalize our previous findings to a different, more socioeconomically diverse university.

Fit and empowerment as mediators of academic performance. We theorize that difference-education interventions improve first-generation students' performance by fostering a greater sense of fit and empowerment in university settings. First, difference-education interventions should improve first-generation students' sense of fit and comfort in college by communicating that their working-class backgrounds are included. Indeed, research on culturally responsive pedagogy, identity-based motivation, and person-organization fit suggests that including disadvantaged students' backgrounds, values, or social identities in an educational setting can increase their sense of fit (Brannon, Markus, & Taylor, 2015; Chatman, 1989; Oyserman & Destin, 2010; Steele & Cohn-Vargas, 2013). Second, difference-education interventions should improve first-generation students' sense of empowerment by providing students with an understanding of the particular challenges they are likely to face and the strategies necessary to be successful (e.g., Stephens, Hamedani, et al., 2014; Stephens, Townsend, et al., 2015). This argument is supported by research on social identity threat, which suggests that educating women about how gender matters can empower them to improve their performance on a math test (Johns, Schmader, & Martens, 2005; Mcglone & Aronson, 2007).

Generalization to a different university. We theorize that the positive effects of difference-education interventions are generalizable to diverse university settings. Importantly,

the initial study was conducted at a university in which only 8% of first-year students were first-generation. Given their very small numbers, first-generation students in this setting may have had little understanding of how their different backgrounds matter for their college experiences. They may have, therefore, been especially likely to benefit from learning the difference-education message. In other university settings, where first-generation students make up a larger proportion of the student body, they may already have a better understanding of how difference matters. Thus, it is possible that the intervention could have less impact in this setting. However, unless the student body consists of a majority of first-generation students, we theorize that there will be sufficient room for the difference-education message to have an impact.

Current Research: A Scalable Difference-Education Intervention

We theorize that *content* of the difference-education message, rather than *format* in which the message is presented, is critical to the intervention's effectiveness. Practically, we argue that this new difference-education intervention, which requires far less time and fewer resources than the initial, group intervention, will be easier to scale. Below we present two studies that examine the effectiveness of a scalable difference-education invention for closing the social class achievement gap. In Study 1, we test whether the difference-education message, that students' backgrounds shape their college experience, can be effectively communicated when it is presented to individual students online, in a written format. We predict that both first-generation and continuing-generation students will be able to learn the critical components of the difference-education message. In Study 2, we test whether this new difference-education intervention closes the social class achievement gap in a different university and examine potential mediators. We predict that the individually administered difference-education intervention will improve first-generation students' performance by providing a greater sense of

fit and empowerment. We also examine additional psychological outcomes, predicting that the difference-education intervention will yield a variety of other important psychological benefits for first-generation students that are indicative of an improved college experience.

Study 1

In an initial experiment, we examined whether a difference-education intervention, administered individually in a written format online, could effectively communicate the key message that students' backgrounds matter in college (i.e., they confer particular challenges, strengths, and strategies for success). We examined this directly, by looking at whether students learned the message, and indirectly, by looking at whether the message impacts students' college experience in way that is consistent with our theorizing. We predicted that all students in the difference-education condition would understand and be able to communicate the key message that students' social class backgrounds matter in college. We also predicted that first-generation students, in particular, would benefit from reading the difference-education stories, showing an improved college experience compared to first-generation students in the control condition.

Participants

Across two consecutive academic years, we recruited 137 participants from a mid-sized private research university in the Midwestern United States. All participants were in the final term of their first year (i.e., they had been on campus for at least 6 months). We excluded 13 participants from our sample because they previously completed a similar study. We invited all first year, first-generation students to participate and conducted the study during two academic years to maximize their numbers. However, based on the effect size of the intervention condition \times generation status interaction in the group intervention ($d = .323$), this study is somewhat underpowered (i.e., ~71%).

Of the remaining 124 participants, 51 were first-generation college students (i.e., neither parent had a 4-year college degree), and 73 were continuing-generation college students (i.e., at least one parent had a 4-year college degree). As indicated by official university records, the majority of first-generation students (56.86%) were low income (i.e., received Pell grants), compared with a minority of continuing-generation students (17.81%), $\chi^2(1, N = 124) = 20.45, p < .001$.

We created a dummy variable (0 = disadvantaged, 1 = advantaged) to examine racial and ethnic differences between first-generation and continuing-generation students. 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 academically advantaged, whereas African Americans, Latinos, and Native Americans were classified as academically disadvantaged. First-generation students were more likely to be from a disadvantaged racial or ethnic background (33.96%) than continuing-generation students (17.81%), $\chi^2(1, N = 124) = 4.90, p = .027$.

Procedure

The manipulation consisted of five short profiles of junior or senior students or recent graduates. This format mimicked how participants in the group intervention listened to panelists recount their perceptions and experiences. Participants were randomly assigned to one of two conditions: the difference-education condition ($n = 71$) and a control condition ($n = 53$). Across conditions, participants saw the same demographically diverse set of students. Each profile displayed a picture of the student along with his/her first name, class, graduation year, and personal story ostensibly written by the individual. We based the stories on the information presented in the group intervention, which drew from panelists' real-life stories of how they had

adjusted to and found success in college (Gurin et al., 2013). The stories were of comparable length across conditions. First-generation and continuing-generation students were evenly distributed across conditions, $\chi^2(1, N = 124) = 0.20, p = .658$.

The key difference between conditions was whether the stories highlighted how students' backgrounds mattered for their college experience. In the difference-education condition, students' stories not only acknowledged their different social class backgrounds (e.g., parents' educational attainment), but also linked those backgrounds to their challenges, strengths, and strategies for success in college. For instance, all stories connected students' backgrounds with the obstacles students faced and how they overcame them. Illustrating this, one first-generation student's story stated, "Since my parents didn't go to college, they didn't feel that they had room to tell me how to make my decisions . . . That definitely made things hard because I would have liked a bit of input from my parents." The story subsequently described how the student found it helpful to focus on her future goals: "It's really about assessing what you have, making the best of the situation, and moving forward from that instead of looking at what you could've done better up to that point." One continuing-generation student's story, after previously mentioning her parents' graduate-level degrees, said ". . . it was definitely a big adjustment going into classes with 150, 300 people. It was hard to stand up for myself and get the personal attention and help that I needed." The story continued by discussing how she overcame this obstacle, learning that "All it takes is a little ingenuity to email a professor whose class is closed . . . And nine times out of ten they'll say sure."

In the control condition, students' stories provided general content that was not linked to their social class backgrounds. Therefore, participants did not learn how their different social class backgrounds matter for their college experience. For example, in describing an obstacle she

faced, one student's story mentioned "One challenge for me in my first year was learning how to study and figuring out how to be fully prepared by the time exams come at the end of the quarter." She then said that she "learned that the most helpful way to study for midterms and final exams was to re-read material." As this example reveals, participants in the control condition also learned about students' challenges and strategies needed to be successful, however, this content was not connected to students' social class backgrounds. See the Supplemental Material for additional excerpts.

Measures

Difference-education message. To assess whether the scalable format was effective in communicating the key difference-education message, participants responded to two open-ended prompts: "Please list three ways in which the lessons shared in these stories could help you navigate [university] in the future." and "Based on the lessons conveyed in the stories, what are the top three things you would like to share with future incoming students to help them navigate their transition to [university]?" These items are conceptually identical to those used as a manipulation check in the group intervention (Stephens, Hamedani, et al., 2014). Participants also answered the question "How does your story relate to the stories you just read?" This question provided a chance for students to internalize what they learned through the saying-is-believing effect (Yeager & Walton, 2011).

Improved college experience. To assess whether the scalable intervention could improve first-generation students' college experience, we measured participants' (a) perceptions of their university's appreciation of difference, (b) social fit, (c) comfort during various interactions on campus, and (d) perceptions that working with others is part of being a good

student. Participants responded to all items using a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). See Supplementary Materials for a complete list of items.

Appreciation of difference. On five items, participants reported whether they perceived their university to accept and appreciate students with different backgrounds (e.g., “There are different ways to be successful at [university]”), $\alpha = .76$, $M = 6.03$, $SD = 0.84$.

Social fit. On six items, participants reported whether they felt that they belonged or fit in socially at their university (e.g., “I feel like I belong as a student at [university]”), $\alpha = .86$, $M = 5.11$, $SD = 1.25$.

Comfort in interactions. On seven items, participants reported whether they felt comfortable engaging in a variety of behaviors in the college context (e.g., “I feel comfortable sharing my opinions with other [university] students”), $\alpha = .82$, $M = 5.26$, $SD = 1.01$.

Perceptions of working with others. On five items, participants reported whether they perceived seeking help from others as important and helpful for being a successful student (e.g., “Getting extra help outside of class is part of being a good student”), $\alpha = .84$, $M = 6.09$, $SD = 0.80$.

Demographics. We obtained the following demographic information from the university registrar: sex, racial and ethnic background, high school grade point average (GPA), whether they were receiving Pell grants (as a measure of household income), and generation status.

Results

Difference-education message. Using the coding scheme from Stephens et al. (2014), we assessed whether participants in the difference-education condition learned that students’ diverse backgrounds can shape their college experiences. Specifically, we coded whether participants mentioned that (a) people have backgrounds “like mine” and (b) people’s different

backgrounds matter. Two coders, unaware of participants' generation status and condition, coded the data. After achieving substantial reliability ($\kappa = .622-.838$, Landis & Koch, 1977), remaining coding disagreements were resolved through consensus. Supporting our hypothesis, participants in the difference-education condition more often mentioned that people have backgrounds like theirs and that people's different backgrounds matter than did participants in the control condition. See Table 1 for sample responses, percentages of responses in each condition that fell into each coding category, and results of chi-square analyses.¹

Improved college experience. We performed a series of 2 (generation status: first vs. continuing) \times 2 (condition: difference-education vs. control) ANCOVAs to examine the effect of generation status, condition, and their interaction on psychological benefits associated with an improved college experience. Given that students' demographic characteristics and previous academic performance are likely to influence their college experience, we controlled for race and ethnicity (0 = disadvantaged, 1 = advantaged), gender (0 = male, 1 = female), and high school GPA.² Following Lakens (2013), we report partial eta squared effect sizes with 90% confidence intervals (CIs; in brackets) for ANCOVAs in both studies. See Table 2 for complete results.

Contrary to our predictions, we found no significant interactive effects for participants' (a) perceptions of their university's appreciation of difference, (b) social fit, or (c) perceptions of

¹ We also assessed participants' reactions to the stories and examined whether these were affected by generation status, condition, or their interaction. When we found significant effects, we conducted follow-up analyses of participants' college experiences controlling for those reactions, which did not change the significance or direction of our results. See the Supplementary Materials for more information.

² Given that household income is often a central factor that distinguishes the experiences of first-generation and continuing-generation students, we report results without controlling for low-income status. However, including this covariate did not change the significance or direction of the results. Moreover, a separate set of 2 (income: low vs. medium or high) \times 2 (condition: difference-education vs. control) ANCOVAs showed no significant interactions, $ps > .14$, suggesting that our results were due to generation status rather than income.

working with others. However, consistent with our predictions, we found a significant interaction, $F(1, 117) = 7.22, p = .008, \eta_p^2 = .058 [.008, .137]$, for students' anticipated comfort with interactions. See Figure 1. Specifically, although first-generation students reported significantly lower comfort than continuing-generation students in the control condition, $F(1, 117) = 5.99, p = .016, \eta_p^2 = .049 [.005, .124]$, the two groups reported similar levels of comfort in the difference-education condition, $F(1, 117) = 1.75, p = .189, \eta_p^2 = .015 [0, .069]$. Importantly, this was due to an increase in comfort reported by first-generation students in the difference-education compared to control condition, $F(1, 117) = 9.99, p = .002, \eta_p^2 = .079 [.015, .156]$.

Discussion

Supporting our theorizing, when the information was presented individually and online we found that participants understood and were able to communicate the key difference-education message. Specifically, compared to participants in the control condition, those in the difference-education condition were more likely to mention that other students have backgrounds like theirs and that students' different backgrounds matter. We also found some support for our secondary hypotheses concerning additional psychological benefits. Although the difference-education stories did not change participants' perceptions that their university appreciates difference, feelings of social fit, or beliefs that working with others is part of being a good student, it did increase first-generation students' anticipated comfort during campus interactions compared to the control stories.

Why did first-generation students' expected comfort in interactions improve, while the other psychological benefits remain unchanged? One potential reason may be the relative malleability of these different constructs given that students completed the study after they had been on campus for at least 6 months. We speculate that general understandings such as social

fit, appreciation of difference, and value of working with others accumulate based on one's experiences. Therefore, they may be more likely to become solidified or fixed over time and, thus, be more resistant to change. In contrast, more specific, perceptions of concrete behavior, such as expected feelings of comfort in interactions (e.g., speaking in class), might remain more malleable over time and thus be open to change with new information.

Study 2

Building on Study 1, Study 2 had three goals. First, we examined whether our scalable difference-education intervention can close the social class achievement gap by improving first-generation students' grades. Given that interventions should be most effective during the college transition (Wilson, 2011; Yeager & Walton, 2011), we recruited students at the beginning of their first year, when they were still learning about who they are in their new environment and adjusting to their new lives. Second, we examined the *process* through which the intervention produces its benefits. Specifically, we tested whether difference-education would increase first-generation students social fit and academic empowerment compared to the control intervention, and whether these changes would close the achievement gap. We also examined whether the difference-education intervention would provide first-generation students with a variety of additional psychological benefits, indicating an improved college experience. Third, we tested the generalizability of our intervention to a different university than the one at which the group intervention and Study 1 were conducted. Although both are private research universities, Study 2's university setting was more socioeconomically diverse (15.3% of first-year students were first-generation) than the university setting where the group intervention was conducted (8% were first-generation). We theorize that the difference-education intervention will be effective at improving first-generation students' grades in both contexts.

Participants

We recruited 133 participants from a large, private research university on the West coast of the United States. All participants were in the first 5 to 9 weeks of their first year. As in Study 1, we emailed all first-generation first-year students and a targeted group of continuing-generation first-year students an invitation to participate in the “[university] Student Stories Project.” To ensure that our results are due to generation status, rather than race or ethnicity, we created the group of continuing-generation students to roughly match the gender and racial and ethnic backgrounds of the first-generation students. Using the effect size of the intervention condition \times generation status interaction in Study 1 ($d = .487$), this study adequately powered (i.e., 97%).

Fifty-four participants were first-generation and 79 were continuing-generation. As indicated by self-report, the majority of first-generation students (77.78%) were low income (i.e., received Pell grants), compared with a minority of continuing-generation students (17.95%), $\chi^2(1, N = 132) = 46.74, p < .001$. One continuing-generation student did not report whether he received a Pell grant. As in Study 1, we created a dummy variable based on participants’ racial and ethnic backgrounds (0 = disadvantaged, 1 = advantaged). First-generation students in our sample were *not* more likely to be from these backgrounds (42.59%) than continuing-generation students (46.84%), $\chi^2(1, N = 133) = 0.23, p = .629$.

In our analyses of grade point averages (GPAs), we also included a campus-wide control group of all other first-year students at the university. Specifically, we obtained students’ generation status from the university and were able to compare the first term GPAs of our study participants with those of (a) 348 first-generation nonparticipants and (b) 2490 continuing-generation nonparticipants.

Individually Administered Intervention

The intervention materials were nearly identical to those used in Study 1. We made small alterations so that the stories would accurately reflect the new university context (e.g., changed the names of university groups to reflect names relevant at the new school). Participants were randomly assigned to one of two conditions: the difference-education condition ($n = 68$) or a control condition ($n = 65$). First-generation and continuing-generation students were evenly distributed across these two conditions, $\chi^2(1, N = 133) = 0.89, p = .357$.

Measures

Unless otherwise noted, all measures asked participants to report their agreement with items on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). See the Supplementary Materials for a complete list of all items.

Academic performance. We obtained participants' official first term GPAs from the university. We excluded one GPA outlier (a continuing-generation student), who was more than 6 *SD* below the mean, from all subsequent analyses. Importantly, the GPAs of participants in the control condition were statistically equivalent to the GPAs of the nonparticipant students in our campus-wide control group. This was true for both first-generation students (control condition: $M = 3.12$, campus-wide control: $M = 3.14$), $F(1, 375) = 0.03, p = .869, \eta_p^2 < .000 [0, .003]$, and continuing-generation students (control condition: $M = 3.48$, campus-wide control: $M = 3.36$), $F(1, 2523) = 1.92, p = .166, \eta_p^2 = .001 [0, .004]$. This equivalence suggests that the control condition provided the type of content that students typically receive when they transition to college.

Difference-education message – open-ended measure. As in Study 1, we evaluated whether students learned the key difference-education message with the same two open-ended

questions. In addition, we again provided participants with the opportunity to internalize what they learned (Yeager & Walton, 2011) by asking them to describe how their experiences relate to the stories they read.³

Mediators of academic performance – fit and empowerment. We measured two potential mediators of the predicted increase in first-generation students' academic performance: social fit and academic empowerment.

Social fit. On three items, participants reported whether they felt that they were likely to belong or fit in socially and academically at their university, $\alpha = .779$, $M = 5.28$, $SD = 1.35$. See Study 1 for example item.

Academic empowerment. On seven items, participants reported whether they felt academically empowered, $\alpha = .834$, $M = 5.45$, $SD = 0.82$. Specifically, items measured feelings of academic preparation and efficacy, as well as perceptions of control over one's academic experience. An example item is "I can do all of the work in class if I don't give up".

Improved college experience. Participants also completed measures of additional psychological benefits, including: (a) perceptions that their university appreciates difference, (b) perceptions that working with others is helpful, (c) comfort during various campus interactions, (d) academic identification, and (e) interest in university resources.⁴

³ As in Study 1, we measured participants' reactions to the stories. We found no significant effects of generation status, intervention condition, or their interaction on these responses, $F_s < 3.23$, $p_s > .07$. See the Supplementary Materials for more information.

⁴ We also measured (a) social identity threat, (b) perceptions of low status and underrepresented groups' comfort on campus, (c) likelihood of seeking help, (d) perspective taking, and (e) intentions to engage in interdependent activities. We included these measures in the MANCOVA, however, subsequent univariate ANCOVAs revealed that neither intervention condition nor its interaction with generation status affected these outcomes. See the Supplementary Materials for more information.

Appreciation of difference. On two items, participants reported whether they believed that their university is accepting of students with different backgrounds, $r = .505$, $M = 6.08$, $SD = 0.98$. See Study 1 for example item.

Perceptions of working with others. On five items, participants reported whether they believed that working with others is part of being a good student, $\alpha = .71$, $M = 5.69$, $SD = 0.92$. See Study 1 for example item.

Comfort in interactions. On the same seven items used in Study 1, participants reported their comfort engaging in a variety of campus interactions, $\alpha = .84$, $M = 5.17$, $SD = 1.11$.

Academic identification. On two items, participants reported their academic identification, using a scale from 1 (*not at all important*) to 7 (*extremely important*), $r = .615$, $M = 6.49$, $SD = .81$ (Walton & Cohen, 2011). An example item is “How important is being a college student to you?”.

Interest in campus resources. Participants reported their interest in obtaining information about a variety of campus resources (e.g., writing center, career center). From a list of 28 resources, they selected the ones about which they would like to have information. Our measure of interest was the total number of resources each participant selected, $M = 2.68$, $SD = 2.36$.

Difference-education message – closed-ended measure. At the end of the study, we asked participants to report the degree to which the stories mentioned students’ backgrounds. Participants responded on a scale from 1 (*not at all*) to 7 (*very often*).

Demographics. In addition to reporting the standard demographic indicators obtained in Study 1, participants also reported whether they had a sibling who had attended, or was attending, college. In addition, we obtained participants’ high school GPA from the university.

Results

Difference-education message. We first examine our two measures of whether participants learned the key difference-education message.

Open-ended measure. As in Study 1, we coded whether participants mentioned that (a) others have backgrounds “like mine” and (b) people’s different backgrounds matter. Two coders, unaware of participants’ generation status and condition, coded the data. One coded all participants’ responses, and the second coded 20% of the responses to ensure adequate reliability. Since the two coders were highly reliable ($\kappa = .754-.939$), we report the data from the coder who coded all responses. Consistent with Study 1 and our predictions, participants in the difference-education condition were more likely to mention that people have backgrounds like theirs (23.53%) and that people’s different backgrounds matter (32.35%) than participants in the control condition (7.81%, $\chi^2(1, N = 132) = 6.09, p = .014, r = .21, 95\% \text{ CI} = [.040, .368]$ and 6.25%, $\chi^2(1, N = 132) = 14.20, p < .001, r = .33, 95\% \text{ CI} = [.169, .474]$, respectively).

Closed-ended measure. To test the effectiveness of our manipulation, we conducted a 2 (generation status: first vs. continuing) \times 2 (intervention condition: difference education vs. control) ANCOVA. Consistent with our predictions and participants’ open-ended responses, participants in the difference-education condition reported that the stories mentioned students’ backgrounds ($M = 5.03, SD = 1.16$) significantly more often than participants in the control condition ($M = 3.06, SD = 1.17; F(1, 124) = 94.22, p < .001, \eta_p^2 = .424 [.323, .517]$).

Analysis plan. To test our primary predictions, we performed a 2 (generation status: first vs. continuing) \times 2 (condition: difference-education vs. control) MANCOVA on all of our dependent variables. As in Study 1, we controlled for race and ethnicity (0 = disadvantaged, 1 = advantaged), gender (0 = male, 1 = female), and high school GPA in all analyses. We also controlled for whether participants reported having a sibling who attended (or is attending)

college this may lead students to feel more prepared (0 = no, 1 = yes).⁵ We found a generation status \times condition interaction, $F(13, 112) = 1.81, p = .050, \eta_p^2 = .173$ [.0001, .189]. Below, we report the results of univariate analyses for each dependent measure, which we conducted to test our directional hypotheses. See Table 3 for complete results.

Academic performance. The univariate ANCOVA predicting first semester GPA revealed a significant main effect of generation status, $F(1, 124) = 6.79, p = .010, \eta_p^2 = .052$ [.007, .126], and a marginal main effect of condition, $F(1, 124) = 3.17, p = .078, \eta_p^2 = .025$ [0, .085]. As predicted, these main effects were qualified by a significant interaction, $F(1, 124) = 4.65, p = .033, \eta_p^2 = .036$ [.002, .103]. Results showed a gap of .335 grade points between first-generation and continuing-generation students in the control condition, $F(1, 124) = 11.22, p = .001, \eta_p^2 = .083$ [.018, .158]. However, in the difference-education condition, there was no longer a significant grade gap, $F(1, 124) = 0.09, p = .760, \eta_p^2 = .001$ [0, .025] (See Figure 2). Specifically, the difference-education condition reduced the social class achievement gap by over 90%. Importantly, first-generation students in the difference-education condition had higher GPAs than first-generation students in the control condition, $F(1, 124) = 6.41, p = .013, \eta_p^2 = .049$ [.006, .122], and campus-wide control condition, $F(1, 2871) = 5.73, p = .017, \eta_p^2 = .002$ [.0002, .006]. In contrast, continuing-generation students in the difference-education condition did not differ from continuing-generation students in the control condition, $F(1, 124) = 0.08, p = .778, \eta_p^2 = .001$ [0, .024], nor from continuing-generation students in the campus-wide control group, $F(1, 2871) =$

⁵ As in Study 1, these results are not controlling for low-income status, although including this covariate did not substantially impact their significance or direction. In addition, results of a separate MANCOVA, using low-income status as a predictor, revealed that the condition \times low-income status interaction was not significant, $F(13, 111) = 0.79, p = .673, \eta_p^2 = .084$.

1.97, $p = 0.160$, $\eta_p^2 = .001$ [.001, .001].⁶ Notably, the intervention's GPA effects could not be explained by differences in students' course selection (see the Supplemental Material for these analyses).

Mediators of academic performance – fit and empowerment. Next, the 2 univariate ANCOVAs predicting social fit and empowerment revealed significant interactions, $F(1, 124) = 5.11$, $p = .026$, $\eta_p^2 = .040$ [.003, .109] and $F(1, 124) = 8.37$, $p = .005$, $\eta_p^2 = .063$ [.012, .142], respectively (see Figures 3a and 3b). Among participants in the control condition, first-generation students reported feeling significantly less fit with the campus community, $F(1, 124) = 5.48$, $p = .021$, $\eta_p^2 = .042$ [.003, .113], and significantly less academic empowerment, $F(1, 124) = 7.18$, $p = .008$, $\eta_p^2 = .055$ [.006, .124], compared to continuing-generation students. In contrast, these differences were not present among participants in our difference-education intervention, $F_{fit}(1, 124) = 0.74$, $p = .392$, $\eta_p^2 = .006$ [0, .047] and $F_{empowerment}(1, 124) = 2.02$, $p = .158$, $\eta_p^2 = .016$ [0, .070]. Importantly, these changes are due to an increased sense of social fit and academic empowerment among first-generation students in the difference-education compared to control condition, $F_{fit}(1, 124) = 6.52$, $p = .012$, $\eta_p^2 = .050$ [.006, .124] and $F_{empowerment}(1, 124) = 5.19$, $p = .024$, $\eta_p^2 = .040$ [.003, .109].

Moderated meditation analyses. Next we examined whether the difference-education intervention improved first-generation students' academic performance by increasing their feelings of social fit and academic empowerment. Specifically, we conducted moderated mediation analyses with participants' empowerment and fit as two parallel mediators between

⁶ For analyses comparing difference-education condition to campus control: (a) siblings' college attendance was not included as a covariate because the university did not provide this information, (b) campus control students whose races were listed as "unknown," "international," or "two or more" were coded as "1" (i.e., advantaged), and (c) 28 campus control students, whose high school gpas were missing, were not included.

generational status and academic performance with intervention condition as the moderator of both the direct and indirect paths (Hayes, 2013; PROCESS macro for SPSS 23, model 8). We conducted the analysis with 10,000 bootstrap resamples, including our standard set of covariates.

We found support for the mediating role of academic empowerment, but not social fit (see Table 4). Specifically, in the control condition, there was a significant indirect effect of generation status through academic empowerment to GPA. Specifically, continuing-generation students in the control condition felt greater academic empowerment, which lead to higher academic performance, compared to first-generation students in the control condition. In contrast, in the difference-education condition, the indirect effect of generational status on GPA through academic empowerment was not significant. These results suggest that the difference-education intervention eliminated the academic performance gap by eliminating the gap in empowerment.

Improved college experience. Finally, the univariate ANCOVAs with the additional psychological benefits as outcomes revealed patterns consistent with our predictions. Specifically, on measures conceptually similar to social fit, we found significant generation status \times intervention condition interactions for appreciation of difference, $F(1, 124)= 5.52, p = .020, \eta_p^2= .043$ [.004, .113], and comfort in campus interactions, $F(1, 124)= 7.73, p = .006, \eta_p^2= .059$ [.010, .136]. Further, on measures conceptually similar to academic empowerment, we found a significant generation status \times intervention condition interaction for the value of working with others, $F(1, 124)= 4.56, p = .035, \eta_p^2= .035$ [.001, .102], and marginal interactions for academic identification, $F(1, 124)= 3.56, p = .062, \eta_p^2= .028$ [0, .087] and interest in campus resources, $F(1, 124)= 3.82, p = .053, \eta_p^2= .030$ [0, .094]. Overall, the difference-education

intervention increased first-generation students' scores on these measures compared to the control condition. Below we report the results of simple effects tests. See Table 3 for full results.

Appreciation of difference. In the control condition, continuing-generation students reported that their university showed greater appreciation of difference than first-generation students, $F(1, 124)= 4.00, p = .048, \eta_p^2= .031 [0.0002, .096]$. However, the two groups did not differ in the difference-education condition, $F(1, 124)= 1.77, p = .185, \eta_p^2= .014 [0, .066]$. In addition, although first-generation students reported that their university appreciates difference somewhat more in the difference-education compared to the control condition, this difference was not significant, $F(1, 124)= 2.43, p = .121, \eta_p^2= .019 [0, .076]$.

Perceptions of working with others. There were no significant differences by generation status in either the control condition, $F(1, 124)= 1.84, p = .177, \eta_p^2= .015 [0, .065]$, or the difference-education condition, $F(1, 124)= 2.80, p = .097, \eta_p^2= .022 [0, .070]$. Nonetheless, the difference-education intervention increased first-generation students' belief that getting help is part of being a good student compared to the control condition, $F(1, 124)= 3.97, p = .048, \eta_p^2= .031 [0.016, .059]$.

Comfort in interactions. Although continuing-generation students reported greater comfort than first-generation students in the control condition, $F(1, 124)= 13.13, p < .001, \eta_p^2= .096 [0.029, .182]$, the two groups did not differ in the difference-education condition, $F(1, 124)= 0.10, p = .758, \eta_p^2= .001 [0, .026]$. The difference-education intervention increased first-generation students' expected comfort compared to the control condition, $F(1, 124)= 8.27, p = .005, \eta_p^2= .063 [0.011, .141]$.

Academic identification. There were no significant differences between continuing-generation and first-generation students in either the control condition, $F(1, 124)= 2.08, p = .152,$

$\eta_p^2 = .016$ [0, .068], or the difference-education condition, $F(1, 124) = 1.52$, $p = .220$, $\eta_p^2 = .012$ [0, .062]. Nonetheless, the difference-education intervention marginally increased first-generation students' academic identification compared to the control condition, $F(1, 124) = 2.93$, $p = .089$, $\eta_p^2 = .023$ [.011, .044].

Interest in campus resources. There were no significant differences by generation status either the control condition, $F(1, 124) = 1.77$, $p = .185$, $\eta_p^2 = .014$ [0, .066], or the difference-education condition, $F(1, 124) = 2.08$, $p = .152$, $\eta_p^2 = .017$ [0, .070]. Nonetheless, the difference-education intervention increased first-generation students' interest in campus resources compared to the control condition, $F(1, 124) = 4.18$, $p = .043$, $\eta_p^2 = .033$ [.0005, .098].

Additional moderated mediation analyses. Follow-up moderated mediation analyses suggest that these psychological benefits did not mediate students' improved academic performance. Complete information on these and additional moderated mediation analyses are presented in the Supplementary Materials.

Discussion

Consistent with our theorizing, the individually administered difference-education intervention closed the social class achievement gap between first-generation and continuing-generation students. Although this GPA gap was present in both the control condition and in the campus-wide control group, there was no difference in the difference-education condition. Importantly, this gap was closed because first-generation students performed better in the difference-education compared to control condition. Our moderated mediation analyses revealed that the closing of the GPA gap was mediated through closing the gap in academic empowerment, but not social fit. Like other interventions approaches (e.g., belongingness; Walton & Cohen, 2011), difference-education increases students' sense of fit. Yet, unlike these

other approaches, fit does not explain the intervention effects on students' grades. Instead, our results suggest that difference-education improves grades primarily by increasing empowerment.

We also found evidence that the individually administered difference-education intervention provided first-generation students with additional psychological benefits. Specifically, relative to first-generation students in the control condition, those who received the difference-education intervention reported greater social fit, expected comfort in interactions, belief that working with others is part of being a good student, academic identification (marginally), and interest in campus resources. Students' perceptions that their university appreciates difference were in the direction that was consistent with the intervention improving first-generation students' perceptions, although the difference was not significant.

Finally, our results also extend the generalizability of our intervention approach to other universities. The initial difference-education intervention was conducted at a university with lower socioeconomic diversity than the university in the current study. However, our results support our theorizing that difference-education interventions will be effective at closing performance gaps in a variety of university settings.

General Discussion

I enjoyed [the stories] because I was able to connect especially to those that told about their heritage playing a part in their school choice as well as the fact that college was not a reality for some parents. Neither of my parents attended college, and one did not even finish high school. *I take comfort in the normality of the situation and I look forward to what is to come* [emphasis added].

– First-generation student in the difference-education condition.

As student activists demand change at universities across the nation, the present research offers a solution: a scalable intervention that both educates students about difference and reduces achievement gaps between groups. As illustrated in the above quote, an individually administered difference-education intervention taught students that difference matters, and, as the current study demonstrated, closed the social class achievement gap. Specifically, across both studies, students who read the difference-education stories more often reported that other students have backgrounds like theirs and that students' different backgrounds matter. In Study 2, the difference-education intervention closed the performance gap by closing the gap in academic empowerment. The intervention also carried additional psychological benefits for first-generation students, indicating an improved college experience. Compared to first-generation students in the control condition, those in the difference-education intervention showed increased feelings of social fit, more positive perceptions of working with others, increased expectations of comfort during interactions on campus, marginally increased academic identification, and interest in campus resources. In addition to demonstrating the effectiveness of a scalable difference-education intervention, this study also increases the generalizability of the approach as it was conducted in a different university than the group intervention.

Contrary to social psychological theories suggesting that highlighting difference will be threatening for lower status or disadvantaged students (Tajfel & Turner, 1986; Turner et al., 1987), the current research demonstrates that teaching first-generations students about why and how their backgrounds matter can empower them and, thereby, improve their academic performance. Importantly, our results suggest that the effectiveness of difference-education interventions does not rely on the group-based, in-person panel format used in initial research. Instead, these results suggest that it is the key message about how difference matters (e.g., in

terms of obstacles, strengths, and strategies) that is the source of its effectiveness. Thus, students can individually learn about how difference matters by reading other students' stories online and gaining this insight can carry significant benefits.

We do not mean to suggest that *any* mention of difference will be beneficial and nonthreatening. Rather, we theorize that it is critical to offset negative information about the challenges students face due to their backgrounds, with positive information about the strategies they may use to be successful. By emphasizing challenges, coupled with solutions and strengths, the difference-education message is identity safe and should be effective regardless of the format in which it is delivered. In this way, students can come to see their backgrounds not only as a source of difficulty, but also as an asset. In addition, we theorize that an important feature of difference-education interventions is showcasing the stories of both first-generation and continuing-generation students. Indeed, both the group and individually administered interventions included these diverse perspectives, thereby, highlighting that *all* students' backgrounds affect their college experiences. In this way, disadvantaged students are not singled out and students' differences are seen as relevant to all students (cf. Plaut, Buffardi, Garnett, & Sanchez-Burks, 2011).

Limitations and Future Directions

Results of the current scalable intervention replicate the primary findings from the initial test of the difference-education approach. Specifically, the intervention increased first-generation students' grades by increasing their sense of empowerment. That is, first-generation students in the initial group study showed an increased tendency to seek out campus resources, whereas in this study, first-generation students showed increased feelings of efficacy and preparedness. However, there are also some ways in which the findings differ. In particular, the initial group

difference-education intervention improved the college transition for both continuing-generation and first-generation students, whereas this study finds benefits only among first-generation students. The difference in findings could be a function of the format of the intervention or the particular university context. The collective experience in the group intervention may have made the information more helpful for continuing-generation students, relative to reading the information individually online. Alternatively, since the two studies were conducted at different schools, it is possible that differences in the university climates could underlie the difference in results (e.g., university selectivity or culture).

Future research should continue to investigate the effectiveness of difference-education interventions in a broad range of higher education contexts. Such research will reveal when both continuing-generation and first-generation students benefit from difference-education. This work will also advance theory by further illuminating the process through which difference-education confers its benefits. For example, will improvements in first-generation students' performance be mediated through increased empowerment when institutions offer fewer of the resources that may serve as sources of empowerment for students? Moreover, it will be important to examine less selective colleges and universities, as well as community colleges. Testing the effectiveness of our intervention approach in such contexts will be important on a practical level, because the majority of first-generation students, as well as other students disadvantaged by higher education contexts, are likely to attend these types of institutions.

Another important area for future research is examining which aspect(s) of the difference-education message drive the intervention's effects. The difference-education message conveys that students' backgrounds matter in college because they confer particular challenges, strengths, and strategies for success. For example, would the intervention be effective if it only

contained information about students' background-linked strengths and strategies and did not mention obstacles? Our focus in the current work was to demonstrate the effectiveness of the difference-education approach in a new scalable format. Future research should examine which components of the message are necessary and sufficient for producing the interventions benefits.

Finally, research should examine additional benefits offered by difference-education interventions beyond closing achievement gaps. First, for members of disadvantaged and underrepresented groups, our results suggest that difference-education confers a variety of benefits. Although we found that social fit did not mediate the effect of the intervention on improved grades among first-generation students, increased feelings of fit with the campus community may lead to other desirable outcomes such as improved intergroup interactions and the cultivation of a broader and more helpful social network. Second, we theorize that providing people with a framework for understanding their own and others' differences may decrease the threat that both advantaged and disadvantaged students experience during intergroup interactions.

Conclusion

College and university campuses bring together students from diverse backgrounds, but they often fail to fully leverage the benefits of that diversity. One reason is that these institutions themselves are often set up according to middle-class and European American ideas, values, and practices. Students whose backgrounds diverge from this standard often experience a lack of fit and empowerment, which can undermine their opportunity to succeed. As disadvantaged students seek to overcome these obstacles, universities must seek out strategies to meet students' demands for changes to policy and practice that both acknowledge students' diverse backgrounds and close performance gaps. The present research suggests one possible route to doing so.

Educating disadvantaged students about how their backgrounds affect the challenges they are likely to face and the strategies they can use to be successful can empower them and, thereby, improve their performance. Ultimately, difference-education can enable colleges and universities to create more inclusive and empowering environments, in which students from diverse backgrounds have a greater opportunity to succeed.

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Table 1. Between-condition comparison of the percentage of responses coded within each coding category.

Sample Responses		<i>Chi-Square Analyses</i>		
		Difference -education condition	Control condition	χ^2 <i>r</i> [95% CI]
<i>Coding Category</i>				
People have backgrounds “like mine”	It’s important to understand the different scenarios and backgrounds people are coming from, and to realize that 1) you’re not the only one, and 2) people are not all like you either.	30.98	9.43	8.28** .26 [.088, .417]
	I should acknowledge that there are people coming from similar backgrounds as me and not feel embarrassed about my financial situation.			
People’s different backgrounds matter	Everyone comes from such a different background and has different motives for doing well.			
	It is okay to be a first generation college student. You will just have to figure more things out on your own which can enhance the college experience.	39.44	3.77	21.04*** .41 [.252, .547]

Note. ** $p < .01$, *** $p < .001$. $df = 1$. $N = 124$. Effect size is Pearson’s r followed by 95% confidence interval (CI).

Table 2. Univariate analyses of covariance results for indicators of an improved college experience in Study 1.

	<i>Dependent Variables</i>			
	Comfort in Interactions	Appreciation of Difference	Social Fit	Perceptions of Working with Others
<i>Covariates</i>				
High School GPA	0.36	0.16	0.01	0.32
Race	0.25	0.004	0.62	0.05
Gender	2.36	0.59	4.57*	1.35
<i>Main and Interactive Effects</i>				
Condition	4.36*	0.40	0.99	0.11
Generation	0.87	0.08	1.14	0.30
Condition × Generation	7.22**	0.11	0.72	0.76

Note. * $p < .05$, ** $p < .01$.

Table 3. Multivariate analysis of covariance results for grade point average (GPA), potential mediators, and indicators of an improved college experience in Study 2.

	<i>Dependent Variables</i>							
	<i>Performance</i>	<i>Potential Mediators</i>		<i>Indicators of Improved College Experience</i>				
	GPA	Social Fit	Empowerment	Appreciation of Difference	Perceptions of Working with Others	Comfort	Academic Identification	Resources
<i>Covariates</i>								
HS GPA	16.21***	0.70	1.28	3.42 ⁺	0.61	0.05	2.22	0.04
Race	0.22	0.03	0.10	2.92 ⁺	0.87	0.51	1.79	2.78 ⁺
Gender	0.41	0.07	1.08	2.78 ⁺	0.99	3.19 ⁺	0.18	0.002
Sibling in College	3.55 ⁺	3.35 ⁺	3.38 ⁺	0.64	0.22	1.86	1.87	2.35
<i>Main and Interactive Effects</i>								
Condition	3.17 ⁺	2.92 ⁺	0.43	0.01	0.93	2.86 ⁺	0.61	1.50
Generation	6.78*	1.13	0.82	0.23	0.05	5.59*	0.02	0.01
Condition × Generation	4.65*	5.11*	8.37**	5.52*	4.56*	7.73**	3.56 ⁺	3.82 ⁺

Note. ⁺ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 4. Moderated mediation results for indirect effect of generational status on academic performance (GPA) through social fit and academic empowerment moderated by condition.

<i>Mediators</i>	<i>b</i>	<i>SE</i>	95% CI
Social Fit			
Overall Moderated Mediation	0.008	0.038	[-0.055, 0.101]
Control Condition	-0.006	0.028	[-0.082, 0.037]
Intervention Condition	0.002	0.013	[-0.017, 0.042]
Academic Empowerment			
Overall Moderated Mediation	-0.087	0.057	[-0.241, -0.007]
Control Condition	0.057	0.042	[0.002, 0.172]
Intervention Condition	-0.030	0.026	[-0.108, 0.003]

Figure 1. Mean comfort in interactions as a function of generation status and intervention condition (Study 1). Error bars show standard errors of the mean.

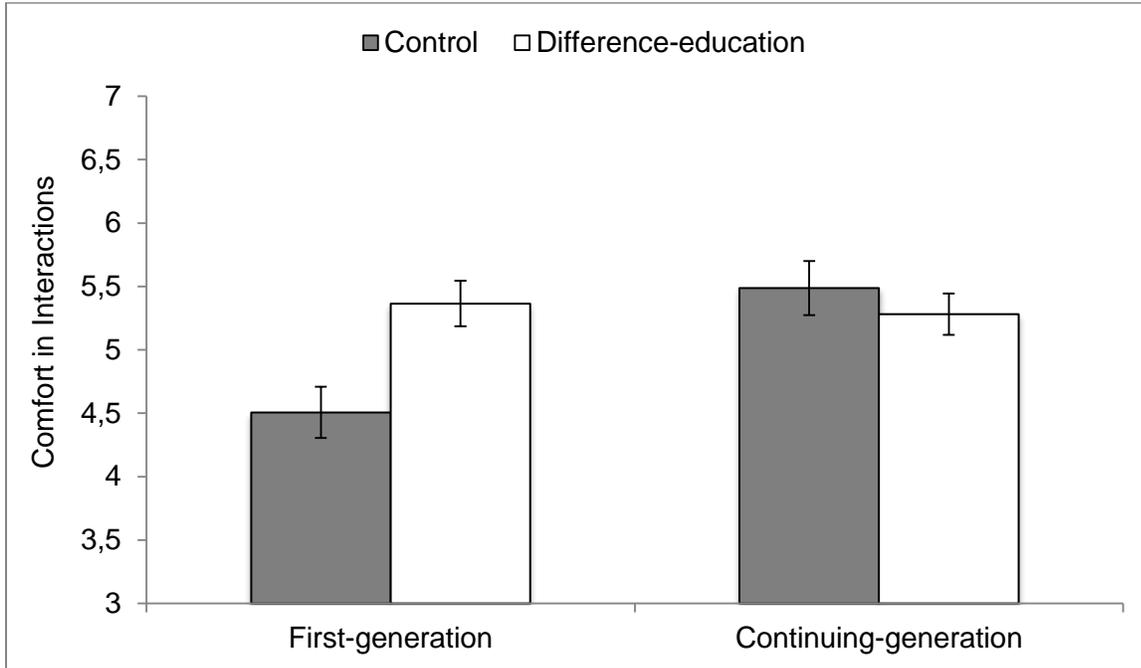
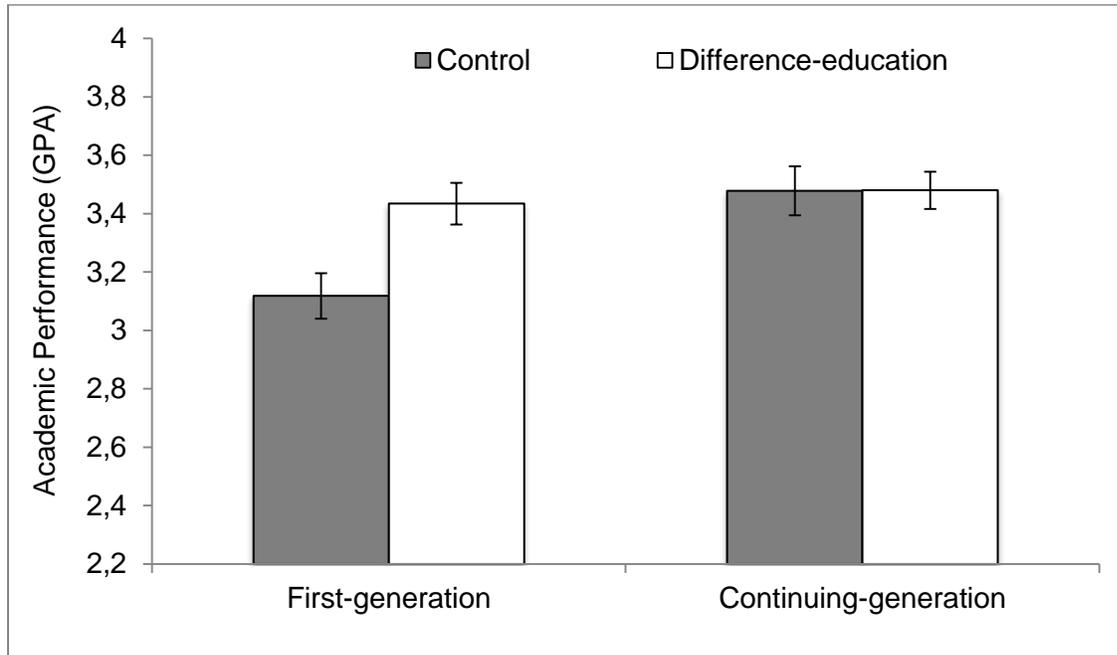


Figure 2. Mean first semester grade point average (GPA) as a function of generation status and intervention condition (Study 2). Error bars show standard errors of the mean.



Figures 3a and 3b. Mean social fit and academic empowerment as a function of generation status and intervention condition (Study 2). Error bars show standard errors of the mean.

