Identity, Belonging, and Achievement

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A Model, Interventions, Implications

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ABSTRACT—In this article we discuss how social or group identities affect achievement. We also present a model of identity engagement that describes how a salient social identity can trigger psychological threat and belonging concerns and how these can produce persistent performance decrements, which through feedback loops can increase over time. The character of such processes may be revealed only over time because they are recursive in nature and interact with other factors in chronically evaluative social environments. Finally, we address how this model helped in the development of successful interventions.

What motivates people to achieve is one of psychology's classic questions. It is thought that such motivation often depends on whether an endeavor is linked to one's sense of identity and feelings of belonging. For instance, one's family, racial or ethnic group, and religious affiliation can be important sources of self-worth and social belongingness and so provide powerful motives for achievement.

Research has begun to shed light on how identity contributes to motivation. A seminal study led students to identify with math by having their teachers label them as a "very good arithmetic student" or as "working hard in arithmetic" (Miller, Brickman, & Bolen, 1975). Compared with participants who had not been so labeled, the students in these two groups earned higher math performance, an effect present after 2 weeks. In a series of studies with our colleague Gregory Walton, we explored the relationship between social identity and motivation by making an achievement domain a basis of social belonging (Walton & Cohen, 2007a). A state of *mere belonging*, the minimal conditions needed to make individuals feel connected to others in an achievement domain, was produced in students. Students were either told that their birthday fell on the same day as someone who was a math major, assigned to a small group identified as the "numbers group," or presented with the possibility of forming social ties in math. Each of these manipulations, by creating a sense of connectedness to others in math, independently raised participants' achievement motivation, for instance increasing their persistence on an insoluble math puzzle by 70%.

SITUATIONAL IDENTITY THREAT

A major lesson of recent research is that social identities, such as one's race or gender, can interact with other factors in situations to affect achievement. Steele and

colleagues examine factors that can trigger *stereotype threat* (Steele, Spencer, & Aronson, 2002), a fear of confirming a negative stereotype about one's group. It can undermine performance by raising stress and increasing mental load (Schmader & Johns, 2003). For instance, when told that a difficult standardized test measured intellectual ability, African American college students performed much worse than they did when told the same test did not measure their ability (see Steele et al., 2002). White students, by contrast, maintained their performance. That is, African Americans underperformed when aware that failure could reinforce a negative stereotype about their race. Similar effects have been found for women in math, White men in certain athletic domains, and poor students in school (see Steele et al., 2002, for a review). Negative characterizations of valued social identities—when salient in a situation—can be threatening and so undermine achievement.

Social identities can affect the motivation to achieve through their interaction with a sense of belonging. *Belonging uncertainty*, doubt as to whether one will be accepted or rejected by key figures in the social environment, can prove acute if rejection could be based on one's negatively stereotyped social identity (Walton & Cohen, 2007b; see also Mendoza-Denton, Downey, Purdie, Davis, & Pietrzak, 2002). For instance, for nonstereotyped students, a bad day in school or an experimentally created sense of social isolation in an academic domain had little effect (Walton & Cohen, 2007b). However, for African American students, apparently identical hardships undermined their sense of belonging and motivation to achieve. Moreover, when African Americans' belonging uncertainty was experimentally resolved, they did not experience the undermining effects of hardships. As discussed below, those who experienced such resolution later earned a

higher GPA than their African American peers, an effect that follow-up data indicate persisted into their junior year of college.

The above research illustrates three key ideas. First, although a situation may seem identical for all those in it, it may differ radically for different groups of people. In classrooms, White students are in a situation testing their academic skills. African American and Latino students also confront this prospect. However, they also face the extra burden of knowing that their skills, and those of others in their group, could be viewed through the lens of a stereotype that questions their group's intellectual and academic abilities. This concern can occur regardless of the actual level of prejudice. Second, intellectual achievement is malleable (Aronson, Fried, & Good, 2002). Subtle factors can profoundly affect performance. For instance, the effects of stereotype threat on women's math performance and career aspirations were reduced when they were merely asked to generate a list of qualities shared by men and women (Rosenthal & Crisp, 2006). Third, because people derive self-worth from their group, they can be vulnerable to *collective threat*, a threat to the image of their group (Cohen & Garcia, 2005). Because this threat involves other group members and situations in which one is not personally evaluated, it can be more pervasive and chronic than other ego threats. For example, merely making African Americans aware that *somebody else* in their group could confirm a negative stereotype of their race led to a drop in their self-esteem and test performance. These three ideas informed both our theoretical model of social-identity threat and interventions that closed achievement gaps in schools.

SOCIAL-IDENTITY THREAT IN CHRONICALLY EVALUATIVE ENVIRONMENTS

In a social environment, no one performance or psychological state occurs in isolation. It interacts with other psychological and environmental factors often through recursive cycles. This notion lies at the core of the Identity Engagement Model presented in Figure 1. Although we focus on the implications of our model for minorities' school achievement, similar processes can affect performance in a variety of settings, including intergroup conflict and negotiation, and can apply to any number of social identities (Cohen et al., 2007).

As shown in Figure 1, on entering an important social environment like a classroom, people will often make a general assessment by asking, sometimes implicitly, "Is this is a situation in which my identity (e.g., as a minority) could be tied to negative outcomes?" If they answer yes, their identity will be psychologically engaged. People tend to become vigilant when this occurs. They monitor for cues as to whether they are vulnerable to negative treatment based on their identity (Kaiser, Brooke, & Major, 2006; Purdie-Vaughns, Steele, Davies, Ditlmann, & Randall-Crosby, 2008). A minority student, for example, might scrutinize a teacher's nonverbal behavior for bias. Such vigilance is a general and adaptive process. If people discover cues that refute the threat of devaluation, they will tend to feel fairly treated and their performance will depend relatively more on task- and individual-related factors, such as the quality of instruction and their self-efficacy. This will often lead to sustained or improved performance. In one study, relative to Whites, African Americans receiving critical feedback on an essay saw the feedback as more biased and displayed less motivation to revise it (Cohen & Steele, 2002). But when told that the feedback was motivated by the instructor's use of high standards and belief in their ability to reach them—that is, when assured that the stereotype was not in play—

African Americans responded as positively as White students did. Moreover, when told this, stereotyped students complied more with specific suggestions for improvement and thus their performance benefited more from the feedback (Cohen & Steele, 2002).

If, however, people discover cues that confirm the existence of a threat, such as racial bias, an appraisal stage will tend to follow. Here individuals assess whether they have the ability and desire to deal with the threat. Performance can suffer if people think the threat surpasses their ability or desire to overcome it. However, if individuals think that they can overcome the threat, a challenge response is likely, in which performance is maintained or improves. For instance, identifying with one's group can be a psychological resource that offsets the threat of negative stereotypes (Cohen & Garcia, 2005).

Psychological processes are recursive and interact with other factors in the social environment. The sense of threat can lower a person's performance, heightening their sense of threat, which then further lowers performance in a repeating cycle until either performance stabilizes at a low level or an adaptation occurs. Such adaptation could occur when students disidentify or disengage from school or when an authority intervenes to interrupt the repeating cycle. Recursion can also occur in the vigilance stage. If people see bias, their vigilance may rise, heightening sensitivity to bias-confirming cues. This repeating cycle could not only initially undermine trust but make trust increasingly difficult to regain. Other repeating cycles can occur in interplay with the environment. For instance, an underperforming student may be viewed by teachers as less able, or be assigned to a lower academic track, or affiliate with lower-performing peers, any of which could inhibit performance further and in turn increase psychological threat.

There are at least two implications of our model. First, the effects of social-identity threat unfold over time in interaction with other psychological and environmental factors. Effects in the laboratory may prove only the first stage of a prolonged and complex process in the real world. Second, because recursive processes depend on continual feedback loops, a well-placed interruption can produce large and long-term effects. This can prove especially likely if the interruption occurs early enough to prevent a downward spiral from emerging or introduces a positive recursive cycle. For instance, interventions may prove especially effective if they reduce threat, which then improves people's performance, further reducing threat, in a self-reinforcing cycle.

INTERVENTION

Our model suggests several points of intervention. We discuss two: the vigilance stage and the threat-appraisal stage. During the former, the aim of the intervention is to lessen people's tendency to interpret experience in light of social identity. During the latter, it is to buffer people against the emotional impact of such an interpretation. Neither approach, contrary to common wisdom, involves directly refuting the stereotype or propagating a colorblind racial ideology that downplays the importance of ethnicity. Indeed, colorblind messages may undermine minorities' trust and belonging, particularly if such messages occur in the absence of actual institutional diversity or convey that the distinctive qualities of one's culture will be ignored or should be suppressed (Purdie-Vaughns et al., 2008).

The efficacy of theory-driven interventions is illustrated in randomized, double-blind field experiments conducted by us and our colleagues focusing on real-world academic outcomes. The first intervention, occurring at the vigilance stage, lessened race-

based doubts about belonging. First-year college students were asked, at the end of the difficult freshman year, to review the results of a survey of upperclassmen at their school (Walton & Cohen, 2007b). This survey conveyed that almost all students, regardless of race, feel uncertain of their belonging in college in their freshman year and that these feelings wane with time. This led students to view their doubts about belonging in school as common rather than unique to them or their race and as transitory rather than fixed (see also Good, Aronson, & Inzlicht, 2003). As expected, the intervention had no consistent effect on Whites. However, it buttressed African Americans' sense of belonging in school on stressful days. African Americans receiving the intervention also earned a higher GPA in the subsequent semester, significantly closing the racial achievement gap, an effect that our follow-up data indicate persisted into their junior year of college. More generally, interventions that encourage students to see their academic potential as expandable rather than fixed, and their difficulties as surmountable with effort and practice, have proved effective at boosting at-risk students' academic performance (Aronson et al., 2002; Blackwell, Trzesniewski, & Dweck, 2007; Wilson, Damiani, & Shelton, 2002). Obviously such strategies are effective only to the degree that the barriers to success in an environment are in fact surmountable.

Our second strategy intervenes at the threat-appraisal stage. It increases people's psychological resources for coping with threat, their sense of global adequacy and efficacy. Underpinning this strategy is the notion that people want and need to see themselves in a positive light—to have a sense of self-integrity (Steele, 1988). *Self-affirmation* is a process through which people buttress their self-integrity by asserting or manifesting some value that is important to them (Steele, 1988; see also Sherman &

Cohen, 2006). For example, when reminded that they are the kind of person whose family, profession, or religion is important to them, people are better able to tolerate a threat in another domain, such as the threat induced by doing poorly in school or work.

In two double-blind field experiments, 7th-grade students completed an in-class self-affirmation exercise early in the school year, a stressful time. In a series of structured writing assignments, they wrote about the importance of a personal value, such as religion or relationships with friends, and its role in their lives (Cohen, Garcia, Apfel, & Master, 2006; Sherman & Cohen, 2006). Compared with a control group completing neutral writing exercises, African Americans in the affirmation condition earned a higher fall-term GPA in the course. As shown in Figure 2, the intervention cut the percentage of African Americans earning a D or below by half. This rate was also lower than historical norms from three previous cohorts of students in the same course and no different from the rate for White students. Follow-up data indicate that the intervention effect on core-course GPA persisted for at least 2 years. As with other effective psychological interventions, this one seemed to interrupt a recursive cycle (Blackwell, Trzesniewski, & Dweck, 2007; Wilson et al., 2002). While control-group African Americans dropped in their performance and trust in school authorities, African Americans doing the intervention did not (Sherman & Cohen, 2006).

FURTHER QUESTIONS AND CONCLUDING REMARKS

Generally people are able to overcome threats in spite having to face them repeatedly. What strategies do they use and do these differ in effectiveness (Cohen & Garcia, 2005)? What role, if any, does a person's developmental stage play in the experience and impact of social identity threat and the strategies they use in response?

Additionally, research shows the impact of negative stereotypes on those who are subjected to them. However, these stereotypes sometimes have a positive impact on the performance of the nonstereotyped (e.g., Whites and men), who may benefit from being on the upside of the negative stereotype (Walton & Cohen, 2003). What processes are involved in such effects? More pragmatically, how can psychological interventions be converted into practices that can be implemented throughout a school, a district, or the nation? Often the effectiveness of interventions decreases due to the lack of control inherent in translating them to a large scale.

Granting that many questions still remain, the research discussed here underscores the role that factors not directly linked to the intellect—those related to identity and its effects on psychological belonging and threat—can play in motivation and achievement (see also Zigler & Butterfield, 1968). It also points to the importance of examining how social-psychological processes play out over time in real-world settings. In social environments like school and work, psychological processes can feed off their own consequences and interact with other psychological and environmental factors. Psychological theories should take into account these interactive and recursive feedback loops. Perhaps most important, the research also demonstrates the power of the interplay between rigorous laboratory research and equally rigorous field research. By informing one another, these two approaches not only sharpened a theoretical understanding of an important problem, social identity, but also provided the groundwork for a series of pedagogical practices that could lessen academic inequality and optimize the performance of all students. This interplay also shows how timely interventions attuned

to social-psychological processes can have long-term effects that help to solve social problems and better social conditions.

Recommended Reading

Aronson, J. (Ed.) (2002). *Improving academic achievement: Impact of psychological factors on education*. San Diego, CA: Academic Press. A well-written and comprehensive edited book addressing the social-psychological processes affecting academic achievement.

Crocker, J., Major, B., & Steele, C. (1998). Social stigma. In D.T. Gilbert, S.T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (Vol. 2, pp. 504–553). New York: McGraw-Hill. A comprehensive and thoughtful review of research on the psychological implications of stigmatization.

Davies, P.G., & Spencer, S.J. (2005). The gender-gap artifact: Women's underperformance in quantitative domains through the lens of stereotype threat. In A.M. Gallagher & J.C. Kaufman (Eds.), *Gender differences in mathematics: An integrative psychological approach* (pp. 172–188). New York, NY: Cambridge University Press. An important analysis of the implications of stereotype threat for the gender gap in math and science.

Shapiro, J.R., & Neuberg, S.L. (2007). From stereotype threat to stereotype threats: Implications of a multi-threat framework for causes, moderators, mediators, consequences, and interventions. *Personality and Social Psychology Review*, *11*, 107–130. An integrative and nuanced review of research on the situational threat of being negatively stereotyped.

Woodhead, M. (1988). When psychology informs public policy: The case of early

childhood intervention. *American Psychologist*, *43*, 443–454. A classic article

addressing the complexities involved in testing, refining, and scaling up academic

interventions.

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Miller, R.L., Brickman, P., & Bolen, D. (1975). Attribution versus persuasion as a means for modifying behavior. *Journal of Personality and Social Psychology*, *31*, 430–441.

Purdie-Vaughns, V., Steele, C., Davies, P., Ditlmann, R., & Randall-Crosby, J. (2008). Social identity contingencies: How diversity cues signal threat

or safety for African Americans in mainstream institutions. *Journal of Personality and Social Psychology*, *94*, 615–630.

Rosenthal, H., & Crisp. R.J. (2006). Reducing stereotype threat by blurring intergroup boundaries. *Personality and Social Psychology Bulletin*, *32*, 501–511.

Schmader, T., & Johns, M. (2003). Converging evidence that stereotype threat reduces working memory capacity. *Journal of Personality and Social Psychology*, *85*, 440–452.

Sherman, D.K., & Cohen, G.L. (2006). The psychology of self-defense: Self-affirmation theory. In M.P. Zanna (Ed.), *Advances in Experimental Social Psychology* (Vol. 38, pp. 183–242). San Diego, CA: Academic Press.

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Fig. 1. The Identity Engagement Model of the effects of social-identity threat on performance. If people think their identity could be the basis of negative treatment, that identity will be psychologically engaged, leading people to be vigilant for cues related to whether or not they are in fact being treated negatively. If the cues disconfirm such identity threat, performance will be relatively more contingent on task- and individual-related factors, often leading to sustained or improved performance. If the cues confirm identity threat, an appraisal process will follow, in which people assess whether they have the ability and desire to cope with the threat. If the answer is yes, sustained or improved performance will follow. If the answer is no, lower performance will follow. Recursion can occur at several junctures, as when threat-confirming cues exacerbate vigilance or when low performance exacerbates the experience of threat, leading in turn to worse performance.

Fig. 2. Percentage of students receiving a grade of D or below for African American students and White students from three previous (prestudy) cohorts of students in the course, for African American students and White students in the control condition, and for African American students and White students in the affirmation condition.