

RUNNING HEAD: THE SOCIAL-BELONGING INTERVENTION

The Social-Belonging Intervention

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Abstract

All students travel a social distance in coming to school. They leave behind families and communities to enter new social spaces where they strive to build strong friendships with peers and relationships of respect with instructors while taking on challenging learning and achievement tasks. In entering a new social space, people can readily wonder whether they will belong in the new setting. This question, termed “belonging uncertainty,” may be felt most acutely when people enter settings in which their social group is negatively stereotyped or underrepresented. In this state of uncertainty, even everyday challenges may seem to threaten one’s belonging in general in the setting, that is, the quality of their relationship with the setting as a whole. To protect this sense of belonging, the social-belonging intervention represents the general truth that common challenges and worries about belonging are normal in an academic transition and improve with time. Across several randomized field trials, the intervention, delivered as an interactive exercise lasting an hour or less, has improved students’ integration into secondary and post-secondary school communities and raised academic performance years into the future. Often the greatest benefits are observed for students from groups that are negatively stereotyped or underrepresented in the context. Here we review the origins of the social-belonging intervention in basic research on stereotype threat, attribution theory, and the sociocultural history of the United States; discuss its relationship to other psychologically “wise” interventions; review outcome effects; discuss heterogeneity and processes over time; share materials to promote adaptive ways of making sense of belonging; and discuss implications for psychological theory, education, and policy.

The Social-Belonging Intervention

Background

The roots of the social-belonging intervention lie in both the socio-cultural history of the United States and the intellectual tradition of social psychology, especially research on the experience of students who contend with negative stereotypes in school.

For African Americans, other people of color, and people from lower social class backgrounds, too often the history of the United States has been a fight for acceptance. In school, this battle has been waged in court battles for desegregation (e.g., *Brown v. Board*), in national law (e.g., the Civil Rights Act of 1964), in school district (e.g., school busing) and university policy (e.g., affirmative action), in civil protests, and in individual students' and families' lives. See Figure 1.

Simultaneously, students of color have had to contend with stereotypes that allege the intellectual inferiority of their group. The early psychologist Lewis Terman, a prominent eugenicist, introduced IQ to America as a fixed constraint that justified the exclusion of children from mainstream education (Terman, 1916, p. 92):

Children of [low IQ] should be segregated in special classes and be given instruction which is concrete and practical. They cannot master, but they can often be made efficient workers, able to look out for themselves.

Moreover, Terman identified this inability with race (p. 91):

It is interesting to note that M. P. and C. P. [children with low IQ scores] represent the level of intelligence which is very, very common among Spanish-Indian and Mexican families of the Southwest and also among negroes. Their dullness seems to be racial, or at least inherent in the family stocks from which they come... These boys are uneducable beyond the merest rudiments of training.

As legal, social, and political pressure to integrate schools mounted, the formal rejection of children of color has, to some extent, receded. Yet the legacy of exclusion

and negative stereotypes remains (e.g., Herrnstein & Murray, 1994).

Figure 1. The 1957 desegregation of Little Rock Central High School.



What is it like to enter a school setting in which your group has been excluded, faces stereotypes that impugn its ability and worth, and may still be underrepresented? Could concerns about belonging that arise from this circumstance contribute to educational inequality? Indeed, this legacy of injustice contributes to disadvantage today. Moreover, by understanding belonging more clearly—how students make sense of their belonging in school and the consequences of their interpretations—researchers have been able to develop exercises that benefit many students in academic transitions, including African American students entering college, women entering male-dominated

engineering fields, students from first-generation college backgrounds, and children entering middle school.

Psychological Processes

Stereotype threat. An important early observation in the development of the belonging intervention was that inequalities in school achievement do not simply reflect differences in ability. Instead, inequality reproduces at successive levels of education, even among students with the same preparation (Steele, 1997; see also Walton & Spencer, 2009). For instance, even with identical SAT scores and high school grades, Black college students earn worse grades on average than White students and women earn worse grades in math and science than men. This “underperformance” is so common as to be termed “lawful” (Steele, 1997, p. 615). What in the academic environment prevents equally well-prepared Black students and women from achieving at the same rates as Whites and men?

Claude Steele and colleagues pointed to a psychological burden imposed by negative stereotypes. Specifically, Steele theorized that when a negative stereotype is on the table people can worry that others could view them through the lens of that stereotype (Steele, Spencer, & Aronson, 2002; Steele, 1997, 2010): “If I do poorly, people could think the stereotype is true.” For a student invested in school, this extra pressure, termed *stereotype threat*, can cause distraction and anxiety that undermines performance ironically seeming to confirm the stereotype. In seminal studies, high-performing Black college students scored worse than Whites on a test composed of items from the Graduate Record Exam. But when the same items were represented as a laboratory puzzle-solving exercise—and thus as irrelevant to racial stereotypes—Black students did as well as

Whites, controlling for baseline SAT scores (Steele & Aronson, 1995). Similar patterns emerged among women in math (Spencer, Steele, & Quinn, 1999), and in hundreds of studies (Steele, 2010). Moreover, research has identified key mechanisms of this process, including distraction and a drain on executive functioning and cognitive resources, which lowers performance (Schmader, Johns, & Forbes, 2008).

Belonging uncertainty. The fear in a testing situation that one could be seen in light of a negative stereotype may be the tip of the iceberg. Students who face negative stereotypes or underrepresentation may harbor a broader concern: “Can people like me belong here?” (Walton & Cohen, 2007; see also Goffman, 1963; Mendoza-Denton et al., 2002). It is this broader concern that is addressed by the social-belonging intervention.

Worries about belonging are evident in many stories told by many racial-minority and first-generation college students. Michelle Obama wrote in her senior thesis, “I sometimes feel like a visitor on campus; as if I really don’t belong...It often seems as if...I will always be Black first and a student second” (Robinson, 1985, p. 2). Justice Sonia Sotomayor said she felt like “a visitor landing in an alien country [in college]...I have spent my years since, while at law school, and in my various professional jobs, not feeling completely a part of the worlds I inhabit” (Ludden & Weeks, 2009).

We define a sense of belonging as a person’s perception of the quality of their relationship with a valued school, work, or community context as a whole. This relationship goes beyond personal ties one may have to others in the setting. Instead, it is fundamentally symbolic. It arises from events and experiences that represent to the person their relationship with the setting itself (Walton & Brady, 2017).

Belonging uncertainty is distinct from a person’s level of belonging. A student

can generally believe that he or she belongs at their school yet still question this belonging, that is, worry or feel unsettled about it (Walton & Cohen, 2007; see also Mallett et al., 2011). The student may agree both, “I belong in my school” (belonging) and “When something bad happens, I feel that maybe I don’t belong at [school name]” (belonging uncertainty).

Moreover, uncertainty about belonging itself, often informed by an awareness of negative stereotypes and underrepresentation, creates an important form of disadvantage: It shapes the perspective from which people make sense of everyday experiences in a setting. When people question their belonging, they can be more apt to worry that daily adversities mean that they, or people like them, do not belong in general in the setting (Walton & Cohen, 2007).

The idea that uncertainty about belonging might shape the interpretation of social events draws on classic research on hypothesis-confirming processes, which finds that evidence consistent with a person’s expectations stands out in perception to shape judgments (Darley & Gross, 1983). Consistent with this theorizing, an early laboratory study exposed Black and White college students to a subtle social cue—difficulty listing friends who would fit in well in the field of computer science. For White students this experience had little effect. But it caused Black students’ sense of belonging and potential in the field to drop precipitously (Walton & Cohen, 2007, Experiment 1). Moreover, the event carried a racial meaning to Black students. When asked to give advice to peers interested in pursuing computer science, difficulty listing friends led Black students to discourage a Black peer, but not a White peer, from pursuing the field. It was as if they had inferred that “people like me” might not belong there.

Pointing to a similar conclusion, daily diary studies show that everyday challenges can give rise to feelings of nonbelonging more so for Black than for White students at predominately White colleges (Walton & Cohen, 2007, 2011; see also Aronson & Inzlicht, 2004; Mendoza-Denton et al., 2002) and more so for women than for men in male-dominated quantitative fields (Walton et al., 2015). That is, if a first-year college student from a socially disadvantaged background fails a midterm, fights with a roommate, feels homesick, or has her work criticized, she may risk inferring that she does not belong in college in general. Crucially, the events that signify a lack of belonging need not appear significant to a third party. In 2014, Michelle Obama recalled her experience coming to college:

When I first arrived at school as a first-generation college student, I didn't know anyone on campus except my brother. I didn't know how to pick the right classes or find the right buildings. I didn't even bring the right size sheets for my dorm room bed. I didn't realize those beds were so long. So I was a little overwhelmed and a little isolated.

Despite decades of professional success, Obama still recalls her reaction to bringing the wrong sheets to college. To her at that time, they were more than just ill-fitting sheets, an inconvenience. They implied that the answer to the implicit question she held—“Does a person like me belong here?”—might be “no.”

The need to belong is fundamental (Baumeister & Leary, 1995) and closely linked to health, well-being, achievement, and identity (Walton & Brady, 2017). If a student infers that he or she does not belong in school, it can be exceedingly difficult to stay motivated and engaged and build relationships in school. Thus, inferences of nonbelonging can become self-fulfilling. They can deprive students of the supports needed to succeed in a challenging academic environment, further perpetuating

inequality.

How the social-belonging intervention bolsters belonging. One way to remedy inequality, then, is to provide students a legitimate, nonpejorative narrative for understanding common adversities and challenges to belonging. Drawing on classic attributional retraining interventions (Wilson, Damiani, & Shelton, 2002), the social-belonging intervention uses carefully written stories from diverse older students to convey the truth that worries about belonging in a new school are normal or common at first for students from all backgrounds and that these worries generally lessen with time as students reach out to others and come to feel at home. That lens can help forestall global, threatening interpretations of negative experiences.

Typically, these stories are shared in written form. To drive home the key message, the intervention uses powerful persuasive techniques. First, it leverages social norms: Challenges and feelings of nonbelonging are represented as typical and as typically improving. Second, it uses social proof: Students are exposed to individual exemplars who illustrate the treatment message through personal stories. Third, the exercise is interactive. Students are asked to complete a *saying-is-believing* exercise in which they describe how the process of change portrayed has played out in their own experience so far and how they anticipate it will play out going forward (Aronson, 1999). For instance, they might write a letter to help future students with their transition. That way participating students (1) actively engage with the ideas about belonging presented, deepening learning; (2) apply abstract ideas to their own experience, increasing relevance; (3) advocate for these ideas to others, a powerful means of persuasion; and (4) understand themselves as helping others, not as receiving help, taking on an empowering

rather than a potentially stigmatizing role.

As a whole, the intervention aims to help students appreciate belonging as a *process* that develops over time, in which challenges are normal and to be expected, and one they can facilitate, rather than as a quality a person simply has or does not have.

Empirical Evidence

Outcomes. Using rigorous randomized controlled field experiments, the social-belonging intervention has been shown to improve core academic outcomes, most often for students who face negative stereotypes and underrepresentation in a school setting. The seminal study delivered the intervention or active control materials to a small sample of Black and White students in the first year at a selective, predominately White university ($N=92$). Delivery took place in hour-long one-on-one sessions. The intervention raised Black students' grades over three years, through senior year, with no change for White students, halving the racial achievement gap over this period. It also improved Black students' confidence in their belonging, well-being, and self-reported health at the end of college (Walton & Cohen, 2007, 2011).

A second study adapted the intervention for women in engineering. Students in the first semester of a selective engineering program ($N=228$) took part in 45-60-minute small-group sessions. In majors with a critical mass of female students, which averaged 33% women, there was no gender inequality in first-year grades and no treatment effect. But in male-dominated majors, which averaged just 10% women, the belonging intervention raised women's first-year grades, eliminating a large gender inequality. It also improved women's reported experience and confidence in their prospects of success over the first year (Walton, Logel, Peach, Spencer, & Zanna, 2015).

Later studies have examined ways to reach larger populations, including online through college and university systems that incoming students complete before beginning college. Yeager, Walton, Brady and colleagues (2016) created intervention modules, lasting ≈ 30 -minute each, and tested these in three different institution-wide samples (i.e., 90%+ of each population). In the first, students graduating from urban charter school networks ($N=584$)—almost all Black and the first in their families to attend college—completed online materials in May of their senior year of high school. The social-belonging intervention, adapted for this population, raised the percentage of students who stayed full-time enrolled in college over the next year from 32% to 43%. In the second, students entering a large public university ($N=7,418$) completed online social-belonging, growth-mindset, or control materials in the summer before matriculation. Receiving either intervention increased the percentage of negatively stereotyped minority and first-generation college students who completed the first year full-time enrolled from 69% to 73%, reducing the gap with nonminority, continuing-generation students by 40%. In the third, students entering a selective private university ($N=1,596$) completed either the social-belonging intervention, an intervention focused on critical feedback (see Yeager et al., 2014), an intervention focused on cultural fit, or control materials in the summer before matriculation. Receiving any of the interventions raised first-year grades among negatively stereotyped minority students and first-generation White students, reducing the achievement gap with more advantaged students by 31%. (In the latter two cases, the various treatments were equally effective. See also Broda et al., 2018.)

The belonging intervention has also been scaled through first-year classes. Murphy and colleagues (2019) adapted the intervention for a highly diverse urban broad-

access institution and implemented it as a personal reading-and-writing exercise in an hour-long session in first-year writing classes ($N=1,063$). The intervention raised the percentage of negatively stereotyped minority and first-generation students who stayed enrolled over the next two years from 64% to 73%. Binning and colleagues (2018), having observed gender disparities in an introductory physics course and racial disparities in a biology course, adapted the intervention for these classes and implemented it in class through story sharing, personal reflection, and small group conversation. The intervention eliminated each disparity, raising course grades for women in physics and for non-White students in biology.

Another study adapted the intervention for the transition to middle school and delivered it to Black and White students early in sixth grade over two 30-minute class sessions ($N=137$) (Goyer et al., 2019 Experiment 2). The intervention reduced disciplinary citations among Black boys through the end of high school by 65%, reducing the disparity with White boys by 75%, and supported higher levels of belonging and lower levels of stereotype threat through middle school. Another study delivered these materials to diverse sixth grade students in 11 public middle schools across a district ($N=1,304$). Here all students benefited, including with reductions in disciplinary referrals, higher grades, reduced absences, and improved school attitudes over sixth grade (Borman, Rozek, Pyne, & Hanselman, 2018).

Mechanisms. How does the belonging intervention foster lasting gains? Figure 2 depicts a process model. Most proximally, the intervention aims to forestall global inferences of nonbelonging due to commonplace, everyday experiences in school (Figure 2B). Consistent with this, an early study found that, in the first week after delivery, the

intervention did not alter the kinds of challenges students reported on a daily basis. But it prevented Black students from inferring on the basis of daily challenges that they did not belong in school in general, thereby sustaining students' sense of belonging on more adverse days (Walton & Cohen, 2007). To illustrate, one day a Black student reported: "Everyone is going out without me, and they didn't consider me when making their plans. At times like this I feel like I don't belong here and that I'm alienated." The intervention did not prevent adversities (the first sentence) but it mitigated the global inference (the second sentence). Over this week-long period, a tight relationship was found in the control condition between how much adversity Black students reported each day (how good or bad their day was) and their level of belonging that night and the next afternoon: On worse days Black students reported lower levels of belonging. That relationship was not present for White students. And it was severed for Black students by the intervention. This change in the construal of daily events statistically mediated the gain in grades for Black students over the next three years, through graduation (Walton & Cohen, 2011; see also Walton et al., 2015).

Effects Over Time. By protecting students' sense of belonging in the face of adversity, the intervention helps students stay engaged in school (Figure 2C). Over the first week following treatment in the original study, the intervention increased students' reports of the extent to which they emailed professors, attended office hours, met with study groups, participated in class, and studied (Walton & Cohen, 2007). Later studies found the intervention increased students' likelihood to live on campus and seek out academic support services during their first year of college (Yeager et al., 2016, Experiments 1 and 3). These behaviors help students integrate into the campus

community (Figure 2D). Indeed, the intervention has been shown to help students develop close friendships on campus, to become more involved in student groups, and to develop mentor relationships (Walton et al., 2015; Yeager et al., 2016, Experiment 3). Similarly, in middle school, it can improve cycles of interaction between Black boys and their classroom teachers (Goyer et al., 2019).

A follow-up of the original belonging intervention illustrates the lasting benefits that mentor relationships can confer to students. As noted earlier, students received the intervention in the first year of college with no subsequent treatment. Seven to eleven years later, at an average age of 27, Black participants who had received the intervention early in college reported greater life and career satisfaction (Brady, Cohen, Jarvis, & Walton, 2019). Statistically, this effect was mediated by reports of greater mentorship during and after college. Consider this report (Black, treatment condition):

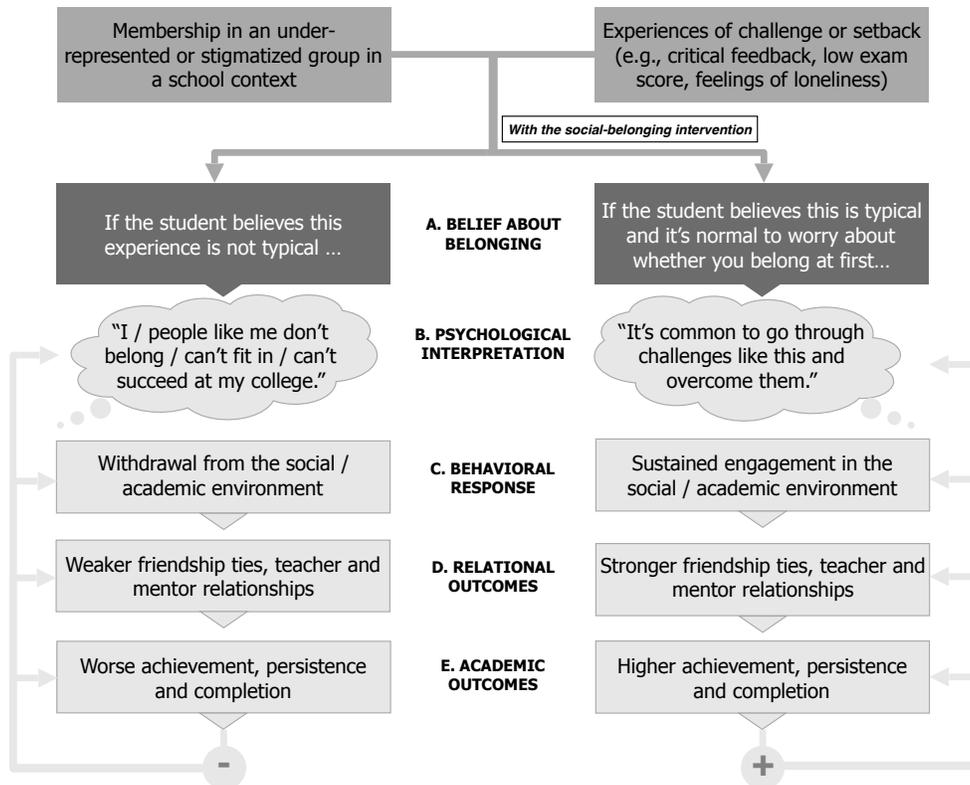
The first semester of my freshman year was very difficult for me. I was struggling academically, didn't feel like I fit in, and was unhappy with my major...I began to spend more time speaking with my freshman counselor. We really bonded, and she helped me to realize that I did belong at [school]. Thanks to her, I was able to connect better with my peers and perform better academically. We've kept in touch ever since.

These results are consistent with a model in which the intervention mitigated early worries about belonging to help students reach out and build mentor relationships, which then empowered adult success (cf. Leitner, Ayduk, Boykin, & Mendoza-Denton, 2018). Thus, the intervention unlocks the potential of students and school contexts.

Notably, this role of the intervention can be opaque to recipients. In the same sample, participants could not recall at the end of college what they had learned in the intervention and credited none of their success in college to it (Walton & Cohen, 2011). The intervention does not work through the salience of its central message. Instead, it

helps students make sense of the ongoing stream of social events they experience in more productive ways, helping students build relationships of lasting benefit.

Figure 2. How beliefs about belonging can affect students’ behavior and academic outcomes in the transition to college. Adapted from Yeager et al., 2016.



Heterogeneity. The social-belonging intervention addresses a specific circumstance: People who want to belong in a setting but worry that they might not. The intervention is not designed to promote a sense of belonging in general, for instance among people who have no desire to belong in a setting. The intervention will not help an artist with no interest in investment banking feel that she fits in on Wall Street.

However, most people care about the school and work settings that define their lives at least to some degree and want to belong and succeed in them. In such settings, the

intervention is generally most effective for people who face group disadvantage, such as negative stereotypes or underrepresentation (e.g., Walton & Cohen, 2007, 2011; Yeager et al., 2016; cf. Borman et al., 2018). Benefits may also be greatest in circumstances that give rise to greater levels of group-based threat, such as STEM settings in which women are grossly underrepresented (Walton et al., 2015) or where performance disparities are large (Binning et al., 2018).

To achieve lasting gains, the intervention further depends on affordance of the school environment in which it is delivered, especially, the degree to which that environment affords genuine opportunities for belonging (Walton & Wilson, 2018). If, instead, group-based threats to belonging are acute and pervasive (see Figure 1), the intervention may be ineffective and inappropriate. Further, if students do not have access to adequate learning opportunities, financial aid, or other necessary supports, no psychological exercise is likely to improve long-term outcomes.

Thus, the intervention should be most effective for students who want to belong in a setting but question their belonging and when the setting nonetheless offers opportunities for belonging, learning, and achievement, including opportunities to develop positive relationships that support lasting gains. Additionally, the intervention will be effective only when its central message is not already present in the setting in impactful, genuine ways.

Cousins

The belonging intervention is related to a number of other psychologically “wise” interventions, each of which addresses how students make sense of important aspects of the school environment to improve relevant education outcomes.

First, it draws directly on classic *attributional retraining interventions* (Perry & Hamm, 2017; Wilson et al., 2002), which likewise aim to change students' attributions for the causes of setbacks in academic transitions. Yet such interventions have focused on academic struggles, discouraging stable, internal attributions (e.g., "I'm dumb") and encouraging unstable, external causes (e.g., "It takes time to learn how to study in college"). These interventions can raise achievement, especially for struggling students, but they focus less on the belonging-related doubts that arise from stereotypes and a history of disadvantage and thus less on mitigating group-based inequality.

Growth-mindset of intelligence interventions also provide a hopeful narrative in the face of setbacks. They communicate to students that intelligence is not fixed but can grow with hard work, good strategies, and the help of others (Dweck & Yeager, 2019), thus implying if you fail a math test that you are not "dumb at math" but can improve with effort and a new approach. Like attributional retraining interventions, growth-mindset interventions focus less on social-relational worries that arise from negative stereotypes and thus on this source of group-based inequality.

Like belonging interventions, *theory-of-personality interventions* focus on the possibility of improvement in one's social experience in school. However, they emphasize not belonging but the potential for individuals to change and, in particular, the idea that bullies need not always be bullies and victims need not always be victims (Yeager & Lee, 2019). Among adolescents, this can reduce aggression and increase prosocial behavior following ostracism, improve mental and physical health, and raise academic achievement.

Value-affirmation interventions share a common origin with belonging

interventions in research on stereotype threat. But rather than providing an adaptive narrative for understanding adversities, affirmation interventions aim to protect people's sense of inherent worth and value and so they are better able to cope (Sherman, Lokhande, Müller, & Cohen, 2019; see also Garcia & Cohen, 2013). They do so by asking students to reflect on values of enduring personal importance, which serve as unconditional sources of worth and helps people confront threats more effectively. The processes initiated by affirmation interventions can be both similar to and different from those initiated by belonging interventions (see Cook et al., 2012; Sherman et al., 2013; Walton & Brady, 2017). In the only direct empirical comparison, both interventions improved women's daily experience (e.g., confidence handling daily adversities) and raised first-year grades in male-dominated engineering fields yet other processes differed (Walton et al., 2015). Whereas the social-belonging intervention helped women develop greater friendships with male peers, affirmation increased women's identification with their gender group and promoted friendships with other women. It was as though the former helped women experience a warmer climate in engineering while the latter helped women develop personal resources to weather a chilly climate.

Difference-education interventions also address social challenges faced by students from marginalized backgrounds coming to college but whereas the belonging intervention emphasizes everyday challenges experienced by all students difference-education interventions emphasize group-specific challenges, such as those faced uniquely by first-generation college students (Stephens, Hamedani, & Townsend, 2019). However, both approaches convey that challenges are not specific to oneself but normal across a group of people and improve with time, and thus not evidence of a general lack

of belonging.

Intervention Content and Implementation

Belonging Guide. Complete materials from all published studies through 2017 we have co-authored, along with annotations and guidance on customization, are available in the Belonging Guide (Walton et al., 2017). For annotated materials from Walton and Cohen (2011), see Appendix 1.

When and how is the intervention delivered? There are many opportunities to convey the basic idea in the belonging intervention, that belonging is a normal process that develops over time, from prior to the first year college to during that year, from one-on-one sessions (Walton & Cohen, 2007, 2011), to small-group sessions (Walton et al., 2015), to first-year classes (Binning et al., 2018; Murphy et al., 2019), and to online modules (Broda et al., 2018; Yeager et al., 2016; see also Devers et al., 2016). In college, these sessions generally last 30-60 minutes. In middle school, the intervention has been delivered over two 30-minute class sessions early in sixth and seventh grades (Borman et al., 2018; Goyer et al., 2019).

How is the intervention represented? Generally, the intervention is represented as an effort to learn from students about their experience in the academic transition to benefit future students. Students are told they will review conclusions and stories from older students and share their own experience and expertise with future students to give them a better sense of what the transition will be like. Thus, participants are represented as benefactors and co-creators of an exercise to help others, not as beneficiaries of an intervention or recipients of a persuasive message.

Nuts and bolts: Of what does the intervention consist? The intervention

includes (1) summary information about normative experiences of students in the academic transition, (2) illustrative stories from older students, and (3) interactive components. These materials convey two broad themes:

1. that it is normal to worry at first about whether you belong in a new school.
2. that these difficulties do not mean that you do not belong; with time and effort, most students typically come to feel at home in the school.

Stories. Most studies of college students have included 6-9 stories (~100-150 words per story); those of middle-school students, 3 stories in each of two sessions (~85 words per story). The stories are represented as typical of diverse students' experience in the transition at hand. They are best understood as parables. Each describes an individual student's trajectory, drawing on past materials and students' experiences gathered in interviews and focus groups with careful editing to address critical themes effectively. As parables, they do not give advice, which could feel prescriptive, presumptuous, or inapplicable (cf. Eskreis-Winkler, Fischbach, & Duckworth, 2018). Instead, they offer multiple models for how a person's experience could develop over time (Lockwood & Kunda, 1997). Providing some range increases the odds that students find models who experienced challenges that relate to their own circumstance and see diverse trajectories of growth from these challenges.

Describing challenges to belonging. First, the stories articulate specific common worries and everyday negative experiences many students have in the transition. Further, they voice the negative thoughts and feelings a student can have in response to these challenges, including feelings of nonbelonging (e.g., "I thought professors were scary," Appendix 1, B, Story 3). They thus represent experiences, thoughts, and feelings of nonbelonging as normal. These challenges can be attributed explicitly to the difficulty of

the transition (e.g., “Still, I think the transition to college is difficult, and it was for me...,” Appendix 1, B, Story 2). This negative content is placed within a positive overall context appropriate for the setting (e.g., “I love [school name] and I wouldn’t trade my experiences here for anything...Still...,” Appendix 1, B, Story 2). Thus, students and the school are represented positively and the materials validate the pride students often feel in their school, even as they acknowledge normative challenges and doubts.

The challenges described include interactions with instructors (e.g., feeling intimidated, receiving critical feedback) and peers in academic contexts (e.g., joining study groups), academic setbacks (a poor grade), challenges making friends, and missing home or older friends. Importantly, the stories do not raise negative experiences or doubts without resolving their implications for belonging; the reader is not left to wonder whether the protagonist in fact does belong. They also do not reify negative norms (e.g., “Everyone is depressed,” “Everyone gets drunk all the time”) or attribute difficulties to enduring negative qualities of the school (e.g., “There’s a lot of pressure here”).

The stories are attributed to upper-year students whose seniority affords them a sufficiently long vantage point on the transition, usually through a “tag” at the end of the story that represents his or her identity (see Appendix 1). The students are diverse, including both students who are more and less advantaged in the setting. To counter the stereotype that only disadvantaged students question their belonging, the strongest characterization of feelings of nonbelonging (e.g., feeling intimidated in class) are attributed to more advantaged students, such as to Whites in a predominately White college (Walton & Cohen, 2011) or to men in engineering (Walton et al., 2015). The inclusion of these “counterstereotypical” stories renders the intervention distinct from

approaches that emphasize role models, in which in-group members illustrate a path of growth for the self (cf. Lockwood & Kunda, 1997; Stephens et al., 2019). Instead, the emphasis is on feelings of nonbelonging that arise from difficulties in the academic transition experienced by all students.

Describing improvement in belonging. Second, the stories describe trajectories of improvement: How negative experiences and doubts lessen with time, as students find communities and come to feel at home in the school. This improvement is characterized by (1) behaviors that support belonging, such as initiative a student takes to connect with others (e.g., attending office hours) or specific activities or communities he or she joins (e.g., a student organization); (2) the development of relationships that support belonging, such as with instructors or peers; and (3) psychological change that supports belonging. This psychological change includes both new, more adaptive attribution for common challenges (e.g., “I had to remind myself that making close friends takes time,” Appendix 1, B, Story 6; “And I saw that even when professors are critical, or their grading harsh, it didn’t mean they looked down on me or that I didn’t belong. It was just their way of motivating high-achieving [school name] students,” Appendix 1, B, Story 3) and the broad belief system targeted by the intervention (“[E]verybody feels they are different freshman year from everybody else, when really in at least some ways we are all pretty similar. Since I realized that, my experience has been almost one-hundred percent positive,” Appendix 1, B, Story 1). Thus, the exemplars model new behaviors, new relationships, and new ways of thinking that support belonging.

Improvement is attributed both to the passage of time and to students’ efforts, resourcefulness, and resilience. The role of time is significant, as belonging can improve

with time as a person gets used to a new place and is receptive to efforts initiated by others. Stories should not emphasize fixed qualities of individuals (e.g., “You have to be outgoing to succeed here”) or atypical help, luck, or specific formal resources that may be unavailable to or inappropriate for other students. For example, in a story about feeling intimidated by professors, it would not be helpful to say, “Then I met Professor X and he made all the difference.” The stories should not depict saviors but instead emphasize that with patience, effective strategies, and persistence students can build belonging (e.g., “I began to take more initiative in going to office hours and meeting with professors. When I made the effort, I found that my professors became quite warm and were invested in me and in my doing well,” Appendix 1, B, Story 4).

The timeline for improvement should be represented vaguely (e.g., “With time...”); otherwise students could worry that they have “missed the boat” if they lack a sense of belonging at a specific future point in time. It could also be problematic to represent improvement specifically but in the distant future—then challenges may seem insurmountable or not worth waiting out. The stories may also validate ongoing challenges or doubts but represent these as not a fundamental threat to belonging (e.g., “though I still have doubts about myself sometimes they’re the kinds of things everybody feels on occasion,” Appendix 1, B, Story 8).

Although the stories emphasize challenges experienced by all students, they may also acknowledge group-specific challenges (Stephens et al., 2019). For instance, interviews with upper-year students in engineering revealed that women sometimes felt excluded from male peer groups. A corresponding intervention story validated this experience but curtailed its negative implications for belonging (Walton et al., 2015,

Story 7):

“...I remember once in my first term having lunch with some other civil engineers. They spent 90% of the time talking about hockey, about which I know next to nothing. I felt like I didn’t belong. It was discouraging. But over time I got to know my classmates better, individually and as a group. Once I remember talking about the TV show *Monster Machines*, which I have to admit I love. We had a great time sharing stories about the different episodes. Even though I don’t share their love of hockey, I realized that we do have a lot in common – an interest in how things work – and that’s why we’re all engineers...”

Details and coherence. As parables, the stories use specific details in symbolic or illustrative ways to both challenges (e.g., conversation about hockey) and improvement (e.g., *Monster Machines*; “I realized that...”). These details should be ones that diverse participating students can relate to, not individuating or specific to one person’s experience. Details and language style should also be appropriate to the context at hand. And taken together, each story should be internally consistent and coherent, and emphasize a clear theme.

Order and types of stories. The ordering of stories is intentional. The first story dispels a form of “pluralistic ignorance”—the perception that worries about belonging are specific to oneself (see Prentice & Miller, 1993). Attributed to a member of the group the materials are most designed to reach, such as a Black student at a predominantly White college, the story simply describes a student learning the core idea in the intervention: that early worries and challenges to belonging, which had seemed unique to oneself, were in fact common (Appendix 1, B, Story 1). The story does not describe these challenges in any detail. It just implies that whatever difficulties a student experiences are likely to be more common than it might seem.

The next story or two feature counterstereotypical exemplars: Students from more advantaged groups, who might seem least likely to worry about belonging, but who

describe strong, specific experiences of nonbelonging and how these improved with time (Appendix 1, B, Stories 2 and 3). These stories counter the assumption that only members of disadvantaged groups face significant worries about belonging. Later stories address other themes that arise in a context, such as teacher-student relationships, friendships, imposter syndrome, and common goals (Appendix 1, B, Stories 4-9).

For middle school students, the themes are simplified and interwoven (Goyer et al., 2019). Stories may also not be attributed to a student with a given social identity but presented alongside an array of images of students representing the diversity of the student body, thus implying that the stories reflect the experiences of students in that community as a whole.

Saying-is-Believing. After reading the intervention summary and stories, students are asked to describe how their own experience in the transition so far and/or what they expect in the future reflects the experiences of the students they read about. These materials, students are told, may be shared with future students to help them better understand what to expect in the transition. In the original study, students wrote an essay describing their experiences of belonging, rewrote this essay into a speech, and then delivered this speech to a video camera to create footage that could be shared in first-year orientation the next year (Walton & Cohen, 2011). In other studies, students have written a personal letter to a future incoming student (Walton et al., 2015; Yeager et al., 2016). As noted earlier, saying-is-believing exercises can promote learning and personalization (see Aronson, 1999; Walton & Wilson, 2018).

Control Conditions. Multiple active control conditions have been tested. These feature the same structure of activities—summary information, student stories, and

saying-is-believing task—but lack the critical focus on belonging. They have addressed instead how students (1) get used to the physical environment of a new school (e.g., generic information about the weather, campus, and city, Walton & Cohen, 2011; Yeager et al., 2016), (2) develop study skills (Murphy et al., 2019; Walton et al., 2015), or (3) become used to the school lunch room and interested in state politics (Goyer et al., 2019). Some studies have also included no-treatment control conditions (Walton et al., 2015). Others supplement randomized control groups with non-randomized campus-wide comparisons (Murphy et al., 2019; Walton & Cohen, 2011; Yeager et al., 2016).

Nuances and Misconceptions

Not Mostly About Friendships

One misconception is that the intervention focuses on purely social experiences, such as close friendships or feelings of homesickness. To the contrary, the emphasis is on experiences of belonging and nonbelonging *within the core academic context* of school—in classrooms, study groups, lab settings, and in interactions with classmates or instructors. The stories thus address worries about ability, about showing work to others, about being evaluated, and about receiving critical feedback or poor grades. This focus arises from the fact that it is the intellectual abilities and merit of racial-minority students and women in math and science that is most directly impugned by negative stereotypes, not their likeability (e.g., Glick & Fiske, 2001). In so doing, the materials seek to convey that worries about belonging and being valued and respected within the core academic contexts of school are normal (experienced by many students) and improve with time.

Not Just Role Models

A second misconception is that the intervention is primarily a role model exercise

and, thus, that the most important materials are stories told by in-group members whose experiences are most relevant to participating students (see Lockwood & Kunda, 1997). To the contrary, an important aspect of the intervention are counterstereotypical stories, which show how majority-group members too worry about belonging.

Acknowledgement of Difference

A third misconception is that the stories ignore group-based differences in students' experience. They do not. They simply emphasize everyday worries about belonging that arise from the difficulty of the transition for all students and how this improves with time. Some variants also highlight group-specific challenges (e.g., the hockey story described above). The saying-is-believing exercise also provides participating students an opportunity to describe challenges they have experienced, including experiences of difference involving one or more of their social identities.

Implications for Practice

There are many ways that institutions can convey adaptive ways of thinking about belonging and build a culture that supports this. Here we focus on implementation in school contexts, where most research has been conducted, but similar efforts can and have been undertaken in work contexts. We describe ways schools have found to convey and embody the specific themes of the belonging intervention. These efforts complement broader efforts to promote belonging and inclusion, such as to promote diversity among students, staff, and faculty; to represent and value this diversity; to counter bias, prejudice, and sexual harassment; and to structure communities so people have genuine opportunities to build relationships of value (see Murphy, Kroeper, & Ozier, 2018).

As with any psychological exercise, no implementation of the belonging

intervention will be effective if the materials are not delivered in an impactful way, such that recipients pay attention, engage, and connect the material with their lives (see Weiss, Bloom, & Brock, 2014). Psychological interventions are not “a worksheet to be handed out or a lesson to ‘get through’” (Yeager & Walton, 2011, p. 289) but a tool to engage people substantively in thinking about themselves or their experience in a new way.

It is also essential to maintain the integrity of the critical message (see Dweck, 2016). Simply handing out school swag or assuring students, “You belong!” does not help students see that everyday challenges are normal and improve with time.

Additionally, although it may be helpful to hear adaptive messages about belonging multiple times from multiple sources, the message should always feel authentic, not false or manipulative.

Online Materials: Reflection Modules and Belonging Videos

Online modules can reach thousands of students with high-fidelity materials at low cost (Yeager et al., 2016; see also Devers et al., 2016). As with other psychological interventions, a challenge is to achieve impact at scale (Paunesku et al., 2015). There are two basic risks. First, the content of the materials may be less relevant for larger and more diverse populations. To address this, we discuss the customization of content below. Second, students may engage with materials less seriously when they are delivered online rather than in person. Thus, online sessions should be as attractive and interactive as possible. For instance, all past studies include saying-is-believing components, which engage students and invite them to reflect on how the intervention message is true for them. Some also complement written materials with audio recordings of upper-year students reading the critical intervention stories (Walton et al., 2015;

Yeager et al., 2016 Experiment 1).

Another scalable way to convey adaptive ideas about belonging is through online videos. For the past few years, Stanford University has empowered outgoing senior students to create a welcome video for incoming first-year students highlighting key themes about belonging; new students receive this video in the summer before they enter college (see <http://tinyurl.com/pringle2017>). Although this approach has not been formally evaluated, it provides an authentic and impactful means to establish adaptive norms about belonging from the start for an entire cohort of students.

In-Person Experiences

Institutions can also work to create a more belonging-supportive institutional culture by developing in-person experiences to help students contend with challenges to belonging early on. This may involve structured reflections and small-group discussion or specific assignments in first-year classes, both of which have been shown to improve core academic outcomes (e.g., Binning et al., 2018; Murphy et al., 2019). Residential programming offers another opportunity. Stanford created a credit-bearing, discussion-based course, Frosh 101, to extend lessons introduced during new student orientation including about belonging into the first year. In a first session, facilitators (more senior students) share challenges to and growth in belonging they experienced in coming to college. First-year students then write anonymously about their own experience, describing why and how it is normal to worry at first about belonging in this transition and how this gets better with time. These writings are then collected and are read aloud without identifying their authors. The group then discusses common themes. The next week, students create mementos that reflect their discussion, such as a poem, a flier, a

painting, digital art, or a sculpture, to be displayed in the dorm.

Organizing such in-person experiences may require greater coordination and be more costly per student. There can also be challenges to maintaining the fidelity of the intervention message. Yet they may help shift a school culture.

Customization

Past research testing the social-belonging intervention has incorporated customized content among standard belonging stories in new contexts, under the assumption that distinct challenges to belonging arise in specific contexts.

The aim of the customization process is to understand the challenges to belonging students experience in a particular environment and to identify adaptive and realistic ways students can understand and respond to these challenges in that context. This process generally involves user-centered pilot research, including surveys, interviews, and focus groups with the target population. For women in engineering, it led to the incorporation of new stories addressing feelings of exclusion from male peer groups (the hockey story above) and experiences of sexist disrespect on campus (Walton et al., 2015). For graduates of urban charter schools, pilot research identified a passivity in building belonging among students leaving highly structured urban charter-school contexts. Story revisions re-emphasized the active steps students need to take to build relationships with peers and faculty in college (Yeager et al., 2016). For middle-school students, customization led to stories addressing worries about getting lost in a larger school, forgetting a locker combination, and how one's stomach hurt the first few months as students were afraid to talk to teachers (Goyer et al., 2019).

This customization is typically carried out within the structure of the intervention

outlined above, including the essential first story emphasizing pluralistic ignorance followed by counterstereotypical exemplar stories. The Belonging Guide mentioned earlier discusses why and how to include customized content (Walton et al., 2017). Doing so may make materials more relevant, authentic, and impactful for a context; however, the customization and writing process requires significant expertise and should not be carried out casually. Effective belonging stories are deceptively complex and difficult to write well. Moreover, basic themes and threats to belonging are often common across diverse contexts; thus, stories addressing core themes may be largely retained across settings. Customizing *some* content does not imply that *all* content should be customized.

Practitioner Experiences

Appendix 2 shares reflections from two practitioners who implemented the social-belonging intervention at their institution through the College Transition Collaborative (<http://collegetransitioncollaborative.org/>).

Implications for Theory

First, the belonging intervention illustrates how social-psychological factors can perpetuate inequality (see Steele, 1997, 2010; Sherman et al., 2019). The intervention does not expand learning opportunities. Nor does it increase students' basic capability (e.g., intelligence, self-control) or motivation to learn, factors commonly cited as causes of inequality (e.g., Herrnstein & Murray, 1994). Instead, it shows that potent social-psychological processes follow from societal disadvantage in the form of pervasive worries about belonging and how these can reproduce inequality in school success.

Second, for theories of education, the belonging intervention highlights the untapped capacity for better outcomes present in many students from socially

disadvantaged backgrounds and many school contexts yet which can go hidden and unrealized as a consequence of psychological barriers (Walton & Spencer, 2009).

Third, the intervention highlights the causal role of social-psychological processes for lifespan development. Social psychology is often identified with the “power of the situation,” which can seem to imply that people simply bend with the wind of every new context (Ross & Nisbett, 1991). Such processes would not affect life outcomes. Yet worries about belonging can become embedded in the structure of people’s lives, forestalling the development of social resources that pay dividends over the life course.

Fourth, for “wise” interventions, the belonging intervention provides a paradigmatic example of how a brief psychological exercise at a key point in time can produce recursive and, thus, lasting change. Here, the intervention, delivered early in college or in middle school improved major life and school outcomes 7-11 and 7 years later, respectively (Brady et al., 2019; Goyer et al., 2019). In each case it did so, it seems, by helping students make sense of and respond to daily experiences more adaptively, improving patterns of social interaction and helping students develop stronger and more trusting relationships, reinforcing feelings of belonging (see Walton & Wilson, 2018).

Fifth, for psychology more generally, the intervention highlights the centrality of belonging for both sustained motivation and achievement (Carr & Walton, 2014; Walton, Cohen, Cwir, & Spencer, 2012) and functioning generally. Indeed, although we have focused on academic outcomes, the belonging intervention has also been shown to improve health, happiness, and daily functioning (e.g., higher and more stable self-esteem, Walton & Cohen, 2011; Walton et al., 2015). Such findings suggest that belonging may serve as a psychological “hub” for the self, essential to diverse outcomes

(see Baumeister & Leary, 1995). Finally, the intervention illustrates the close relationship between cognitive (attributional) and affective (belonging) processes, and how an attributional approach can help people make sense of their experiences in ways that supports better affective outcomes (cf. Marigold, 2019).

Future Directions

An important direction for future research involves better understanding heterogeneity in the effects of the belonging intervention. In some cases, it has not produced significant gains where gains might be expected (Broda et al., 2018). With what kinds of students and in what kinds of school contexts is the intervention most likely to improve outcomes? What contexts provoke latent worries about belonging but nonetheless afford opportunities for belonging that students could pursue? In what kinds of contexts and with whom will the intervention be less effective? We speculate that benefits will be limited in contexts where threat and worries about belonging threat are not substantial or, conversely, in contexts that are too toxic for students to reasonably belong or where genuine opportunity for learning is limited. Such research will inform and potentially integrate psychological and sociological theories of societal inequality.

As we have noted, the belonging intervention can also improve health (Walton & Cohen, 2011). Where, for whom, and how do health benefits arise? Future research should include specific health-relevant physiological objective indicators, including measures of both acute stress responses (e.g., cortisol) and functioning over time (e.g., the conserved transcriptional response to adversity). Health and physiological outcomes may or may not track with psychological and academic outcomes (cf. Miller, Cohen, Janicki-Deverts, Brody, & Chen, 2016)—or with each other (see Destin, 2018).

Another important question involves the best way to think about customization and new contexts, both in school contexts and elsewhere. We do not yet understand as well as we need to the contexts in which more or less standard belonging materials will be effective, the contexts in which customization is helpful or necessary, and the best way to customize materials. In many cases, it may be most effective to design high-quality and engaging but standard materials that can be presented to many people in a given kind of context (e.g., the transition to college), and to which recipients can flexibly respond by describing their own experiences (through saying-is-believing prompts or group discussions) (a la Walton & Cohen, 2011; Walton et al., 2015; Yeager et al., 2016). In other cases, standard materials may be supplemented or even replaced by a bottom-up process in which participating students begin by articulating, sharing, and discussing in safe ways their own challenges to and growth in belonging (see Binning et al., 2018).

Finally, even as most research on the belonging intervention to date has focused on school contexts, people also strive to belong in other settings, such as work contexts, and doubts about belonging in such settings may undermine outcomes there (e.g., Fassiotto et al., 2016). Future research should also examine the role of belonging uncertainty and belonging interventions in such settings and how the intervention can improve outcomes and reduce inequalities there.

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Appendix 1:

Social-Belonging Intervention Materials From Walton & Cohen (2011)

(A) Prelude and summary. (B) Annotated student stories. (C) Saying-is-believing essay prompt. For experimenter script and more examples of materials, see Walton et al., 2017.

A Junior/Senior Survey: A Summary of Results

Department of Psychology, [school name]

[date]

[page break]

Survey Procedure

504 [school name] Juniors and Seniors completed survey materials in [date]. Participants were randomly sampled from the population of all [school name] Juniors and Seniors. Percentages are accurate within +/- 4 percentage points for the [school name] upperclassmen student body as a whole

Results were consistent across class year and across racial and gender groups.

Quantitative Summary

During their freshman year, many if not most students worry about whether other people at [school name] accept them.

73% - 86% of upperclassmen reported that, during their freshman year, they:

- "sometimes" or "frequently" worried whether other students would accept them in the context of classes and coursework.
- "sometimes" or "frequently" worried that other students at [school name] viewed their abilities negatively.
- were "some" or "a lot" more comfortable working alone rather than working with other students.
- experienced "some" or "a lot" of discomfort forming study groups or finding partners in science and language laboratories.
- experienced "some" or "a lot" of discomfort speaking in class.
- "sometimes" or "frequently" worried that professors at [school name] viewed their abilities negatively
- "sometimes" or "frequently" felt intimidated by [school name] professors.

But after their freshman year, most students come to feel confident that other people at [school name] accept them.

82% - 97% of upperclassmen reported that, since their freshman year

- their comfort in the academic environment at [school name] has improved "some" or "a lot."
- they are "confident" or "certain" that most other students accept them in the context of classes and coursework.
- they are "confident" or "certain" that other students at [school name] view their abilities positively.
- they "rarely" or "never" experience discomfort working with other students.
- they "rarely" or "never" experience discomfort forming study groups or finding partners in science and language laboratories.
- they "rarely" or "never" experience discomfort speaking in class.
- they are "confident" or "certain" that professors at [school name] view their abilities positively.
- they are "confident" or "certain" that professors at [school name] accept them.

B Illustrative Sample of Free-Response Reports

The quotations below have been selected because they are illustrative of the major finding of the survey. These quotations are representative of the responses of participating students to questions asking them to describe their experience at [school name], and how this experience had changed since their freshman year.

Story

(1) "When I first got to [school name], I worried that I was different from other [students at school name]. Everyone else seemed so certain that they were right for [school name], I wasn't sure I fit in. Sometime after my first year, I came to realize that many people come to [school name] uncertain whether they fit in or not. Now it seems ironic – everybody feels they are different freshman year from everybody else, when really in at least some ways we are all pretty similar. Since I realized that, my experience at [school name] has been almost one-hundred percent positive."
 - Participant #17, [dorm name] senior, African-American female

(2) "I love [school name] and I wouldn't trade my experiences here for anything. I've met some close friends, I've had some fantastic experiences, and I've certainly learned a lot. Still, I think the transition to college is difficult, and it was for me. My freshman year I really didn't know what I was doing – I made a lot of casual friends at parties and other social settings and I avoided interacting with professors in class and office hours, I think because I was intimidated by them. It got a lot better once I chose a major I was excited about. I began to make close friends through classes and labs, and I started to get involved in research with one of my professors. Now I am happier than I have ever been at [school name]. It is really rewarding for me to feel like I belong in the intellectual community here."
 - Participant #103, [dorm name] senior, White female

(3) "I didn't go to a very good high school, and I worried that my high school courses had not prepared me well for college. Honestly, when I got here, I thought professors were scary. I thought they were critical and hard in their grading, and I worried a lot about how they and other students would evaluate me. I was nervous about speaking in class and I didn't like other people to read my papers. Around my sophomore year I felt more comfortable – I began to enjoy my classes more and I found some close friends who I trusted. I also became more comfortable speaking in class, and sometimes I asked my friends to edit my papers for me. And I saw that even when professors are critical, or their grading harsh, it didn't mean they looked down on me or that I didn't belong. It was just their way of motivating high-achieving [school name] students."
 - Participant #19, [dorm name] junior, White male

(4) "I had small, close knit classrooms in high school, and so it was hard for me to adjust to the large, impersonal lectures at [school name]. It's easy to lose the entire teacher-student relationship. It took me a long time to get used to it, and to understand that, just because there were more students, the professors didn't care less about me or think of me as just another number. Once I figured this out I began to take more initiative in going to office hours and meeting with professors. When I made the effort I found that my professors became quite warm and were invested in me and in my doing well. My junior year I became a research assistant with a professor in my major, and I have just loved working with her and her graduate students outside the formal classroom. It is great to actually participate in cutting edge research!"
 - Participant #32, [dorm name] junior, African-American male

(5) "Initially my transition to [school name] was pretty easy. Going out on [campus location] was easy and fun, and I met a lot of people early on. After Winter Break, things got harder because I realized that all my really good friends were at home and I didn't have friends like that at school. However, I decided that instead of searching for friends, I should pursue my interests and let things fall into place. I got involved in extra-curriculars, and I met people who had common interests and unique perspectives. I also got to know people in class as study partners who became close friends. I found a comfort zone by exploring my interests and taking the leap into an active life at [school name]. But this took time and before I found my niche at [school name] there were times when I felt quite lonely."
 - Participant # 77, [dorm name] senior, White female

(6) "The most difficult transition from high school to [school name] was coming from a situation in which I knew every student for the past seven years into a new situation in which I did not know one student before I arrived. Freshman year even though I met large numbers of people, I didn't have a small group of close friends. I had to work to find lab partners and people to be in study groups with. I was pretty homesick, and I had to remind myself that making close friends takes time. Since then in classes, clubs, and social activities, I have met people, some of who are now just as close as my friends in high school were."
 - Participant #84, [dorm name] junior, Asian-American male

Annotation

Pluralistic ignorance: Many difficulties in the transition to college are normal, even if they don't seem that way at first.

← *A story that unfolds over time; vague timeline of improvement; First-person perspective, development of personal thoughts and feelings, not advice-giving*

← *Does not deny differences in students' experience, even as it emphasizes commonalities*

← *Attribution to the group of greatest concern, implying that challenges people in this group face may be more normative than they may seem*

Counterstereotypical 1: Counters the stereotype that only members of minority groups question their belonging, featuring strong, specific examples.

← *Places negative experiences in a positive overall context; Attributes difficulties to the challenge of the transition to college*

← *Focus on belonging in the core academic context of college*

← *Vague timeline of improvement; Describes processes of building belonging and student's active role; Illustrative examples*

← *Attribution to a majority group member, who might not otherwise be thought to experience significant worries about belonging*

Counterstereotypical 2

← *Focus on belonging in the core academic context of college*

← *Vague timeline of improvement; Role of the passage of time*

← *Describes processes of building belonging and student's active role*

← *Models developing a new, more adaptive interpretation, here of critical feedback*

← *Attribution to a majority group member*

Teacher-Student Relationships: Addresses worries about belonging in the core academic context for a minority student without confirming stereotypes.

← *Attributes difficulties to the challenge of the transition to college*

← *Focus on belonging in the core academic context of college*

← *Illustrative example*

← *Attribution to a minority-group member, following two stories attributed to majority-group members*

Close Friendships 1: Addresses challenges developing close friendships in college

← *Conveys that belonging challenges need not arise immediately in college but can come up later; there is no one set process*

← *Validates the common comparison of college to high school friends*

← *Describes processes of building belonging and student's active role*

← *Emphasizes the essential role of time; Validates negative feelings*

← *Attribution to a majority-group member, primarily so the set as a whole is broadly representative of the school student body*

Close Friendships 2

← *Conveys the essential role of time in developing close friends; "Seven years" is intended, an awkward but realistic way a student might refer to both high school and middle school*

← *Focus on belonging concerns in the core academic context of college*

← *Describes growth in belonging in college while validating high school ties, thus not pitting one against the other*

← *Attribution to an Asian American primarily so the set as a whole is broadly representative of the school student body*

(7) "Freshman year was a learning experience for me. I was unprepared for the workload and differences in grading at [school name], and I had to learn to budget my time wisely, so I wouldn't have extreme blocks of time studying and of not studying. After getting burned grade-wise several times and feeling stressed out in the process I worried that I wasn't smart enough. Fortunately, a conversation with an upperclassman helped me see that I needed to change my study habits. I learned to study and do my work more effectively than before. Although my start was somewhat rocky, it has felt good to learn from my mistakes, and I am proud of the success I have had."
 - Participant #55, [dorm name] junior, White male

Counterstereotypical 3

- ← *Focus on belonging in the core academic context of college*
- ← *Models entertaining then rejecting a fixed and pejorative interpretation*
- ← *Describes processes of building belonging and student's active role*
- ← *Focus on growth and learning, not mere success*
- ← *Attribution to a majority group member*

(8) "As excited as I was to come to [school name], I must admit that part of me thought I had been accepted due to a stroke of luck, and would not be able to measure up to the other students. It wasn't until late in my second year that I started to feel comfortable in my own shoes, and to believe that I really was up to par and could totally hold my own. After that, [school name] started to feel a bit like home, and though I still have doubts about myself sometimes they're the kinds of things everybody feels on occasion."
 - Participant #60, [dorm name] senior, Hispanic female

Imposter Syndrome: Acknowledges the feeling of being an imposter, normalizes this and represents growth

- ← *Focus on belonging in the core academic context of college; Vague (and late) timeline of improvement*
- ← *Acknowledges that doubts can persist but represents these as immaterial to actual belonging*
- ← *Attribution to a minority group member, following three majority-group members*

(9) "Walking into classes for the first time freshman year was uncomfortable to say the least. Particularly when shopping seminars, the only thing more intimidating than the other students (some of whom were upperclassmen), were the professors, who were all so highly regarded in their fields. Now I feel much more relaxed participating in discussions and asserting my opinions. I think everybody here has a common goal - to share knowledge and to achieve together – and for the most part everyone is respectful and supportive of each others' ideas."
 - Participant #8, [dorm name] senior, White female

Counterstereotypical 4/Common Goals

- ← *Focus on belonging in the core academic context of college; Vague timeline of improvement*
- ← *Emphasizes common goals around learning; Validates that some individuals may be less than respectful but represents this as not a threat to belonging*
- ← *Attribution to a majority group member*

C The results of the Junior/Senior Survey suggest that, during freshman year students often worry about whether or not professors and other students at [school name] accept them. However, the survey results also suggest that most students eventually become comfortable at [school name] and find a family of people at [school name] with whom they are close and feel they belong.

In an effort to further understand how the transition to college takes place, we would like to ask you to describe why you think this would be so—that is, why students might feel initially unsure about their acceptance but ultimately overcome these fears. Please be sure to illustrate your essay with examples from your own experiences in classes, seminars, lectures, study groups, and labs. Please take as much time as you like.

Note – your essay may be provided, anonymously, to incoming [school name] freshmen next fall.

[5 lined pages]

Feel free to continue your essay on the opposite sides of these pages

Appendix 2:

Two Practitioners' Experiences Implementing the Social-Belonging Intervention

We asked two practitioners who implemented the social-belonging intervention on their college campus in partnership with the College Transition Collaborative (CTC; www.collegetransitioncollaborative.org) to describe their experience.

Kurt A. Boniecki, Ph.D.

Associate Provost for Instructional Support

Associate Professor of Psychology

University of Central Arkansas

As a social psychologist by training, I have been excited to be involved in the application of my discipline to solving the problems that I now face as an academic administrator. At my institution, we've traditionally approached student success by providing academic support services, such as tutoring, co-requisite remediation, and supplemental instruction. Although these services are effective, we were still losing nearly 30% of our incoming freshmen within the first year. Understanding why and what we could do about it led us to explore mindset approaches, such as the belonging intervention, that seek to address students' self doubts and their interpretations of the challenges they face in college. In 2014, we joined the College Transition Collaborative and implemented the belonging intervention to two cohorts of incoming freshmen. While it is still too early to determine the long term effects of the intervention, preliminary results so far are promising and show that disadvantaged students are more likely to complete a full-time load of courses in their first term and first year. Of course, we don't expect the intervention to be a silver bullet that supplants our academic support services, but compared to those services which involve significant training and personnel costs, the belonging intervention is relatively easy to administer and requires very little in terms of resources. That's a selling feature to university administrators on a tight budget. Thus, we will continue to study the long-term effects of the intervention and explore ways to improve it.

One area for improvement is the delivery of the intervention. Though easy to administer online, we have struggled with low responses rates when using email invitations. As a result, we have shifted from students being invited to complete the intervention on their own time to requiring participation as part of students' on-campus summer orientation. That approach has it's potential drawbacks though because students may not have the time or personal space during a summer orientation program to genuinely reflect on and write about their own doubts and how they might overcome them, which is a key component of the intervention. Thus, we are exploring other means of delivery, such as embedding the intervention in online orientation modules and early classroom assignments.

A side benefit of our participation in the CTC has been the awareness it has created among academic support staff of students' mindsets and how these affect their

interpretation of academic struggle. We are questioning the idea that "tough love" messages really motivate students to succeed and are recognizing that they are more likely to motivate them to quit. As a result, we are changing how we communicate with students. From advising sessions to probation letters, we are now more cognizant of what we say and how it can help a student overcome a maladaptive mindset. Also, just like the intervention is changing students' mindsets, I believe our participation in the CTC is beginning to change the mindsets that our staff and faculty have of our students. Many staff and faculty are abandoning the belief that some students are not "meant" to go to college for the notion that all students can succeed under the right conditions. A key tenet of the CTC approach is that student success is a process and that academic struggle is a normal part of college life. This idea has influenced the development of other student success initiatives beyond the intervention. For example, our university promotes a campus-wide Fail Forward Week in which students, staff, and faculty are encouraged to share their failures publicly. The hope is that students will see their academic struggles as typical and will seek the help they need.

Jerusha Detweiler-Bedell, Ph.D.

Professor of Psychology
 Director, Teaching Excellence Program
 Lewis & Clark College

Lewis & Clark was the first liberal arts college to implement the CTC's belonging intervention. When the CTC team approached our college with this opportunity, a focus on students' sense of "belonging" was not yet part of the institutional fabric. Yes, we were eager to understand better what kinds of students succeed at Lewis & Clark College, and yes, we were attentive to the importance of growing the diversity of our student body. Yet at that time we hadn't considered the role we needed to play in discussing and normalizing the challenges all undergraduates face in order to help our students not only persist but thrive.

Presenting the CTC's plan to the community required bringing together a large number of stakeholders, ranging from the dean's office, to student life staff, to faculty, to the advising office, and more. Initially there was support for the basic idea, but a great deal of skepticism about using an experimental design for the intervention. "If something like this seems promising, why not provide it to all students right away?" What was harder to understand was the fact that this intervention had never been tested at a primarily undergraduate institution, and even if it had been, our students may be different from those at other schools. We needed to tailor the intervention to our own students and assess its effectiveness before putting the resources into providing it to everyone. These early conversations not only helped members of our institution to understand the wisdom of assessment prior to wide-spread implementation, but also to spread the concept of belongingness throughout our campus community.

Early data demonstrated that our entering first-year students were being affected by the belonging intervention. As one student described, "Through reading about other students' experiences of coming to Lewis & Clark and becoming more comfortable over

time, I have recognized that all students are experiencing the same stresses that I am now. There is no easy way to get around the discomfort of starting all over. The best thing to do is embrace the opportunities Lewis & Clark offers and be outgoing. By doing this, I will find myself at home in no time.” As data collection progressed and results for the tailored belongingness intervention continued to be promising, Lewis & Clark was able to make an informed choice to implement the intervention for all entering students.

Although there is somewhat of a chicken-and-the-egg problem here, campus-wide changes began to be put in place on the heels of the CTC’s intervention. For example, a new, required first-year experience, called the “Pioneer Success Institute” was initiated the year after the CTC intervention began. At the same time, faculty began to focus more explicitly on inclusive pedagogy and the ways students’ struggles in those first few semesters could be normalized in order to make their classrooms more inviting places to be. And perhaps most striking, our institution recently unveiled a new strategic plan, where one of the six key goals echoes the CTC’s intervention. As Lewis & Clark’s President, Wim Wiewel, said in his inaugural address (10/5/2018), “The overarching goal is to create an institutional culture of belonging, where all community members can fully participate.”