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# Social Motivation

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## Sharing Motivation

GREGORY M. WALTON and GEOFFREY L. COHEN

At the heart of social psychology lies the relationship between the individual and the group. How do other people shape a person's perceptions, thoughts, feelings, and behavior? Such questions are critical to understanding individuals and groups. They were central to classic research in social psychology. Solomon Asch's (1952) famous "line studies," for instance, compared people's perceptions when people were alone versus in a group. Asch asked participants which of several lines was the same length as a target line. The task was easy enough that when participants made judgments alone, they solved almost all the problems correctly. But when they made judgments in a group of peers, each of whom was a stooge of the experimenter and had been instructed to choose the wrong line, two thirds of participants agreed with the group on at least one trial, giving incorrect answers in seeming defiance of their senses (Asch, 1952).

Many have interpreted Asch's findings as an illustration of the weakness of the individual in the face of a unanimous group—the tendency of people to conform mindlessly to others even in contradiction to objective reality. But Asch made a more subtle and deeper point. He argued for a cognitive interdependence among people. People's individual perceptions, attitudes, and identity are constructed in conjunction with the perceptions, attitudes, and identities of others. This process begins in infancy and continues through adulthood. Asch (1952) wrote, "To be in a social relation it is necessary to stand on common ground with others and to face daily conditions with shared understanding and purpose" (p. 576). From infancy, we hold a deep-seated expectation that perceptions of physical reality will be socially shared. This expectation is evident in the tension and discomfort that Asch's participants expressed upon seeing peers disagree with their perception of reality. Indeed, given the expectation of a socially shared reality, it is reasonable for people to question their perceptions when they contradict those of a unanimous majority.

Consistent with the notion that perception originates in part in the social context, the social influence effects that Asch (1952) observed can be found even

## A SOCIAL IDENTITY APPROACH TO MOTIVATION

The focus of this chapter is on achievement motivation—the factors that impel people to persist rather than withdraw in the face of challenge and minimal external incentive. The question of motivation is a classic one in psychology (e.g., McClelland, 1961) and is relevant both to basic theories of human nature and to important social problems. Like perceptions and attitudes (Asch, 1952), we suggest that motivation originates in the social context. Indeed, motivation often arises in social settings where people work together to solve collective problems, such as athletic teams, study groups, work groups, civic organizations, and the like. We suggest that people tend to share interests and goals with others, especially with others to whom they feel socially connected. They may internalize the goals of others as their own, as well as develop new interests and goals collectively with others to whom they feel socially connected.

Our approach is informed by the notion of social identity—that aspect of people's self-definition that is based on their social groups (Tajfel & Turner, 2004). Motivation, we suggest, is often associated with whether an endeavor is tied to a person's sense of identity and their feelings of social belonging in a group associated with the endeavor.

Past research has tended to examine how people develop socially shared attitudes and other aspects of self with close relationship partners (e.g., Aron et al., 2004), valued social groups (e.g., Cohen, 2003), or people with whom a person is motivated to affiliate (e.g., Sinclair et al., 2005). By contrast, we suggest that the tendency to share interests and goals is so powerful that people can develop shared interests even with others with whom they share minimal, seemingly trivial social ties (Walton, Cohen, Cwir, & Spencer, 2010). One simple but important implication of this idea is that an activity will inspire more interest if it can be done with others rather than alone.

In addition, the idea that social belonging is critical to achievement motivation implies that students for whom this sense of belonging is threatened in school by social stigma, negative intellectual stereotypes, or numeric underrepresentation may be disadvantaged. Indeed, we suggest, processes linked to social belonging may contribute to the racial achievement gap (Walton & Cohen, 2007).

### Three Reasons Why a Sense of Social Belonging Should Boost Motivation

Why would a sense of social belonging in a domain foster motivation? There are at least three reasons. First, adopting similar interests and motivations as relationship partners may affirm a positive self-image. People derive their sense of self-worth in part from being "good" or "appropriate" relationship partners and group members (Correll & Park, 2005; Leary, 2004; Sherman & Cohen, 2006; Tajfel & Turner, 2004). As a consequence, adopting interests similar to those of socially significant others may affirm people's sense of personal worth.

Second, people have a basic need to belong (Baumeister & Leary, 1995; see also Ryan & Deci, 2000). The importance of this need is underscored by research

when people report their judgments anonymously, minimizing conformity pressure (Deutsch & Gerard, 1955). In addition, modern brain-imaging techniques suggest that the brain regions activated when people are said to "conform" in Asch-like experimental situations are those involved in perception. By contrast, brain regions involved in social decision making show no heightened activation (Berns et al., 2005). The results are consistent with the idea that social influence changes how people see the world (see also Nisbett & Masuda, 2003; Sherif, 1936).

Beyond perception, attitudes too are rooted in social reality (e.g., Lewin, 1952; Sinclair, Huntsinger, Skortinko, & Hardin, 2005). Infants as young as a year of age decide whether to approach or to avoid physical objects by attending to the emotional cues of caretakers (Moses, Baldwin, Rosicky, & Tidball, 2001). Adults take on attitudes from important reference groups. In one series of studies, political partisans endorsed policies proposed by their political party, writing long essays advocating such policies, even when the policy violated their deeply held liberal or conservative values (Cohen, 2003). A classic field study tracked young adults from politically conservative families who attended a liberal college. Compared with matched controls, they became more liberal, and the longer they attended the college, the more liberal they became. Even 25 years later they were more apt to vote for a liberal presidential candidate (Newcomb, Koenig, Flacks, & Warwick, 1967).

One lesson from this research is that important aspects of the self—even aspects that may seem personal and unique, such as long-held attitudes—are socially transmitted and shared. They originate in the social context (see also Aron et al., 2004; Cialdini, Brown, Lewis, Luce, & Neuberg, 1997; Gardner, Gabriel, & Hochschild, 2002; Markus & Kitayama, 1991). This lesson, however, commands less attention than it ought in contemporary social psychology. Instead, a variety of lines of research portray the self as independent from, and even as opposed to, the social context (for a review, see Markus & Kitayama, 1994). In much work, the individual is conceptualized as basically good, struggling to resist the negative influence of the group (Markus & Kitayama, 1994). The group is seen as a source of irrationality (e.g., groupthink, Janis, 1972), immorality (e.g., bystander intervention, Latane & Darley, 1968), aggression (e.g., deindividuation, Haney & Zimbardo, 1998; obedience to authority, Milgram, 1974), and laziness (e.g., social loafing, Karau & Williams, 1993), which the individual must fend off to succeed and be ethical.

Similarly, much recent research conceptualizes behavior as the product of basic cognitive, motivational, and affective processes that occur in the isolated minds of individuals, as in research on automaticity (e.g., Bargh, Chen, & Burrows, 1996) and on social cognition more broadly (Kunda, 1999) and in burgeoning research on social neuroscience. In this approach, the social context is seen as providing informational inputs into basic internal processes. The mental processes constitute the key explanatory variables, not the social context. Although this research describes an important facet of human nature, social or interpersonal processes by which people develop shared beliefs, attitudes, and goals are less emphasized (cf. Aron et al., 2004). As we suggest in the present chapter, one consequence is that our understanding of the origins of human motivation is incomplete.

examining consequences when this need is thwarted (see Williams, 2007). Ostracism and social rejection can cause distress, even in anonymous online encounters (Williams, Cheung, & Choi, 2000). They can elicit aggression (Twenge, Baumeister, Tice, & Stucke, 2001), decrements in IQ test performance (Baumeister, Twenge, & Nuss, 2002), and decrements in self-regulation (Baumeister, DeWall, Ciarocco, & Twenge, 2005). By aligning their motivations to those of socially significant others, people may signify the integrity of their relationship. In addition, doing so may facilitate positive social interactions by creating mutually enjoyable activities in which people can participate together (see Surra, 1985).

Third, sharing motivation with others may serve important collective goals, which may be an end unto itself. A defining feature of human social life is collaborative activity, both formal and informal, which enables people to do more together than they could alone. Growing crops, raising a roof, running a business, and executing a war require teamwork and a network of people who share the same goal. Even what may be humans' most distinctive cognitive innovation—language—is at root a cooperative activity, as speakers and listeners work together to ensure that the information imparted by the speaker is relevant and appropriate to the listener's needs and understanding of the topic of conversation (Clark, 1996). A psychological mechanism by which goals and intentions become shared would offer significant advantages for individuals and the social units to which they belong (Vygotsky, 1978). If so, people may have evolved a tendency "to create shared goals to which they are jointly committed" (cf. Tomasello, Carpenter, Call, Behne, & Moll, 2005, p. 682).

Although these three processes are distinct, they share an important similarity. In each, a sense of social belonging increases motivation for a domain, not because motivation for the domain changes, but because the domain changes. The domain acquires meaning as a result of one's social connection to it, as a source of self-affirmation, as a forum for social bonding, and as a context in which to collaborate with others to accomplish shared goals. In his novel *Sons and Lovers*, the English author D. H. Lawrence captures the notion that the meaning of an activity may arise from being embedded in social relationships, writing, "Nothing had really taken place in [the children] until it was told to their mother" (1967/1973, p. 62).

### *A Social Identity Account as Compared to Predominant Theories of Motivation*

The simple notion that motivation originates in people's social identity and sense of social belonging in an achievement domain contrasts sharply with predominant theories of motivation. Such theories posit that motivation originates in the individual self. They tend to emphasize people's perception of their competence in the domain, their sense of autonomy and free choice, and the extent to which they have met important personal goals (e.g., Bandura, 1997; Carver & Scheier, 2001; Deci & Ryan, 1985; Dweck & Leggett, 1988). The social context is seen as providing people feedback about these individualistic qualities. For example, role models can inspire people by showing that success is possible and thus boost motivation and

achievement (Lockwood & Kunda, 1997; see also Aronson, Fried, & Good, 2002; Blackwell, Trzesniewski, & Dweck, 2007; Wilson, Damiani, & Shelton, 2002). Coercive incentives can lead people to attribute their participation in an activity to external pressure rather than to autonomous interest and thus undermine motivation (Deci, Koestner, & Ryan, 1999; Lepper, Greene, & Nisbett, 1973). Performance feedback can highlight a discrepancy between long-held goals and accomplishments to date and thus increase motivation (Carver & Scheier, 2001).

Taken as a whole, this literature portrays the person as informed by but disconnected from others. People's social relationships are not a central subject of analysis. One exception is self-determination theory (Ryan & Deci, 2000), which posits three needs affecting achievement motivation—needs for competence, autonomy, and relatedness. The notion of relatedness comes closest to our emphasis on social belonging. However, as the very name of the theory implies, the overriding emphasis in self-determination theory is on *self*-determination. Relationally supportive contexts are thought to allow people to feel sufficiently safe to explore and develop their natural curiosities (Ryan & Deci, 2000), an approach that draws on attachment theory (Ainsworth, Blehar, Waters, & Wall, 1978). By contrast, we suggest that people acquire their interests in transactions with socially significant others. If so, feeling socially connected to others in an achievement domain should enhance a person's motivation to achieve in that domain. If these social identity processes are powerful, then even subtle indicators of social connectedness should prove influential.

### *Evidence for the Role of Social Identity in Motivation*

Although it differs from predominant theories, our approach, in some respects, resonates with common sense. Suppose two parents are deciding which day to send their child to an after-school program. On both days the program has small classes and skilled teachers, but, by chance, the children who go to the program on Mondays tend to be more academically engaged than the children who go on Tuesdays. As the parents know, on either day their child will interact with his or her classmates a good deal and stands to become friends with some of them. Which day should the parents choose?

Predominant theories of motivation make no clear recommendation. On both days the program offers opportunities for developing the self-concept—self-efficacy, autonomy, and goals—that underlies academic success. On the one hand, the program on Mondays might provide more role models—older children who have done well and can inspire (Lockwood & Kunda, 1997). On the other hand, the child might feel more intelligent than her classmates in the Tuesday program, boosting self-perceptions of competence (see Blanton, Buunk, Gibbons, & Kuyper, 1999). But, of course, most parents would prefer the Monday program. As parents know, peer groups matter. Make the right friends—those committed and engaged in school—and academic success is more likely. Make the wrong friends—those disengaged from school—and academic success is less likely. Children's attitudes, interests, and motivation—their very identity—are acquired in large part through peer groups (Harris, 1995, 1998). Making friends with the right crowd might be as important as receiving high-quality instruction in achieving academic success.

Consistent with this conclusion, research from disciplines outside of social psychology suggests the importance of the social context in people's development of interests and motivation. Developmental research finds that from an early age, infants exhibit a tendency to share intentions with adults (for a review, see Tomasello et al., 2005). Infants distinguish intentions from behaviors and, upon observing an adult fail to perform an act, imitate the intention, not the failed attempt (Meltzoff, 1995). In addition, infants eagerly participate in cooperative social games with adults (Ross & Lollis, 1987), even urging adult partners who have stopped participating in such games to resume (Warneken, Chen, & Tomasello, 2006).

At another level of analysis, sociological research finds that adults' preferences for movies, songs, and the like arise through social influence processes (Salganik, Dodds, & Watts, 2006). When people are ignorant of the preferences of others, there is little difference in the popularity of the most and least popular products. But when people know what peers like, the products preferred by early shoppers grow in popularity through a snowball process—they become "hip"—whereas nonpreferred products become especially unpopular. Negative behaviors, too, are the product of social influence. Binge eating among sorority women, for instance, can spread through local social norms (Crandall, 1988; see also Cohen & Prinstein, 2006; Prentice & Miller, 1993).

Other research underscores the importance of social identity in such effects. The perception that a dissimilar outgroup engages in a particular behavior can deter others from engaging in that behavior. If residents of a "nerdy" dorm wear a particular wristband or if "sketchy" graduate students are thought to drink large quantities of alcohol, undergraduates may stop wearing the wristband and drink less (Berger & Heath, 2008; Berger & Rand, 2008). It's just not what "we" do.

Likewise, research in political science suggests that social strategies are among the most potent ways to increase voter turnout. More effective than making voting convenient (e.g., by allowing people to register to vote when they apply for a driver's license) are campaign strategies that establish a social bond with voters, such as door-to-door canvassing, holding parties at the poll on election day, and the like. As Green and Gerber (2004) wrote, "Mobilizing voters is rather like inviting them to a social occasion" (p. 92). Even intellectual revolutions arise, it seems, in part through social influence. Such revolutions appear to be triggered not so much by brilliant scholars working alone but by networks of thinkers engaged in the same problem, supporting one another and egging each other on intellectually (Collins, 1998).

### *Overview of the Present Research*

These findings suggest that an important source of people's interests, motivation, and behavior is in their social identity—their network of social relationships, the groups they affiliate with, and so forth. Consistent with this work, we suggest that people develop interests with and from others to whom they are socially connected. However, in the real world, and in many of the examples provided above, there are plausible alternative explanations for such effects. The effects could arise from social norms, conformity pressure, or just the salience of a behavior. To demonstrate

the causal role of a sense of social belonging, much of our research distills the construct of belonging to its essence—to the minimal conditions needed to make people feel connected to others in an achievement domain. This approach holds constant or strips away confounding variables. In the spirit of Bob Zajonc (2001), we call this *mere belonging*. We assess its impact on motivation. In addition, our research is designed to demonstrate the intuitive significance of social belonging for motivation. We emphasize the size of the effects of intuitively small manipulations of belonging and their impact on important behaviors, such as persistence, time spent studying, and school grades.

The next section discusses our research on "mere belonging"—the impact of minimal social connections on interest and motivation. Afterward, we examine the effect on motivation and achievement when people's sense of social belonging in school is systematically threatened by negative intellectual stereotypes.

## MERE BELONGING

A first set of studies tested whether a mere social link to others involved in an activity or a performance domain would boost motivation for that activity or domain (Walton et al., 2010). To provide convergent evidence for this hypothesis, the studies tested several different ways of creating a current or potential social link.

### *Making a Dull Activity Social*

The first study tested whether motivation for a dull activity would rise merely if people had an opportunity to take part in the activity with others. This study was inspired in part by classic research on nonverbal behavior. In an elegant series of field studies, Kraut and Johnston (1979) compared people's rate of smiling in response to positive and neutral daily events when alone versus when in the company of others. They found, overwhelmingly, that people smile in the company of others but not when alone. In one study, bowlers smiled just 4% of the time after having privately observed that they had just bowled a strike or a spare but 31% of the time after having turned to face their friends waiting in the pit (regardless of the result of their bowl). Of course, this research does not resolve *why* people smile in the company of others. One reason is because smiling is a communicative act. But another reason, perhaps, is that the activity itself becomes more positive and pleasurable in the psychological company of others. Alone, bowling is simply the act of throwing a ball to knock down pins; with others it may become a forum for social interaction, bonding, and teamwork.

To test this hypothesis, we gave people a description of one of four pairs of activities. One activity in each pair was designed to be inherently appealing, and the other was dull. The pairs were (a) taste testing chocolates versus salad dressing, (b) watching movie clips versus abstract visual stimuli, (c) listening to music versus tones, and (d) bowling versus turning pegs. Each participant read a description of the two activities in one pair and saw a picture of each activity (e.g., a photograph of chocolates and one of several vials of salad dressing). They were asked to "visualize" doing the activities. In all cases, participants were led to believe that the

appealing activity would be done alone. A single sentence contained the manipulation. It indicated either that the dull activity would also be done alone or that it would be completed with two or three other people. Would making the dull activity social make it more interesting?

It did. We asked participants about their preferences for the activities. When both activities would be done alone, participants strongly preferred the appealing activity to the dull one. But when the dull activity could be done with others, their preference for it rose by 40%. Why? Examination of participants' open-ended responses suggests that participants saw the dull task as being more pleasurable when done with others (e.g., "might be fun to watch with others"). They also saw it as providing opportunities for social bonding (e.g., "there would be other people so it could be a social activity"), for exchanging perspectives (e.g., "interesting to see how people differ in their perceptions"), for sharing emotions (e.g., "laughing with the people I'm testing with"), and for collaborating (e.g., "talking over a strategy with other individuals"). This change in the way participants construed the task appeared to drive the effect of condition on preferences. Controlling for them statistically mediated the condition effect on preferences.

### *Mere Belonging and Achievement Motivation*

In the foregoing study, participants developed a shared interest for an activity they could do with others. The next set of studies extended the analysis to achievement motivation. These studies tested whether people would have greater motivation for a field of study merely as a result of having a current or potential social connection to others in that field. Previous correlational research links a sense of social connectedness in school to achievement motivation (e.g., Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000; Furrer & Skinner, 2003; Ladd, 1990; Wentzel, 1997; see also Finn, 1989; Goodenow, 1992). In one study, participating in extracurricular activities—which facilitate students' social integration in school—nearly eliminated school dropouts among at-risk high school students (Mahoney & Cairns, 1997). In such studies, however, social belonging is confounded with many other factors. Therefore, in three experiments we manipulated *mere belonging*, the minimal conditions needed to make people feel connected to others (Walton et al., 2010). In addition, through its control conditions, each study tested whether mere belonging would increase motivation above and beyond other more individualistic factors affecting motivation, such as the inspirational effects of a positive role model (Lockwood & Kunda, 1997) or the acquisition of a personal identity in the field (Miller, Brickman, & Bolen, 1975).

*The Shared-Birthday Study.* In one study, undergraduates read a report ostensibly written by a graduate of the math department at their college. The report described a positive experience in the department and presented the report author as academically successful. All participants were thus exposed to a positive role model in math (see Lockwood & Kunda, 1997). We manipulated a single datum in the report—the author's birthday, embedded in a small box along with the author's name and hometown. In the same-birthday condition, the author's birthday matched the participant's birthday. In the different-birthday condition, the two

birthdays differed by several months. As past research indicates, a shared birthday creates a "unit relationship" between individuals (Heider, 1958, p. 201), inducing greater cooperation (Miller, Downs, & Prentice, 1998) and liking (Jones, Pelham, Carvallo, & Mirenberg, 2004). If people adopt the goals and interests of others to whom they feel socially connected, they should be more motivated to achieve in math in the same-birthday condition than in the different-birthday condition.

They were. The primary measure of motivation was how long participants persisted on an insoluble math puzzle task. The task was completed in private, minimizing social desirability pressure, and thus provides a relatively clear index of intrinsic motivation for math. Participants in the same-birthday condition persisted 65% longer on the puzzle than did participants in the different-birthday condition. They also displayed greater motivation for math along several self-report instruments (e.g., reporting that it was "more important" for them to be good at math).

*The Minimal Group Study.* A second study operationalized mere belonging as membership in a minimal group, that is, a temporary group based on an arbitrary distinction. Undergraduates participated in groups of 8 or 9. Following the standard procedure for creating a minimal group (Billig & Tajfel, 1973), participants were induced to believe either that they were members of the "numbers group" or that they were the "numbers person." Both conditions thus created in participants an identity in the field of math. The manipulation varied whether that identity was socially shared (i.e., "We do math" vs. "I do math"). Notably, research finds that having a personal identity in a field fosters motivation (e.g., Miller et al., 1975). However, even relative to the condition in which they were personally labeled a "numbers person," being labeled a member of the "numbers group" led participants to persist more than twice as long on the insoluble math puzzle.

*The Relational Context Study.* The third study tested a different kind of social link. It manipulated the perceived *opportunity* to form social ties in the field. As in the birthday study, participants read a report about the math department ostensibly written by a former major. The manipulation involved whether the department was described as providing opportunities to cultivate skills and personal interests (the "skill-promotive context" condition) or as providing opportunities to work with others, to share experiences, and to bond socially over math (the "relational context" condition). For instance, in the former condition, one section of the report read, "[The department] sponsors several competitive exams and prizes each year ... to encourage students ... to develop their individual abilities." In the later condition, this section read, "Many members of the faculty are excited to work with undergraduates. ... The professors encouraged us to work in groups." This comparison provides a difficult test for the mere-belonging hypothesis, as the effect of the relational context condition would have to *exceed* that of the skill-promotive context condition. It did. The relational context report produced greater persistence than the skill-promotive context report and greater self-reported motivation for math.

*Mediation.* We also obtained evidence for mediation. In the birthday study and the relational context study, measures assessing a sense of social connectedness to math statistically mediated the condition effect on motivation (relevant measures were not assessed in the minimal group study). In addition, we addressed a possible

alternative explanation. The social links could have increased positive affect or satisfied participants' belonging needs in general, allowing them to attend to any achievement pursuit (see Ryan & Deci, 2000). If so, the manipulations should have raised motivation in general, not just for math. This was not the case. In each study, measures of motivation for the humanities yielded no condition difference; if anything, the social links decreased motivation in the humanities.

*Statistical Summary.* The mere-belonging effects were statistically large. To create an intuitive barometer of the size of the effect, we compared it to the effect of participants' baseline level of interest and ability in math (a composite of their SAT math score, the number of math classes they had taken in college, how personally invested they reported being in math at baseline, and whether they were or anticipated majoring in a math-related field). Pitting the mere-belonging manipulations against baseline math interest/ability and meta-analyzing across the three studies, we found the overall mere-belonging effect on math motivation (i.e., an index combining behavioral persistence and self-reported motivation) was about 70% of the size of the effect of students' baseline level of math interest/ability ( $d_s = 0.71, 1.00$ , respectively; the latter effect size compares students 1 standard deviation above vs. below the mean). In addition, there was no interaction between the mere-belonging manipulations and baseline math interest/ability. Even students with the highest level of interest/ability in math were more motivated if they were socially linked to the field. One implication of the observed effect sizes is thus that students with average levels of baseline math interest/ability who were socially linked to math were more motivated, on average, than students with high levels of baseline math interest/ability who were not so linked.

## SOCIAL BELONGING AND GROUP DIFFERENCES IN ACADEMIC ACHIEVEMENT

The mere-belonging studies suggest the importance of social belonging for motivation. Another way to test this effect is to examine the consequences when students' sense of belonging in school is systematically threatened. For instance, students who belong to groups that historically have been excluded from academic institutions, or whose groups are underrepresented or targeted by negative intellectual stereotypes, may reasonably wonder if others will include them in positive social relationships in school. They may be uncertain of their social belonging (Walton & Cohen, 2007; see also Mendoza-Denton, Downey, Purdie, Davis, & Pietrzak, 2002). Two sets of studies examined social belonging among students from underrepresented groups. The second set of studies then addressed the effect of uncertainty about belonging on underrepresented students' academic motivation and achievement.

### *Social Representations of a Field of Study and Social Belonging*

The perception that there is a typical kind of person who pursues a domain is so pervasive that we sometimes overlook it (see Moscovici, 1984). Airline pilots are

male, network news anchors are White, and computer whizzes are young. In part, these social representations reflect reality. But they may also perpetuate group differences. When a domain is strongly associated with a particular group, people may associate success with membership in that group, consciously or unconsciously. Even minority group members who are interested and skilled in the field may feel that they would not "fit in" there.

We tested this idea in the context of computer science. Women, Blacks, and Hispanics are each underrepresented among computer scientists (e.g., constituting 13%, 1%, and 2% of computer science faculty at research universities, respectively; Nelson, 2007). All three groups also confront stereotypes that they lack ability either in quantitative fields in particular or in intellectual endeavors in general (Steele, 1997). The social representation of the typical person who succeeds in computer science may thus be of someone who is White or Asian and male (see Cheryan, Plaut, Davies, & Steele, 2009).

In a pair of studies, we manipulated the social representation of computer science. The manipulation was designed to sever the perceived link between a specific social identity (i.e., a White or Asian male) on the one hand and belonging and success in computer science on the other. We examined the effects of this manipulation on students' sense of social belonging in computer science. The manipulation consisted of a sidebar inserted in the margin of an actual news report about the computer science department at the participants' university. In the "gender-inclusive" condition, the sidebar quoted a female computer science major, who said, "Gender doesn't really matter here. I usually don't even think about it." By contrast, in the "gender-noninclusive" condition, the quotation read, "Sometimes it's tough to make men respect you in the computer world." Participants then completed items assessing their sense of social belonging in the computer science department (e.g., their level of agreement with statements like "I belong in the Computer Science Department" and "People in the Computer Science Department are a lot like me"). In the first study, as predicted, women reported a greater sense of social belonging in the gender-inclusive condition than in the gender-noninclusive condition. Indeed, in the gender-inclusive condition, women's sense of social belonging rose to the level of men's. As expected, men's sense of belonging was unaffected by the manipulation.

We contend that the critical message communicated in this manipulation is not simply that women can belong in computer science but that the kind of people who belong are those who share an interest and commitment to the field rather than a particular group identity. If so, the manipulation should raise a sense of social belonging among students from a marginalized group different from the one targeted in the manipulation.

A second study tested this idea. It exposed Black and Hispanic men to the same gender-focused manipulation of inclusion. As predicted, they showed the same increased sense of belonging in the gender-inclusive condition that women had displayed in the first study. White and Asian men showed no effect.

If minority-group students believe that their social belonging in computer science depends not just on their level of interest in the field but also on their group identity, then the relationship between their level of interest and their sense of

belonging should be relatively weak. This was the case. In control conditions, baseline interest in computer science explained 37% of the variance in majority-group students' sense of social belonging in computer science (i.e., that of White and Asian men) but only 11% of that variance among minority-group students (i.e., women, Blacks, and Hispanics). Moreover, among students with little interest in computer science, there was no difference between minority- and majority-group students in their sense of belonging in the field. A group difference emerged only among students interested in the field. The gender-inclusive message eliminated this pattern. In this condition, minority-group students reported a sense of social belonging commensurate with their level of interest in the field. The message had no effect among minority-group students low in interest, but it significantly raised a sense of belonging among students interested in computer science. In so doing, it eliminated the group difference in students' sense of belonging in the field.

### *Belonging Uncertainty*

The research described above examined a circumstance where underrepresented and negatively stereotyped students experienced relatively low levels of social belonging in an academic discipline. But even when students experience high levels of belonging, their belonging may be uncertain or fragile (Walton & Cohen, 2007). Knowing that they could encounter both overt and subtle forms of prejudice (Dovidio & Gaertner, 2000; Harber, 1998; see also Uhlmann & Cohen, 2005), stereotyped students in mainstream school and work settings may wonder whether others will accept them and include them in positive social relationships in academic settings. In this state of *belonging uncertainty*, people may scrutinize events in their daily lives for evidence relevant to their belonging and, as a consequence, perceive in such events a more global meaning than do their nonstereotyped peers (see also Mendoza-Denton et al., 2002; Shelton & Richeson, 2005). Criticism from an instructor or social isolation among peers, for instance, may seem to signify that the stereotype is in play and that stereotyped students do not belong in the academic environment. In turn, stereotyped students' motivation may suffer. In one study, for example, Black and White college students did not differ at baseline in their interest in revising an essay they had written; after receiving critical feedback from a White instructor, however, Black students' motivation dropped in comparison to that of White students (Cohen, Steele, & Ross, 1999).

*Survey Study.* An initial study tested the belonging-uncertainty hypothesis using a survey methodology (Walton & Cohen, 2007). We asked participants—Black, Hispanic, and White college students—to indicate their agreement or disagreement with items assessing their absolute level of belonging in college (i.e., “I belong at [college name]”) and their level of uncertainty about their belonging (e.g., “Sometimes I feel that I belong at [college name], and sometimes I feel that I don't belong”; “When something bad happens, I feel that maybe I don't belong at [college name]”). No racial group difference was observed in students' absolute level of belonging. A group difference was found only in students' level of uncertainty about their belonging. Black and Hispanic students reported greater belonging uncertainty than did White students.

*Laboratory Experiment.* An experimental study provided further evidence of belonging uncertainty among negatively stereotyped students (Walton & Cohen, 2007). We exposed participants to a subtle threat to their belonging in a field of study. We asked Black and White college students to list either eight friends who would fit in well in the field or two such friends. Listing eight friends is difficult, and indeed participants (both Black and White) reported greater difficulty listing eight friends than two (see Schwarz et al., 1991). The question for our participants was as follows: “What does difficulty listing these friends mean about my fit in the field?” This difficulty, we predicted, would carry a more threatening and racialized meaning to Black students than to White students. It might convey to the former that “people of my race” do not belong here. As expected, White students showed no difference by condition. But Black students reported less motivation when they were asked to list eight friends rather than two. For example, although Black students rated their potential to succeed in the field as slightly better than that of their classmates when they were asked to list two friends (i.e., their self-rating on a percentile scale was 58%), when they were asked to list eight friends, they rated themselves well below average (i.e., their self-rating was 31%). In addition, Black students seemed to interpret the difficulty they had listing friends not only as evidence that they personally did not belong in the field but also as evidence that their racial group did not. For instance, Black students asked to list eight friends were less likely than Black students in the control condition to encourage a same-race peer to major in the field (no such condition difference was found in Black students' encouragement of different-race peers).

*Intervention Field Experiment.* Both the survey study and the experiment suggest that adverse social events in academic contexts may carry a more global meaning to stereotyped students than to nonstereotyped students. A final study tracked students' responses to adversity in the ebb and flow of their daily lives (Walton & Cohen, 2007). Most important, the study also tested an intervention designed to protect students against belonging uncertainty and assessed its impact on their motivation and achievement in school. The intervention provided students with an alternative, nonracial, nonthreatening explanation for adversity in school. This “attributional retraining” intervention was predicted to buttress the motivation of stereotyped students in the face of adversity in school (see also Wilson et al., 2002).

We tested the intervention among Black and White first-year college students (Walton & Cohen, 2007). Students reviewed the results of an ostensible survey of upper-year students at their school. The survey results were based on the results of an actual survey but were edited to highlight critical themes. In the treatment condition, the results indicated that most students, regardless of race, doubted their belonging during the transition to college and experienced negative social events in school (e.g., felt excluded, were not invited to dinner with classmates, received critical feedback on assignments). But over time, the survey indicated, these doubts subsided, and most students came to feel at home in college. The survey thus conveyed to African American students that doubts about belonging are common at first in college, not unique to their racial group, and short-lived. This message was expected to deracialize difficulties experienced in the transition



to college and help buttress African Americans' sense of belonging in school. It was expected to do so, in large part, by reducing the likelihood that African Americans would see adversity in school as evidence that the stereotype was in play.

In the control condition, participants also read the ostensible results of an upperclassmen survey, but the information was irrelevant to belonging. Instead, it indicated that students' social and political attitudes became more sophisticated over time in college.

To drive home the manipulation, both conditions incorporated dissonance tactics (see Aronson et al., 2002). Dissonance research suggests that freely advocating a message to an impressionable audience leads people to internalize that message—the “saying is believing” effect. Participants wrote an essay describing how their own experience in college illustrated the pattern of change described in the survey results. They then delivered their essay as a speech to a video camera, ostensibly to be shown to first-year students the subsequent year to help them better manage the transition to college. In total, the intervention lasted about an hour.

The intervention led to immediate and sustained benefits for stereotyped students (Walton & Cohen, 2007). In the laboratory, intervention-treated Black students reported higher levels of belonging and motivation in school as compared to peers in the control condition. When selecting courses to take from the school catalogue, they were more likely to sign up for challenging, educational classes rather than less challenging, less educational ones.

To track students' responses to adversity, we had them complete daily diary questionnaires over the week following the delivery of the treatment. Each evening students reported how much adversity they had encountered that day and their current level of academic motivation. As predicted, in the control condition there was a tight relationship between these variables for Black students: 59% of the day-to-day variance in Black students' motivation could be explained by the level of adversity they experienced each day. The treatment reduced this figure to 24%. (For White students in both conditions, there was no relationship between adversity and motivation.) Looked at another way, the treatment sustained Black students' motivation in the face of adversity. On days of low adversity, Black students in both conditions reported high levels of academic motivation. But on highly adverse days, Black students in the control condition reported relatively low levels of motivation, whereas Black students in the treatment condition continued to report relatively high levels.

The intervention also increased Black students' self-reported engagement in achievement behaviors, specifically behaviors that provide opportunities for academic enrichment but pose risks of failure and rejection. For example, the intervention increased the time Black students reported studying each day by nearly an hour and a half and boosted the number of e-mail queries they reported sending to professors threefold. White students were again unaffected by the intervention.

Finally, we examined students' grades, as assessed by official school records. Controlling for their grade point average (GPA) in the semester before the intervention, Black students' GPA in the semester after the intervention was one third of a grade point higher in the treatment condition than in the control condition. To test the robustness of this effect, we subjected it to a second comparison. We

compared the GPA of students in each experimental group to the GPA of students in the same class year as participants but who had not participated in the study. Relative to Black students in this campus-wide group, Black students in the treatment condition again performed significantly better. Among White students, the treatment had no positive effect. If anything, White students tended to perform better in the control condition than in the treatment condition, but neither experimental group differed significantly from the campus-wide data for White students. Overall, the treatment was associated with a roughly 90% reduction in the racial achievement gap in the term following its administration. Given the paucity of successful interventions to close the achievement gap, these results are encouraging and await large-scale attempts at replication.

Like the mere-belonging studies, the intervention results underscore the powerful effects social belonging has on achievement motivation. An hour-long intervention to secure a sense of social belonging boosted stereotyped students' motivation and, even months later, their grades.

## DISCUSSION

Commercial radio stations invariably compete over how much music they play: “60 minutes commercial free,” “Fifteen songs in a row,” “Two hours without a break to start your day.” Such promos suggest that listeners' main concern in picking a radio station is choosing the one that plays the most music. But, peculiarly, radio stations do not maximize the amount of music they play, even holding constant ad time. They repeatedly interrupt the music with DJs, who waste seemingly precious minutes to tell silly jokes and banter back and forth. Why don't listeners revolt and migrate to other stations that focus on the music, putting DJs and the radio stations that employ them out of business?

If you have ever listened to music on the radio without a DJ, you know the answer. It's lonely. DJs create the sense that a community is listening together. You might be out doing yard work or driving alone, but if you are listening to the radio, you can hear a good DJ tell a joke and take calls from other listeners for requests, contest entries, and the like. You might feel connected to the DJ and to the radio station and to other listeners doing their errands as they listen along to the same station. And somehow as a result, the music is more captivating.

As with consumer preferences (Salganik et al., 2006), undergraduate drinking (Berger & Rand, 2008), voting (Green & Gerber, 2004), intellectual revolutions (Collins, 1998), and achievement motivation (Walton & Cohen, 2007; Walton et al., 2010), listening to the radio, it seems, is in part a social act. In each case, there is a “we” behind the “I.” As the research reviewed in this chapter shows, if an activity can be done collectively or if a field offers opportunities for forming social connections, it may inspire greater interest and motivation. Even minimal social links, like a shared birthday with a peer in a field of study, can raise motivation (Walton & Cohen, 2008). The feeling that “we do it” can have effects on motivation comparable in size to the effect of individual differences in personal interest. A social connection can change the very nature of a task. What had been a boring activity to slog through—like turning pegs—becomes, when done with others, an

opportunity to collaborate on a joint activity and to share perspectives and emotions. By adopting interest in such an activity, one affirms one's relationships with others engaged in the same task and facilitates positive interaction with them. In addition, analysis of the role of social belonging in motivation provides insight into the origin of racial differences in achievement, a major concern for educators and policy makers (Steele, 1997), and affords novel remedies for a portion of these differences (Walton & Cohen, 2007).

The research reviewed here underscores the collective, socially shared nature of what we usually consider to be individual attitudes, motivation, and identity. Such aspects of the personal self derive in part from relationships with others, even from relationships based on minimal ties. The social transmission of attitudes and motivations seems to be a signature characteristic of humans. More than other primates, humans are motivated to share intentions and other psychological states with others (Tomasello et al., 2005; see also Moll & Tomasello, 2007). From an early age, human infants eagerly participate in cooperative social games with adults (Ross & Lollis, 1987; Warneken et al., 2006). And cognitive neuroscience shows that humans, along with other primates, possess "mirror neurons," which activate both when a person performs a goal-directed action and when he or she observes someone else perform an action (e.g., picking up a cup; Iacoboni et al., 2005). Neurologically, in a sense your goal is my goal.

### *A Theoretical Paradox: Social Belonging and Individualism*

Interestingly, our emphasis on socially shared aspects of self conflicts with a long tradition of Western thought, which venerates the individual and denigrates imitation. This view is reflected in common interpretations of Asch's (1952) line studies as an example of "mindless conformity." It is exemplified by Ralph Waldo Emerson's quip, "Imitation is suicide." On Emerson's view, an individual is valuable by virtue of his or her unique qualities and attributes. To imitate is to lose one's uniqueness and to be subsumed by others. Consistent with this tradition, Westerners place great value on independence and individualism (Markus & Kitayama, 1991). Their motivation for a task drops when they perceive that their autonomy or free will in choosing to engage in that task has been usurped (Iyengar & Lepper, 1999; see also Deci et al., 1999). Given these powerful cultural values, why would participants in, for instance, the mere-belonging studies, most of whom were White Americans, adopt the motivations of others?

Although future research may address this issue empirically, a possible answer involves the subtlety of the social links explored in the mere-belonging studies. People from Western cultures perform a balancing act. On the one hand, they have a genuine need to belong—to form social ties, to be connected to others, to share similar interests, and to do things together (Baumeister & Leary, 1995). On the other hand, they maintain an "independent" self-concept, seeing themselves as agentic and unique (Markus & Kitayama, 1991). Subtle social links may enable Westerners to accomplish both objectives at once. Because they are not perceived as coercive, they permit people to align their interests with the interests of others while retaining the illusion that their interests are unique and independent. This

analysis leads to a prediction. In terms of cultivating people's intrinsic goals and interests, subtle social pressure ought to be more influential than overt social pressure, and subtle indicators of social belonging ought to be more influential than overt indicators— notions consistent with dissonance and self-perception theories.

### *Practical Lessons*

For students and educators, employees and employers, the take-home lesson from this chapter is that social belonging is an important source of motivation. Linking students and workers socially to others engaged in a common endeavor can increase motivation. Even social ties that seem trivial may prove effective. Notably, the flip side of this analysis is that social connections to people who have *disengaged* from school or work may undermine motivation, even when these social connections seem minimal.

A second important lesson is that people from groups that are underrepresented or negatively stereotyped may not experience the same sense of social belonging in school and work settings as do others. Members of different groups may see the same event in radically different ways. In addition, even when stereotyped students report a high overall sense of belonging, it may be uncertain or fragile, rising and falling in response to seemingly subtle experiences.

Importantly, this difference in construal on the part of majority- and minority-group students is not a product of bias but a normal consequence of human psychology. People invariably interpret stimuli in light of their surrounding context, a point long noted by gestalt psychologists (Asch, 1952). For people whose group is negatively stereotyped, the context includes an increased risk of social rejection and exclusion. For such individuals, a heightened sensitivity to issues of belonging may be adaptive.

The present research also shows that providing a nonthreatening, nonracial attribution for social adversity—for instance, where adversity is short-lived and shared across racial groups—can secure stereotyped students' sense of belonging and raise motivation and achievement (Walton & Cohen, 2007). Although this intervention can have positive effects, it should not be applied blindly without regard for local circumstance. For instance, in situations where prejudice is pervasive or racial barriers significant, the intervention could risk obscuring from members of the target group the bias they face.

### *Implications for Irrationality and Evil*

Thus far we have emphasized primarily how social belonging can lead to improvements in human welfare—raise motivation and reduce group differences in academic achievement. But social belonging does not necessarily lead to positive outcomes. Indeed, social belonging may also lead to acts that could justifiably be described as evil. As noted earlier, when belonging needs are thwarted, negative outcomes may result. For instance, social rejection may increase aggressive behavior (Twenge et al., 2001). Ostracism in a school or in broader society may even contribute to school shootings or to terrorism (Williams, 2007).

Another way social belonging may produce negative outcomes is by inducing people to uncritically rally behind an ingroup—to adopt harmful attitudes, values, or behaviors modeled by group leaders or other group members. For instance, in conforming to the social norms of a valued group, people may behave aggressively, binge eat, or binge drink (Cohen & Prinstein, 2006; Crandall, 1988; Prentice & Miller, 1993). In the public sphere, people may advocate for social policies that violate their core values because their political party proposed them (Cohen, 2003). They may support politicians whom they would otherwise reject when they believe that their election is inevitable (Kay, Jimenez, & Jost, 2002).

People may even engage in genocide if they see their behaviors as defending a sacred value or ingroup from threat. Historians have documented how ordinary German citizens internalized the anti-Semitic views promoted by Hitler and other Nazi leaders before World War II. Indeed, Jews were seen as subhuman and as traitors who had conspired with the Allies to sabotage Germany after World War I. Indoctrinated with this view, ordinary German citizens—not individuals screened as especially violent or anti-Semitic—committed some of the most horrific crimes of the Holocaust. By and large, these were willing murderers; permitted to bow out without punishment, most did not (Browning, 1992; see also Goldhagen, 1997). Like Nazi Germany, terror regimes in Stalinist Russia and Mao's China used socially shared ideologies to satisfy citizens' needs for belonging and inspire popular support (Canetti, 1978; see also Bourdieu, 1977; Glick, 2002).

Belonging needs may also have contributed to undesirable political outcomes in the United States. The Vietnam War provides one example. In 1967, Harry McPherson, special counsel to the president, delivered to President Lyndon Johnson the dismal results of a fact-finding mission to Vietnam—rampant corruption in the South Vietnamese military and staunch resolve among the Viet Cong. Despite this reality, McPherson defended military escalation, telling the president, "Every aspect of our national life and our role in the world is involved in Vietnam. I feel that I am only another of those many men who have a part of their souls at stake there" (quoted in Branch, 2007, pp. 621–622). In the Cold War, the fight against Communism defined America's collective identity. This oppositional identity sustained support from politicians and from the "silent majority" of the citizenry for a war that many believe proved unwise. It took nearly eight years after McPherson's briefing, and the deaths of 58,000 American soldiers and countless Vietnamese, for the war to end—and for the material, human, and political costs of continuing the war to overtake the identity costs of ending it without victory.

## CONCLUSION

Social belonging plays a key role in human motivation, but, with some notable exceptions, it has received relatively little attention in contemporary research and theory in social psychology. This lack of attention affords fruitful areas for future research. Like an alchemist who turns lead into gold, a social connection, it seems, can make a dull task interesting. A seemingly trivial social link such as one based on a shared birthday can inspire motivation. Processes linked to social belonging can cause group differences in academic achievement and provide gateways

for theory-driven intervention. Individuals' interests and motivation are, in many ways, a social project.

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