

12 Supporting College and Career Readiness through Social Psychological Interventions

Kathryn M. Kroeper & Mary C. Murphy

What abilities are necessary to succeed in school and in life? Proficiencies in mathematics and language are fundamental skill sets; however, these skills alone may not be enough for students to persist and succeed in their educational training. In addition to cognitive skills that boost college and career readiness, researchers find many noncognitive factors are highly influential (Aronson, Fried, & Good, 2002; Hulleman & Harackiewicz, 2009; Walton & Cohen, 2011). For example, students' beliefs about the nature of intelligence impact their motivation and persistence in the face of failure. Their construals¹ of social and academic hardships affect whether they perform well or flounder. Additionally, identifying personal relevance and value in what students are learning can influence their achievement. In this chapter, we address these topics by presenting several well-supported social psychological interventions that confer noncognitive skills and strengths by encouraging students to change their mindsets—their thoughts, feelings, and beliefs—and their construals of the local environment.

The social psychological interventions we review utilize a person-by-situation approach. According to this approach, personal factors (e.g., students' social identities, such as race, gender, or social class) interact with societal stereotypes and environmental cues (e.g., a bad grade, rejection by a peer) to affect students' thoughts, feelings, and behaviors. For example, Black and Latino students—whose intelligence is negatively stereotyped and who find themselves underrepresented in postsecondary settings—may construe a bad grade as a signal that they don't belong in college, while White students who do not contend with the same stereotypes may not draw the same conclusion. Because of the stereotypes tied to gender groups, a woman in a math class may interpret the fact that she was not invited to join a study group as a sign that others have low expectations of her, while a man in the same situation might think he was simply overlooked. Once personal and situational factors are identified, researchers create and test interventions that directly target these factors, while promoting more adaptive construals of the environment. As we will see, when these interventions are properly implemented, they can be a powerful force for boosting college and career readiness.

Identity Threat as a Psychological and Contextual Barrier to College and Career Readiness

One way students' social identities can interact with the broader academic context is by engendering social identity threat. Identity threat refers to the worries that people may have about being devalued or disrespected in settings, due to their social group membership(s). There are two necessary ingredients for identity threat to occur. First, an individual must belong to a stigmatized group (e.g., being a woman, older, an underrepresented person of color, gay, poor). Second, the individual must be engaged in a context where the situational cues suggest that one (or more) of their identities may be devalued or disrespected. Identity threat negatively

affects college and career readiness, because it causes people to ruminate on the possibility that one could be disrespected, devalued, or discriminated against—taking up cognitive resources that could otherwise be put toward learning, while stoking anxiety and vigilance that disrupts attention (Schmader, Johns, & Forbes, 2008). Thus, the aim of many social psychological interventions is to alleviate identity threat by offering different, more productive, ways to think about the self and our relationship to our environments.

Probably, the most widely researched form of identity threat is stereotype threat (Steele & Aronson, 1995). Students from traditionally stigmatized groups often contend with negative stereotypes that impugn their intellectual abilities. Even when students do not believe these stereotypes themselves, simply being aware that others could perceive them stereotypically often leads stigmatized individuals to underperform (e.g., Steele, Spencer, & Aronson, 2002). Why? Increased attention to the possibility of stereotyping undermines attention to learning tasks and reduces executive functioning required to perform well on difficult tasks (Beilock, Rydell, & McConnell, 2007; Schmader et al., 2008). Moreover, because of their underrepresentation and stigmatized status, these students are more likely to feel uncertain about whether they belong in a setting, struggle with whether they can be their authentic selves, and worry about being discriminated against (see Murphy & Taylor, 2012 for a review of identity threat concerns).

Because identity threat results from a feeling that the environment may not value stigmatized individuals, researchers have tried to alleviate threat by either offering new ways to think about the self to help students cope with a challenging environment or by changing the situation—removing identity-threatening cues, adding identity-safe cues, and providing more resources to support stigmatized people. The most effective interventions do both.

Chapter Overview

The goal of this chapter is to review examples of social psychological interventions that improve the readiness, persistence, and success of students and professionals—with a particular emphasis on the mechanisms by which these interventions effectively address social identity threat concerns and improve outcomes for stigmatized people. First, we will discuss one of the most popular person-focused interventions—the growth mindset intervention—that communicates that people can grow their intelligence and abilities. Next, we turn to interventions that confer adaptive construals of the social environment and its relationship to the self. We examine how social belonging and utility value interventions change students' relationships with their social context. Finally, we discuss how insights from these interventions can be used to improve college and career readiness.

Growth Mindset Interventions

People's mindsets are the beliefs they have about how the social world operates, and they are incredibly powerful. In academic and employment settings, the fundamental beliefs that we have about the nature of intelligence—what intelligence is and where it comes from—exert tremendous influence over our perception, judgment, motivation, and behavior (e.g., Dweck, Chiu, & Hong, 1995; Molden & Dweck, 2006). Researchers have predominantly examined the consequences of endorsing one of two mindsets. People who endorse a fixed mindset think intelligence is a relatively unchangeable trait that a person either has or doesn't have. People who endorse a growth mindset think intelligence is a quality that can be developed over time by sustained effort, flexibly adopting new strategies, and persisting through challenges. These often unspoken, yet influential mindsets serve as a framework for drawing meaning about

success and failure in academic and career contexts (Molden & Dweck, 2006). That is, students' mindsets affect how they interpret and act on feedback from peers, teachers, and employers.

Because students who endorse a fixed mindset believe intelligence cannot change, they are motivated to demonstrate their intellectual prowess. This motivation, however, is a double-edged sword, because it also means that students will avoid challenges and actively hide their vulnerabilities and mistakes so as not to appear unintelligent to others (Dweck & Sorich, 1999; Nussbaum & Dweck, 2008). In the face of challenges or failures, fixed mindset students are more likely to interpret negative feedback as a signal that they have reached the limit of their natural ability. In consequence, when these students face intellectual challenges (e.g., criticism from a teacher), they give up (Hong, Chiu, Dweck, Lin, & Wan, 1999; Molden & Dweck, 2006).

Students who endorse a growth mindset believe that by putting in effort and persisting through challenges, they can grow their intelligence (Dweck et al., 1995). These students are motivated to constantly develop themselves and their skills, even if it means failing sometimes along the way. Individuals with a growth mindset therefore tend to approach academic and employment challenges as learning opportunities that identify places for improvement and growth. To them, intellectual challenges are not indicative of a lack of ability; they simply indicate that a particular area needs more attention or a new strategy. Of course, failures may still sting for growth-minded students, but they also motivate them to work harder and seek help, rather than withdraw. Thus, in the face of failure or setbacks, growth mindsets motivate greater effort and persistence (Hong et al., 1999; Molden & Dweck, 2006).

Interventions That Encourage Individuals to Adopt a Growth Mindset

Can students be encouraged to adopt a growth mindset? Will such changes boost college and career readiness? In short, yes. Efforts to promote growth mindset beliefs among students are gaining popularity in educational contexts. Several randomized controlled trials demonstrated that students who learned to adopt a growth mindset through social psychological interventions—especially students from stigmatized groups who contend with identity threat—engaged in more adaptive learning strategies and showed improved academic performance compared to control group students (Aronson et al, 2002; Blackwell, Trzesniewski, & Dweck, 2007; Good, Aronson, & Inzlicht, 2003).

For example, in a field experiment, middle-school students participated in an eight-week workshop led by a trained college student. Students in the growth mindset treatment condition learned about insights from neuroscience studies that demonstrated the brain's ability to grow new connections—providing scientific evidence that intelligence and skills develop over time through practice and new strategies. In the control condition, students learned about the mechanics of human memory, along with tips to improve it. Although teachers did not know which students received the growth mindset treatment, results revealed that students who did showed greater classroom motivation and effort. Moreover, these students earned higher math grades at the end of the term compared to students in the control group. While the grades of students in the control condition actually declined over the course of the year, this downward trend was halted and reversed among students in the growth mindset treatment condition (Blackwell et al., 2007).

Growth mindset interventions seem to be especially beneficial for students from under-represented and stigmatized groups. Because these students contend with negative cultural stereotypes suggesting their groups' intellectual inferiority, communicating that intelligence is expandable with effort and motivation refutes these negative stereotypes. For example, another field experiment demonstrated how African-American students particularly benefited from a growth mindset intervention. African-American and Caucasian undergraduates were randomly assigned to one of three groups. One group of students joined a pen pal program and was encouraged to learn about and share growth mindset messages with their pal (treatment);

a second group joined the pen pal program, but did not share growth-oriented messages (control group 1); and a third group of students did not participate in the pen pal program at all (control group 2). African-American students who communicated growth mindset messages to a pen pal reported greater enjoyment of the educational process (e.g., studying, going to class, taking tests), placed more value on their academics, and earned higher grades than their African-American peers in either of the two control groups. Communicating the growth mindset message also had positive, but more modest, effects on the enjoyment and academic achievement of Caucasian students (Aronson et al, 2002). These results suggest that growth mindset interventions can increase academic motivation, persistence, and performance, especially for students from underrepresented and stigmatized backgrounds.

Social Belonging Interventions

In the previous section, we reviewed a person-focused intervention emphasizing the malleability of intelligence. Now, we turn to two context-focused interventions that confer adaptive construals of the social environment. The first of these targets belonging uncertainty as a barrier to college and career readiness.

Feeling that one belongs and is valued is fundamental to human flourishing. People are vigilant to cues that signal social acceptance and rejection (Leary, 2010). Whereas cues that bolster belonging tend to have positive implications, cues that threaten our sense of belonging are often accompanied by negative consequences. For instance, cues that signal a lack of belonging are associated with lowered self-esteem (Leary & Baumeister, 2000), hurt feelings (Buckley, Winkel, & Leary, 2004), increased loneliness (Leary, 2010), and a reduced sense of control (Zadro, Williams, & Richardson, 2004). Indeed, people's sense of belonging is critical to their college and career success. For example, feeling uncertain about whether one belongs in college is associated with lower grades, poorer physical health, and lower life satisfaction (Walton & Cohen, 2011).

Negative cultural stereotypes and underrepresentation in postsecondary settings are two powerful factors that shape people's sense of belonging. People from stigmatized and underrepresented backgrounds are more likely to experience belonging uncertainty than people from majority groups (Walton & Cohen, 2007). For racial and ethnic minorities, women in STEM fields, low-income, and first-generation college students, social and academic adversities can be particularly painful, because a plausible explanation is that the adversities could be due to their group membership, stereotyping, or discrimination (e.g., "Is it because I'm Black? Is my professor racist? Or are they just having a bad day?"). This attributional ambiguity means that stigmatized people may interpret these adversities as evidence of non-belonging (Crocker & Major, 1989). For example, an African-American college student may be enrolled at a university, but for many reasons (e.g., peer exclusion, concerns about being negatively stereotyped, and so forth) feel unaccepted at college. These identity-threatening attributions about adversity, while sometimes protective of health and well-being (Crocker, Voelkl, Testa, & Major, 1991), may simultaneously undermine motivation and achievement.

Fortifying Sense of Belonging through Social Psychological Intervention

If one of the barriers to college and career success is the meaning that people make of adversity, then interventions that provide strategies for connection may support people's sense of belonging and their achievement. Social belonging interventions harness classic social psychological principles to help people see that they are not alone in questioning their fit with the school and provide strategies to reduce academic and social hardships by bolstering connection with others.

Put differently, when people encounter identity-threatening cues—like critical feedback from a professor or sitting alone in the cafeteria—they can view these cues as evidence that they may not belong. Social belonging interventions help people respond to these threatening cues by sharing stories from both stigmatized and non-stigmatized peers that communicate (a) students are not alone in their uncertainty, and (b) there are strategies that have worked for others to increase connection and manage adversity. For example, if a first-year college student performs poorly on an exam, the student can interpret it to mean that he or she doesn't belong. Alternatively, the student could see it as a relatively common negative experience that happens to many students who are still learning to master college material and test taking. The student can see that other students found it helpful to talk with a professor, join a study group, or seek tutoring. By addressing the identity-threatening meaning of adversity, negative thoughts are challenged and people are better equipped to manage and overcome adversities.

Across several randomized controlled trials, social belonging interventions improved academic persistence and performance among racial and ethnic minority college students and college women in STEM majors (Walton & Cohen, 2007, 2011; Walton, Logel, Peach, Spencer, & Zanna, 2015). For example, African-American and Caucasian freshman were randomly assigned to a social belonging treatment or a control group (Walton & Cohen, 2011). Students in the treatment group read short stories, ostensibly written by upperclassmen from racially diverse backgrounds, which framed adversities and the resulting feelings of belonging uncertainty as common to many students and due to the challenging nature of the college transition. To help students draw connections between their own experiences and the intervention's message, students were asked to write essays about how their experiences transitioning to college were similar to the stories they read. Students believed their essays would be shared with future college students to help ease these incoming students' transitions to college. This process turned students into benefactors—rather than beneficiaries—bestowing a helpful and hopeful message to younger peers. Researchers then tracked students' college grades and sent them a brief survey to follow up on their psychological well-being and health.

Compared to African-American students in the control group, African-American students in the treatment group reported less belonging uncertainty, better health and well-being, and significantly improved academic performance—an effect sustained throughout college. Whereas African-American students in the control group showed no improvement in GPA from their freshman year through their senior year, African Americans in the treatment group showed significant improvement in GPA throughout their college years. By students' senior years, the achievement gap between African-American students and Caucasian students was narrowed by 52% in the treatment group. Researchers found that while the social belonging intervention had no consequences for Caucasian students, it significantly improved academic, social, and health outcomes for African-American students.

A similar field experiment addressed the unique belonging concerns of first-generation college students (Stephens, Hamedani, & Destin, 2014). These students tend to have more academic difficulties—completing fewer credit hours and earning lower grades—than their continuing-generation peers (Pascarella, Pierson, Wolniak, & Terenzini, 2004). Many colleges assume that these difficulties are due to greater financial struggle and poorer academic preparation; however, the increased feelings of belonging uncertainty that these students experience are another powerful factor contributing to achievement disparities (Stephens et al.). To address the belonging uncertainty of first-generation students, Stephens and colleagues randomly assigned incoming first-generation and continuing-generation college students to participate in one of two discussion panels about the transition to college. Students assigned to the first discussion panel listened to a diverse group of upperclassmen discussing how their social class backgrounds could be both a challenge and a source of strength at college (treatment).

For example, one of the panelists described the unique struggles she encountered as a first-generation student, as well as the strategies she employed to overcome that adversity:

Because my parents didn't go to college, they weren't always able to provide me the advice I needed. So it was sometimes hard to figure out which classes to take and what I wanted to do in the future. But there are other people who can provide that advice, and I learned that I needed to rely on my adviser more than other students

(p. 3).

Students assigned to the second panel also listened to the same group of upperclassmen discuss their transitions to college, but their stories did not reference how social class backgrounds can be a source of challenge and strength (control group). After participating in one of the two discussion panels, all students (a) completed brief surveys assessing their well-being and tendency to seek campus resources and (b) created a video testimonial describing what they learned from the panel. This speaking exercise encouraged students to think critically about the intervention message and personalize it to fit within their own experiences.

First-generation students in the treatment group earned higher cumulative GPAs than their first-generation peers in the control group. Moreover, the intervention reduced the achievement gap between first-generation and continuing-generation students in the treatment group by 63%. Further analyses revealed that this achievement gap reduction was driven by the increased resource-seeking behavior of first-generation students in the treatment group. Put differently, first-generation students who learned that their social class background can sometimes make college more challenging, but can also be harnessed as a source of strength, took greater advantage of campus resources than their first-generation peers in the control group. This increased resource-seeking bolstered first-generation students' academic performance. These results suggest that tailoring the social belonging message to fit the local context can robustly boost academic achievement outcomes.

Utility Value Interventions

Another barrier to college and career readiness is the “why does it matter” question. Feeling that something (like learning or performance) is pointless can sap motivation. Indeed, research reveals that cultivating meaning and interest in a topic enhances cognitive functioning, increases students' learning motivation, and is critical to school success (Hidi & Harackiewicz, 2000; Hulleman & Harackiewicz, 2009). This is the goal of utility value interventions.

To illustrate, let's imagine students are learning a mental math technique. At first, many students may not see the point. Utility value interventions nudge students to think about the value of mental math—how and when it could come in handy. Examples could include situations when we find ourselves without a calculator, phone, pen, or paper; contexts when using mental math will be faster than using a calculator (e.g., calculating tip at a restaurant); or the competitive edge provided in time-pressured standardized testing where strong performance will help them get into a good college. When students see the personal relevance and value in a topic or task, research suggests they will become more motivated and interested, which should, in turn, boost performance (Hulleman & Harackiewicz, 2009).

Indeed, discovering the value of what one is learning increases task interest (Hulleman, Godes, Hendricks, & Harackiewicz, 2010), learning motivation (Simons, Dewitte, & Lens, 2003), and task-related performance (Hulleman & Harackiewicz, 2009; Hulleman et al., 2010). By contrast, when the value of what students are learning is unclear, students are more likely to believe that the task is pointless and disengage from the lesson or, worse yet, the entire subject (e.g., math or science).

When the utility value of topics or assignments is unclear, it can have a disparately negative effect on students who are insecure about their academic abilities. Researchers found that students with lower confidence in their academic abilities had more difficulty drawing personal relevance from their coursework (Hulleman & Harackiewicz, 2009), suggesting that these students may need additional support to find value in their work.

Furthermore, racial minorities, low-income students, and first-generation college students often perceive a mismatch between their personal values—which tend to prize collective, interdependent, group-focused goals—and the values of schools and coursework—which tend to prize independent, self-focused goals (Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012). Therefore, stigmatized students may especially benefit from interventions that help them identify ways in which their coursework is relevant to and serves their interdependent values (Harackiewicz, Canning, Tibbetts, Priniski, & Hyde, 2015).

Interventions Helping Students Find the Value in Learning

Utility value interventions encourage students to identify the relevance and worth of their coursework. While there are many ways utility value interventions are delivered, in most, students are prompted by researchers, teachers, advisors, or parents to think about the ways in which their learning and coursework matter. That is, students are challenged to apply course-related concepts to their daily life and describe how learning particular topics is applicable and supportive of their future plans (Hulleman & Harackiewicz, 2009). Similar to social belonging interventions, utility value interventions often encourage students to personalize the intervention message and make it relevant to their own experiences.

A field experiment conducted by Hulleman and Harackiewicz (2009) examined the effectiveness of a utility value intervention among high- and low-confidence students. In this study, researchers asked high school students to write essays in one of their science classes. Half of the students were randomly assigned to write about how science topics in class were useful (treatment), whereas the remaining students wrote summaries of what they had learned in class (control). Results revealed that low-confidence students in the treatment group (i.e., those who expected to be less successful in their science class before the intervention) reported greater interest in science and earned higher grades than their low-confidence peers in the control group. The intervention had no effect on high-confidence students, whose interest and grades were already relatively high.

In another study, researchers asked college students to learn a four-step technique for solving two-digit multiplication problems in their head—a task that could easily be dismissed as arcane and irrelevant to daily life (Hulleman et al., 2010). After learning the technique, students were randomly assigned to either write an essay about the relevance of the technique for themselves and other college students (treatment) or to write an essay about the objects they saw in two pictures that hung on the walls of the experimental room (control). Students in the treatment group reported greater interest in the technique and reported an increased likelihood of using the technique in the future compared to their control group peers. Moreover, the intervention especially benefitted the interest and performance expectations of low-confidence students.

Utility value interventions may also address achievement gaps. Because racial minority and first-generation students often perceive a mismatch between their personal values (collective, interdependent) and the values of their schools and coursework (self-focused, independent), researchers hypothesized that racial minority and first-generation students would benefit from a utility value intervention that helped students see how their coursework could serve their interdependent values and goals (Harackiewicz et al., 2015). To test this hypothesis, undergraduate college students in an introductory biology course were randomly assigned to complete writing assignments that either focused on the personal relevance and usefulness of course topics

to students' interdependent goals and values (treatment) or that summarized the topics they learned in class (control group). The utility value intervention improved the performance of all students in the treatment group, while having a particularly positive effect on first-generation racial minority students. Moreover, the intervention reduced the racial achievement gap in the treatment group by 40%.

Implications for Policy, Practice, and Research

In this chapter, we've reviewed several social psychological interventions that confer noncognitive skills and strengths to students, which, in turn, boost their college and career readiness. These interventions promote learning, persistence, and performance by alleviating identity threat. Researchers alleviate threat by offering new ways to think about the self in order to help students cope with a challenging environment, by changing the situation—removing identity-threatening cues, adding identity-safe cues, providing resources to help meet the needs of stigmatized people—or by a combination of both.

We discussed how teaching people about the malleability of intelligence engenders greater zest for learning and improved performance. This appears to be especially true for individuals from groups that are stereotyped as intellectually inferior and traditionally underrepresented in postsecondary settings. Classroom teachers and administrators are particularly influential, as they can use their positions to transform a fixed mindset culture—focused on proving and performing—into a growth mindset culture—focused on learning and developing (Emerson & Murphy, 2014).

Leaders can cultivate growth mindsets in several ways. First, they can directly express growth values to their students, employees, and colleagues. Noticing and pointing to others' development, praising them for persisting and adopting different strategies in the face of challenge, and providing constructive feedback are all strategies that foster a growth mindset culture. In addition, how people think about, and respond to, failure may be equally critical in communicating a growth mindset. For example, parents' "failure mindsets"—their beliefs about the meaning of failure—predicted whether their children adopted fixed or growth mindsets about intelligence (Haimovitz & Dweck, 2016). Parents who endorsed the idea that failure is debilitating and detrimental to learning expressed higher levels of worry, pity, and doubt about their children's abilities, which, in turn, led their children to adopt fixed mindsets about intelligence. Conversely, when teachers and leaders greet failures and setbacks as beneficial to learning, it is likely to encourage growth mindsets.

We also described how belonging is fundamental to human flourishing. Social belonging interventions show people that they are not alone and provide strategies for connection that help them manage academic and social hardships. These interventions normalize social and academic frustrations and boost health, well-being, and performance outcomes (Walton & Cohen, 2007, 2011; Walton et al., 2015).

What can teachers and faculty do to create a culture that normalizes adversity and emphasizes belonging? The message that adversity is common and does not necessarily signal nonbelonging is the core of social belonging interventions. Telling diverse stories of adversity while shining a light on successful strategies for overcoming those adversities will help guide people who are struggling to adopt productive strategies. When people are transitioning to new settings—beginning college or starting a new job—it is especially important to address uncertainty with inclusive messages and behaviors that explicitly value people from diverse backgrounds and help them connect with others.

Finally, we reviewed how developing interest in a topic boosts cognitive functioning, motivation, and achievement (Hulleman & Harackiewicz, 2009). Utility value interventions help people identify the relevance and worth of their work. Practitioners who read about utility

value interventions may come away with the idea that implementing these interventions is easy and straightforward. However, a close reading of successful utility interventions will reveal that each intervention asked students to self-generate the reasons that topics or coursework was personally relevant and useful.

Indeed, studies that directly examine different methods of delivery have found that when authorities (e.g., teachers) directly communicate the usefulness of a topic or task, it may backfire—especially among low-confidence individuals (Canning & Harackiewicz, 2015). When authorities explain why something is relevant, it may undermine interest by ramping up the pressure to perform, increasing the level of threat for low-confidence students and causing them to disengage. Practitioners can mitigate this threat by offering students opportunities to self-generate reasons that topics and tasks matter to them and by asking authorities to focus on lower-stakes examples (e.g., calculating tip), rather than higher-stakes examples (e.g., setting students up to get into a good college).

These interventions are powerful, yet they are not magic (Yeager & Walton, 2011), and there are important limits to their efficacy. To the extent that institutional, academic, and social barriers exist in an environment (e.g., prejudice and discrimination, lack of funding, few social-support structures), social psychological interventions are less likely to be effective. These interventions are most likely to be successful in places where resources support the intervention message: in organizations that have cultivated a growth-mindset culture; where others experience belonging uncertainty and where people are open to attempts to forge connection; and where topics and tasks are relevant and useful to people's lives. In these places, interventions represent an effective lever—mitigating identity threat and helping all people thrive at school and work.

Note

- 1 The term “construal” refers to the way that people understand, interpret, and make meaning of an experience.

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