7 Stereotype Threat Spillover

The Short- and Long-term Effects of Coping with Threats to Social Identity

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Experiencing prejudice has consequences. When people feel like they are being judged by a negative stereotype about their group, they perform poorly in the domain in which the stereotype applies—a phenomenon known as stereotype threat. Unfortunately, the effects of stereotype threat do not end in the threatening environment, but also spill over into other domains, where they can have further detrimental consequences. In this chapter, we present a model detailing the social-psychological processes whereby someone confronted with a negative stereotype comes to suffer effects in areas unrelated to the source of threat, an experience we call *stereotype threat spillover*. This model is based on identity-threat models of stigma, process models of stereotype threat, and theories of stress and coping. We first describe some of the short-term effects of spillover, including aggression, risky decision-making, and overeating. We then discuss long-term effects, including both physical health problems like obesity and hypertension, as well as mental health issues, such as depression and anxiety. We end on a positive note when we outline traits and offer strategies that allow individuals to overcome the negative outcomes set in motion by the powerful experience of prejudice.

Keywords: Stereotype threat, spillover, self-control, ego-depletion, eating, aggression, decision making, health

In their now classic paper, Steele and Aronson (1995) laid out the foundations of a phenomenon that came to be known as *stereotype threat*, the apprehension that targets feel when they think that negative stereotypes about their group will act as a lens through which their behaviors will be judged. According to Steele and Aronson, one of the reasons the black students tend to perform worse on standardized tests of performance compared to white students is that stereotypes are "in the air" (Steele, 1997), arousing deep-seated fears and distracting them from doing as well as they could.

Nearly two decades of research have followed this landmark paper and have con-firmed this basic view. As this edited volume attests, the basic phenomenon of ste-reotype threat is robust, occurring for many groups and in many stereotyped domains, from women in science (Logel, Peach, & Spencer, 2011, Chapter 10, this volume) to indigent students in France (Croizet & Millet, 2011, Chapter 12, this volume), from the elderly (Chasteen, Kang, & Remedios, 2011, Chapter 13, this volume) to white athletes (Stone, Chalabaev, & Harrison, 2011, Chapter 14, this volume). What's more, performance is hurt by a broader category of events—it can occur whenever cues hint that one's social identity is devalued and marginal-ized, when one feels like the victim of a *social identity threat* (Steele, Spencer, & Aronson, 2002).

Whether we are talking about stereotype threat or social identity threat, the point here is that it can affect performance whenever people find themselves in threaten-ing environments (Inzlicht & Ben-Zeev, 2000). In this chapter, however, we ask what happens *after* people leave threatening environments. In short, we ask if coping with the stress of negative stereotypes can spill over into a variety of other domains. Classic research on stereotype threat is mute to such questions.

Here, we present theory and research that allows for an expansion of this theory to cover not only domains in which people are denigrated and unwelcome, but also areas that are stereotype-free. We start by sketching a model detailing the steps involved in coping with stereotype and social identity threat. In this model, we con-ceive of stereotype threat as a stressor similar to those other stressors that targets of prejudice need to deal with, like economic hardships and poor housing (Allison, 1998; Miller & Kaiser, 2001; Major & O'Brien, 2005). Once appraised, stereotype and social identity threat result in involuntary stress reactions, like physiological arousal and cognitive distraction, and volitional coping responses, like thought suppression and attempts at emotion regulation (Schmader & Beilock, 2011, Chapter 3, this volume). The central thesis of this chapter is that both of these types of reactions, voluntary and involuntary, can consume self-regulatory resources, leaving people less able to control and regulate themselves in instances in which self-control is required (Muraven & Baumeister, 2000). Even if participants perform adequately in a stereotyped domain, we suggest that the act of coping is difficult and can leave people in a depleted state that outlasts the threatening situation. Moreover, stress can have direct effects on a whole host of outcomes, which together with depletion can result in both short- and long-term consequences.

Short-term, coping with stereotype threat can affect people in a number of non-stereotyped domains. We review empirical work indicating that after women cope with the negative stereotypes about their math ability, they become more aggressive, eat more unhealthy foods, and have a tougher time paying attention. Critically, we present work revealing how such effects are implemented in the brain. The long-term consequences are just as disquieting, with theoretical and empirical links between threats to social identity and poor mental health (e.g., depression and anxi-ety), poor physical health (e.g., obesity and hypertension), and unhealthy behaviors (e.g., ignoring medical advice, drug use, etc.). Stereotype threat, however, does not

1 always spill over and cause havoc in such a wide variety of domains. We end with
2 a hopeful note, reviewing work suggesting that spillover is not inevitable, but can
3 be overcome with things like active coping, social support, and the cultivation of
4 resilience. Rather than offering a comprehensive analysis of the effects of coping
5 with stigma and discrimination (see Miller & Kaiser, 2001; Major & O'Brien, 2005;
6 Pascoe & Smart Richman, 2009), this chapter presents a working model of how
7 and why the experience of stereotype threat can spill over into nonstereotyped
8 domains, especially domains in which self-control is required. We begin by
9 describing our working model.

10 ■ **A STRESS AND COPING MODEL OF STEREOTYPE**
11 **THREAT SPILLOVER**

12 Figure 7.1 presents a model detailing the social-psychological processes whereby
13 someone confronted with a negative stereotype comes to suffer short- and long-
14 term effects in areas unrelated to the source of threat, an experience we call
15 *stereotype threat spillover*. This model is based on identity-threat models of stigma
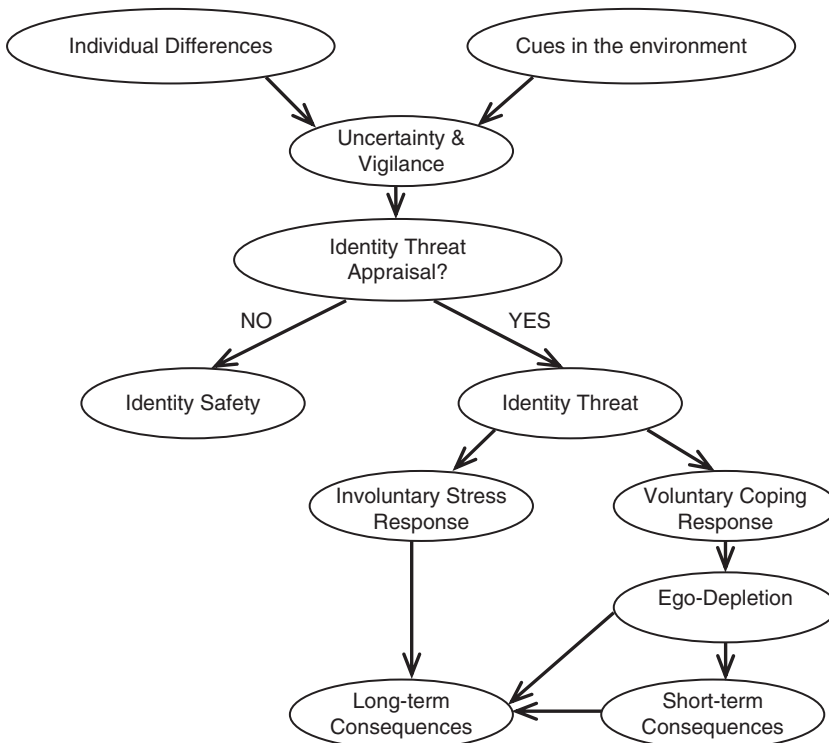

Figure 7.1 A stress and coping model of stereotype threat

1 (Major & O'Brien, 2005), process models of stereotype threat (Schmader, Johns, &
2 Forbes, 2008), and theories of stress and coping (Compas et al., 2001; Lazarus &
3 Folkman, 1984). Briefly, this model assumes that targets of prejudice are more
4 at risk of facing social identity stress than are nontargets (see Figure 7.1). In
5 the short-term, this stress prompts efforts to cope, draining energy required for
6 other things, including making sound decisions and regulating emotions. In the
7 long-term, this increased stress can directly and indirectly lead to physical and
8 mental health problems, such as hypertension, obesity, and depression (Pascoe &
9 Smart Richman, 2009).

10   The model begins with a classic person-by-situation interaction. Situations and
11 environments vary, with some being more threatening and some, less (Murphy &
12 Jones Taylor, 2011, Chapter 2, this volume). Threatening environments can be
13 thought of as settings in which people come to suspect that they could be devalued,
14 stigmatized, or discriminated against because of a particular social identity (Steele
15 et al., 2002). For example, threatening environments could include situations
16 in which one is outnumbered by nonstigmatized outgroups, say when a women
17 finds herself as one of only a handful of women in her engineering lecture hall
18 (Inzlicht & Ben-Zeev, 2000). What is interesting about potentially threatening
19 environments is that they don't need to arouse feelings of rejection explicitly, but
20 may contain subtle, seemingly innocuous cues. The number and position of male
21 and female bathrooms in the executive floor of a bank building may be enough to
22 send messages of acceptance or rejection and start the cascade of physiological
23 stress and coping responses (Murphy, Steele, & Gross, 2007).

24   People differ in the extent to which they are aware of and bothered by negative
25 stereotypes about their groups—a construct known as *stigma-consciousness* (Pinel,
26 1999) or *group-based rejection-sensitivity* (e.g., Mendoza-Denton, Downey, Purdie,
27 Davis, & Pietrzak, 2002). These individuals are vigilant for cues signaling that they
28 are being viewed stereotypically and are therefore more likely to appraise situations
29 as threatening. Other individual differences that contribute to identity-threat
30 appraisals include the extent to which people regard their devalued identity as
31 a central part of themselves (Schmader, 2002) and how strongly they identify with
32 domains in which their group is negatively stereotyped (Aronson et al., 1999).
33 Moreover, even the type of threat that people experience can vary from person to
34 person (Shapiro, 2011, Chapter 5, this volume).

35   The point here is that situations and persons differ, and in specific situations,
36 specific people will become uncertain about their standing and vigilant for cues
37 that signal that their group is devalued (Crocker & Major, 1989). States of uncer-
38 tainty are significant because they are felt very keenly and are sometimes more
39 aversive than states of certain negativity (Hirsh & Inzlicht, 2008). This could be why
40 targets of prejudice are sometimes more affected by ambiguous cues of threat
41 than by overt ones (e.g., Major, Quinton, & Schmader, 2003; Mendoza-Denton,
42 Shaw-Taylor, Chen, & Chang, 2009).

43   Once uncertain, people become acutely aware of cues that indicate whether their
44 social-identity is in fact being threatened (Inzlicht, Kaiser, & Major, 2006; Kaiser,

Vick, & Major, 2006). If cues are not present, or if individuals are not sensitive to those that are there (Feldman-Barrett & Swim, 1998), they may not make identity–threat appraisals or experience further consequences. These "identity–safe" environments convey to individuals that their stigmatized social identities pose no barrier (Davies, Spencer, & Steele, 2005). On the other hand, if cues that confirm stereotype relevance are present in the environment, or if individuals are sensitive to discrimination, they may make threat appraisals, setting in motion a chain of stress and coping responses.

As soon as an identity-threat appraisal is made, people experience a physiological stress response characterized by increases in arousal (Ben-Zeev, Fein, & Inzlicht, 2005; Blascovich, Spencer, Quinn, & Steele, 2001) and distracting thoughts (Cadinu, Maass, Rosabianca, & Kiesner, 2005) that consume limited working memory capacity (Beilock, Rydell, & McConnell, 2007; Schmader & Johns, 2003). These involuntary stress responses are accompanied by voluntary coping strategies. Essentially, individuals are motivated to disconfirm negative stereotypes. On an academic test, for example, targets of prejudice are motivated to perform well and expend great effort to do so (Jamieson & Harkins, 2007). However, once an individual confronts the possibility of failing, they may cope by suppressing harmful thoughts and denying uncomfortable emotions (Johns, Inzlicht, & Schmader, 2008; Logel, Iserman, Davies, Quinn, & Spencer, 2009).

According to the integrated process model of stereotype threat, the proximal mediator of the threat–performance link is loss of executive control (Schmader et al., 2008). The one thing all of the other putative mediators have in common is that they tax executive control, the cornerstone resource needed for skilled performance in virtually any challenging information-processing task. The more executive control is used to manage the effects of stereotypes and identity threats, the less executive control remains for the central performance task—and the less that remains after people leave the threatening environment. Stereotype threat, therefore, leads to processing inefficiencies via depleted executive control.

What is striking about this stress and coping account is that it suggests that people can perform well when confronted by the stress of stereotypes, but would need to expend a good amount of energy and effort to do so (e.g., Inzlicht, Aronson, Good, & McKay, 2006). Whether people underperform or not, the key feature of this model is that this extra compensatory coping effort can result in a state knows as *ego depletion* (Muraven & Baumeister, 2000), affecting people long after they have left the threatening environment (Inzlicht, McKay, & Aronson, 2006). Ego depletion refers to a state of compromised reserves of self-control, of having little mental energy to overcome environmental temptations and override urges, emotions, and automatic response tendencies. Empirical studies have confirmed that self-control is a limited, easily exhausted resource, with prior acts of self-control depleting the self-control available for subsequent tasks (Baumeister & Heatherton, 1996; Muraven & Baumeister, 2000; Muraven, Tice, & Baumeister, 1998).

Managing the stress of negative stereotypes involves coping strategies that are dependent on executive resources, and because these resources are finite, coping

could result in poorer self-control even after the stereotype stressor is no longer "in the air" (Beilock et al., 2007; Inzlicht et al. 2006). In the short term, this state of ego depletion can lead to all sorts of maladaptive behaviors. In the long term, the effects of these behaviors can accrue and have significant consequences, especially to the state of people's health. Chronic exposure to the stress of dealing with a devalued social identity can also have direct effects on health, an issue we return to after detailing the short-term consequences of stereotype threat spillover.

■ SHORT-TERM CONSEQUENCES OF STEREOTYPE THREAT SPILLOVER

Since coping with stereotype threat is ego depleting, it has the potential to affect any domain requiring self-control. Several experimental investigations have now confirmed that, after leaving a threatening environment, people continue to exhibit maladaptive behaviors in domains unrelated to the original threat. In particular, Inzlicht and Kang (2010) have conducted a number of studies indicating that stereotype threat can lead to aggression, overeating, risky decision making, and problems maintaining attention.

In their first study, Inzlicht and Kang (2010) examined whether coping with stereotype threat could lead to aggressive behavior among women. Although aggressive impulses are various and common, the ability to control such impulses is critical and is compromised by ego depletion (DeWall, Baumeister, Stillman, & Gailliot, 2007; Stucke & Baumeister, 2006). To the extent that coping with stereotype threat results in ego depletion, it should also result in unrestrained aggression. Female participants took a difficult math test and half of them received instructions to reappraise the situation and test neutrally and objectively, as if they were professional test evaluators. Such reappraisal instructions eliminate the need to suppress thoughts and emotions in order to cope with the threat, thereby saving participants' self-control resources (Richards & Gross, 2000). The other half of participants were given no further instruction about how to cope with the situation and presumably engaged in the resource-depleting coping strategy typical of those under threat—suppressing emotions and cognitions (Johns et al., 2008; Logel et al., 2009. Then, when no longer in the threatening situation, participants completed a competitive reaction time task against their partner. In this task, whoever responded quicker to a stimulus was allowed to send a burst of white noise to the slower partner. Aggression was operationalized as the intensity and duration of white noise blasts delivered to the partner. Results revealed stereotype threat spillover: Women who coped with stereotype threat "naturally" engaged in more aggressive behavior than did those who were encouraged to reappraise the situation. People normally restrain their aggressive impulses, but the women who coped with threat did not.

Using the same suppression versus reappraisal manipulation, a second study investigated whether stereotype threat can spill over into the domain of eating behavior (Inzlicht & Kang2010). As in the first study, female participants took

a difficult math test while reappraising or not. They were then asked to take part in an ostensibly unrelated "taste test" of three ice cream flavors and were allowed to eat as much of the ice cream as they wanted. Restraining the impulse to indulge in eating this fattening but tempting food requires participants' self-control resources and, consequently, ego-depleted participants should be less able to deny themselves the ice cream (Vohs & Heatherton, 2000). The results confirmed this prediction. Participants in the threat group—those who presumably suppressed their emotions and thoughts—ate significantly more ice cream than did participants in the non-threat, reappraisal group.

The third study looked at yet another important domain: decision making. Previous research suggests that ego depletion hampers the deliberate aspects of the decision-making process (Kahneman, 2003; Masicampo & Baumeister, 2008). In the study, participants were reminded of a time they experienced identity threat before (threat) or after (control) the main dependent variable, a lottery task. In this task, they had the choice between two lotteries, one of them very risky but with a high payoff, and the other one far less risky but with a lower payoff. The expected utility of the second lottery was higher, so rationally, the second, low-risk lottery was the better choice. Again, the results revealed a spillover effect: Identity-threatened participants, who were limited to the automatic, intuitive decision system, selected the risky lottery more often than did control participants.

Although these three studies provide good evidence that stereotype threat can spill over and affect behavior in other, nonstereotyped domains, they cannot inform us of the mechanism. To shed light on the neural processes underlying the observed effects, in their last study Inzlicht and Kang (2010) looked at the activity in the anterior cingulate cortex (ACC), a brain region that is richly interconnected with both limbic and prefrontal areas of the brain, and is critical for self-control (Bush, Luu, & Posner, 2000). In electroencephalographic (EEG) studies, activation of the ACC is associated with a medial-frontal negative event-related potential (ERP), sensitive to errors, conflict, and uncertainty (Gehring, Goss, Coles, & Meyer, 1993). These ERPs are a product of affective responses to one's performance (Luu, Collins, & Tucker, 2000) and act as neural "'distress signals'" sent by the ACC indicating when attention, vigilance, and control are needed (Bartholow et al., 2005, p. 41). Recent work suggests that self-control depletion could be caused by hypoactive performance monitoring (Inzlicht & Gutsell, 2007) or by inefficient performance-monitoring; for example, increased performance monitoring for the wrong type of event, like ones not requiring attention or vigilance. If stereotype threat consumes executive resources, it should not only result in poor executive control, this effect should be mediated by disruptions to this ACC performance-monitoring system.

Male and female participants in the final Inzlicht and Kang study (2010) took a diagnostic math test and were required to cope "naturally" or encouraged to reappraise their emotions. After the test, participants completed a Stroop color naming task, designed to tap cognitive inhibition processes, while their ACC activity was recorded with EEG. As expected, threatened female participants performed worse on the Stroop task than did male or nonthreatened female participants.

Moreover, these control participants showed a normal pattern of brain activity—ERP amplitudes were high after trials that required behavioral inhibition and low after those that did not. The ACC activation of threatened participants, however, deviated from this adaptive pattern: ERP amplitudes were high whether inhibition was necessary or not. Curiously, it was especially high after trials that did not require inhibition. Importantly, this inefficient pattern of ACC activity significantly mediated the negative effects of stereotype threat on performance in the Stroop task. Hence, threatened participants appear to be more vigilant and anxious after all trial types and tend to waste their efforts in situations that do not require vigilance. Having experienced stereotype threat, it seems, affects the ACC-based performance monitoring system in a way that renders it inefficient and thus impairs effective self-control.

The studies described above touch on many domains of human behavior affected by resource depletion, and future studies will likely add to the list of domains affected by stereotype threat spillover. Depletion leaves people unable to restrain their urges and impulses, and as such can affect a large variety of human behavior. This draws a dark picture for those targeted by negative stereotypes. Fortunately, there are ways to cope and means to strengthen self-control. We will detail some of these remedies, but first we discuss potential long-term effects of dealing with the stress of negative stereotypes.

Policy Box

Stereotype threat spillover is the phenomenon whereby coping with stigma can contribute to a host of lingering effects in both the short- and long-term, from overeating to obesity, from aggressive behavior to poor physical health. These ill effects come about directly, through the increased burden of living with stigma, or indirectly through misdirected efforts to cope with this burden. The implications are clear: People belonging to marginalized groups regularly find themselves in situations that make their lives more difficult. Can governments and social service agencies do anything to ease this burden? If spillover comes about because of the interplay between stress and coping, policy should focus on both. The most obvious solution is to buffer targets' exposure to stress by changing the social climate, for example through public education and diversity training. However, such measures are not only slow-moving, their efficacy is not clear. Instead, we advocate for policy that focuses on helping the stigmatized cope. One example would be to offer workshops and seminars in schools and workplaces on adaptive coping techniques, such as problem-focused coping and emotion reappraisal techniques. If many of the short-term problems are caused by self-control failure, helping people develop more efficient self-control resources by "practicing" self-control could also be of use. For example, mindfulness-based stress reduction techniques, now offered in almost every major city in North America, have shown great promise in not only helping people deal with stress, but also in honing their skills at attentional control. Such interventions, we believe, empower victims, helping them take control of the outcomes they experience.

■ LONG-TERM HEALTH EFFECTS OF STEREOTYPE THREAT SPILLOVER

In addition to the immediate consequences of stereotype threat that become evident as soon as a person exits the threatening environment, there is also mounting evidence to suggest that social identity threat can have long-term detrimental effects on health. As described above, perceiving discrimination—a clear threat to social identity—can cause people to feel stress and to cope with that stress. These experiences of stress and coping can then result in physical, psychological, and behavioral changes that can have marked effects on health outcomes (Pascoe & Smart Richman, 2009). Links between perceived discrimination and health have been documented in a number of reviews that demonstrated that both mental and physical health can be adversely affected by experiences of discrimination (i.e., Paradies, 2006; Pascoe & Smart Richman, 2009; Williams & Mohammed, 2009). Stereotype threat spillover, then, may provide a new lens through which to understand how these problems arise, and perhaps also how they can be avoided.

Mental Health Outcomes

An impressive body of work has investigated the effects of perceived discrimination on mental health, with a particular focus on depression. For Koreans in Toronto (Noh, Kaspar, & Wickrama, 2007), mainland Chinese teens in Hong Kong (Lam, Tsoi, & Chan, 2005), blacks in the United States (Lincoln, Chatters, Taylor, & Jackson, 2007), and a considerable number of other minority groups (see Williams & Mohammed, 2009, for review), cross-sectional evidence shows that the more discrimination a person experiences, the more likely he or she is to exhibit depressive symptoms. In addition, some longitudinal work has shown that perceived discrimination predicts depressive symptoms down the road (Brody et al., 2006; Greene, Way, & Pahl, 2006).

Related research has shown that mental health outcomes as varied as anxiety (Banks, Kohn-Wood, & Spencer, 2006; Bhui et al., 2005), rebellious behavior (Brook, Brook, Balka, & Rosenberg, 2006) post-traumatic stress disorder (Khaylis, Waelde, & Bruce, 2007), and reduced general well-being (Sujoldzic, Peternel, Kulenovic, & Terzic, 2006) are all associated with discrimination. In a comprehensive meta-analysis, Pascoe and Smart Richman (2009) found a significant correlation between perceived discrimination and a wide variety of mental health indices. Furthermore, the discrimination-health link still holds when factors such as socioeconomic status, education, and employment are controlled for (Pascoe & Smart Richman, 2009). Although much of the work in this area has been correlational and thus has not addressed the causal processes involved, the longitudinal work that has been done suggests that it is perceived discrimination that is affecting mental health and not the other way around. Possible mediators of this process will be discussed below and lend credence to this interpretation. Overall, even though there are clear self-protective properties to having a stigmatized identity

(e.g., Crocker & Major, 1989), it appears that social identity threat can cause people's mental health to worsen, a result that seems to hold for physical health as well.

Physical Health Outcomes

As with mental health, a link appears to exist between perceived discrimination and reduced physical health. Various studies demonstrate that increases in diseases and risk factors such as obesity (Inzlicht & Kang, 2010), hypertension (Davis, Liu, Quarells, Din-Dzietharn, & M.A.H.D.S. Group, 2005; Roberts, Vines, Kaufman, & James, 2007), and self-reported poor health (Harris et al., 2006; Larson, Gillies, Howard, & Coffin, 2007) accompany higher levels of perceived discrimination. In one longitudinal study, breast cancer incidence was found to be higher among women who reported frequent everyday discrimination, even when controlling for breast cancer risk factors (Taylor et al., 2007). In the same meta-analysis mentioned above, a significant correlation between perceived discrimination and physical health was found, although the results were not as strong as they were for mental health outcomes (Pascoe & Smart Richman, 2009). The evidence, then, strongly supports the conclusion that social-identity threat has detrimental effects on a wide variety of both mental and physical health outcomes. What remains is the question of how this relationship might come about.

How Does Social-identity Threat Affect Health?

According to the model outlined above, people have two immediate reactions to discrimination: an involuntary stress response and a voluntary coping response. Through their effects on health risk factors and health behavior, stress and coping may act as mediators of the relationship between perceived discrimination and health, and thus may help to illuminate the process by which negative health effects take root.

Investigations into the physiological effects of perceived racism show that racism increases the amount of stress one experiences and can contribute directly to physiological effects such as increased blood pressure, heart rate, and negative emotional reactivity that are indicators of stress-related diseases (Harrell, Hall, & Taliaferro, 2003). Repeated exposure to stress can also influence health by contributing to *allostatic load*, the cumulative physiological toll on the body that occurs as a result of experiencing and adapting to stressful events (e.g., Stewart, 2006). Furthermore, stress can also have a negative impact on psychological factors such as negative affectivity, and as such can have detrimental consequences for mental, as well as physical health (Watson & Pennebaker, 1989).

In addition to the direct effects of stress, efforts to cope with that stress can also, perhaps paradoxically, have an indirect negative impact on health. One of the primary ways that these coping strategies can take their toll is through ego depletion. As described earlier in this chapter, efforts to control thoughts, feelings, and behavior can result in a lack of resources necessary for other tasks (Baumeister, Faber, &

Wallace, 1999; Inzlicht et al., 2006). Because of ego depletion and reduced self-control capacity, people may show a tendency to participate in fewer healthy behaviors and more unhealthy behaviors (Pascoe & Smart Richman, 2009). For example, higher levels of self-reported discrimination have been linked to increases in smoking (Landrine & Klonoff, 1996), drug use (Martin, Tuch, & Roman, 2003; Yen, Ragland, Grenier, & Fisher, 1999; Gibbons et al., 2007), and unhealthy eating (Mulia, 2008), as well as decreases in seeking and following medical advice (Casagrande, Gary, LaVeist, Gaskin, & Cooper, 2007; Facione & Facione, 2007). Moreover, experimentally introducing stereotype threat causes women to eat more, providing additional evidence to suggest that coping with negative stereotypes results in ego depletion and can thus prompt individuals to make unhealthier choices (Inzlicht & Kang, 2010).

■ CONCLUSION

The main goal of this chapter was to extend the theory of stereotype threat, to include effects that may occur after people leave threatening environments, when stereotypes are no longer "in the air" (Steele, 1997). We presented a working model of what we have called *stereotype threat spillover*, to demonstrate how threat can have residual effects not only in domains in which people are denigrated and unwelcome, but also in areas that are stereotype-free. This model asserts that targets of prejudice face social identity threat, which can result in involuntary stress reactions, like anxiety and cognitive distraction, and volitional coping responses, like trying to suppress stereotypes and emotions. In the short term, this stress means that individuals will spend their limited energies to cope, leaving them with less energy to do other things, including eating a balanced meal and making sound decisions. Over the long term, this increased stress can directly and indirectly lead to physical and mental health problems, such as subjective well-being, anxiety, and the risk of certain cancers.

We would like to end on a positive note. Although the preceding evidence might paint a dark picture, implying that experiencing stereotype threat can have a wide range of residual effects on volitional control and have real consequences for mental and physical health, it is important to note that this phenomenon does not occur for all people in all situations. A number of factors confer resilience to targets of negative stereotypes, and a number of interventions can increase adaptive coping and therefore reduce spillover. People who have more social support (Noh & Kaspar, 2003), who use problem-focused as opposed to emotion-focused coping (King, 2005), and who appraise discriminatory situations as less central in their lives (Noh et al., 2007) are less likely to experience the ill health that may befall others in the same situations. Similarly, although identifying with one's stigmatized group leaves one more vulnerable to stereotype threat (Schmader, 2002), it also confers resilience from its ego-threatening effects by protecting self-esteem (Crocker & Major, 1989). People who are good at projecting a positive image during social interactions, those who are good at understanding and adapting to various social situations, are

also resilient and appear to cope quite well to the threat of stereotypes (Inzlicht, Aronson, Good, & McKay, 2006).

In addition to the now long list of interventions that could help people overcome stereotype threat (e.g., Cohen, Purdie-Vaughs, & Garcia, 2011, Chapter 18, this volume), we might be able to add an intervention derived from research on ego depletion—practice. Some research indicates that people who practice, or "exercise," self-control can improve and expand their executive resources (Muraven, Baumeister, & Tice, 1999). In the case of stereotype threat spillover, this might mean that people who practice adaptive coping strategies, for example those who consciously practice emotion reappraisal, might be better able to deal with stereotype stress and, importantly, have enough executive resources remaining so that when they leave the threatening environment, they don't leave in a depleted state. The good news is that stereotype threat spillover is not destiny; although social identity stress poses a very real threat to volitional control and mental and physical health, there are approaches and strategies that may be effective in preventing these threats from materializing.

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