

Identity-Based Motivation and Health

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People do not always take action to promote health, engaging instead in unhealthy habits and reporting fatalism about health. One important mechanism underlying these patterns involves identity-based motivation (D. Oyserman, 2007), the process by which content of social identities influences beliefs about in-group goals and strategies. Seven studies show the effect of identity-based motivation on health. Racial-ethnic minority participants view health promotion behaviors as White middle class and unhealthy behaviors as in-group defining (Studies 1 and 2). Priming race-ethnicity (and low socioeconomic status) increases health fatalism and reduces access to health knowledge (Studies 3 and 4). Perceived efficacy of health-promoting activities is undermined when racial-ethnic minority participants who identify unhealthy behavior as in-group defining are asked to consider their similarities to (middle-class) Whites (Studies 5–7).

Keywords: social identity, racial-ethnic identity

In the South, it's fried fish, fried okra, fried chicken, and pie, pie, pie.—Michael Huckabee, *Christian Science Monitor*

When Arkansas governor Michael Huckabee traded eating banquet foods and having a sedentary lifestyle for eating healthy and running every day, he lost 90 pounds. He was so delighted that he wanted to help the young citizens of Arkansas embark on a similarly healthy lifestyle change. As a first step, he proposed changing school lunches to enhance their nutritional value and reduce their contribution to obesity risk (Parker, *Christian Science Monitor*, August 24, 2004). Far from being praised, however, he was criticized by the very people he meant to benefit: the low-income citizens of his state. They wrote letters demanding “real food” like nachos and pizza and argued that he could lose weight

if he wanted, but they did not want to lose weight. Being heavy was part of their way of being (Dewan, *New York Times*, September 10, 2006). Clearly, not all Americans share the idea that restrained eating, exercising, reducing fat and sugar, and refraining from smoking are identity syntonc behaviors congruent with their self-definition.

Does this mean that people who do not see these healthy behaviors as identity syntonc want to be heavy weight or want to put their health at risk? Obviously the answer to this question is no; yet, as we outline in the current article, the consequences of not seeing healthy behaviors as identity congruent can be quite negative. Following Oyserman's (2007) identity-based motivation model, we argue that when behavior is identity infused, engaging in the behavior carries a positive tone of inclusion in the in-group. Identity-infused behaviors can have negative or positive health consequences, depending on which behaviors (e.g., eating fast food or eating raw vegetables) are in-group identified. Thus, we assume that even though they have important consequences for health, identity-infused behaviors are engaged in less for their health consequences than for their identity consequences. According to the identity-based motivation model, health promotion activities (e.g., exercising, restraining eating, reducing fat and sugar, and refraining from smoking) are not simply personal choices made in the moment but rather are social identity-infused habits.

A social identity perspective supposes that people see the world from the perspective of fellow in-group members (Haslam & Reicher, 2006). We therefore anticipate that people want to eat and to engage in lifestyle behaviors and that they believe these choices to be congruent with their in-group's choices. For example, rice, bread, potatoes, and pasta are associated with different national cultures and therefore with different racial and ethnic groups. Eating one's own group's food choices feels pleasant. Although some of these different choices may be benign (e.g., choosing

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some rice or a slice of baguette), others may have important consequences (e.g., choosing fried potatoes or raw fruits as a snack).

Moreover, following from a social identity perspective, if groups compete over a self-defining characteristic, all things being equal, higher resource groups are likely to have an advantage in claiming valued characteristics as in-group identifying (e.g., Lemaire, 1974; Mummendey, Kessler, Klink, & Mielke, 1999; for reviews see Blanton, Christie, & Dye, 2002; Branscombe & Ellemers, 1998). If White and middle-class Americans are identified with health promotion through media campaigns or product advertising, or even as a consequence of easier access to health services, this in itself may reduce the salience of health promotion as a potential in-group attribute for other Americans who are racial or ethnic minorities or have low incomes. These latter groups of Americans would not be against health promotion but would not view it as in-group defining and would focus instead on other attributes to characterize the in-group. Allport (1979) termed this "compensation by substitution" (p. 157), whereas Tajfel (1984) used the term "social creativity" (p. 673) to describe it.

Congruent with social identity theories, an identity-based motivation model suggests that if health promotion is perceived as part of White, middle-class social identity, then unhealthy lifestyle behaviors are more likely to be incorporated into one's own (racial-ethnic minority and low socioeconomic status [SES]) identities, reducing engagement in healthy behavior. We propose that this is the case. First, racial-ethnic minority and working class or low-income Americans are more likely to see engaging in health promotion as a White and middle-class American characteristic and less likely to see health promotion as in-group social-identity-infused behavior. Second, following a social creativity strategy, this association of health promotion with being White and middle class increases the likelihood that in-group social identities of racial-ethnic minorities and working-class Americans will incorporate risky health behaviors (e.g., smoking and eating fast foods) as part of in-group identity. Taken together, the association of health promotion behaviors with White and middle-class Americans and the association of risky health behaviors with one's own racial or ethnic in-group increases the likelihood that racial and ethnic minority Americans feel conflicted, if not fatalistic, about the personal relevance and efficacy of health promotion behaviors, especially when in-group membership is salient.

Our argument is developed in three steps. First, we show that European American and racial-ethnic minority group participants differ in their beliefs about health promotion and that racial-ethnic minority group participants are more likely to encode health promotion activities as middle class and White. Second, we show that these differences increase when racial-ethnic minority group membership is made salient. Third, we show that these effects are modified by the interface between social context and content of racial-ethnic identity. That is, negative effects occur when racial-ethnic minority identity includes the belief that the in-group engages in risky health behaviors and difference between in-group and other Americans is made salient. Negative effects do not occur if racial-ethnic minority identity does not include this belief, even when comparison to other Americans is salient. Finally, we argue that because social identities are complex and fluid, these effects are by no means fixed and permanent. Interventions that shift focus from between-group contrast to inclusion of in-group in broader

American society should create identity-based motivation to engage in health promotion activities. We develop these arguments in more detail as we proceed.

Racial-Ethnic Identities as Social Identities

Social identity theories describe how individuals come to define themselves through the social groups to which they belong, arguing that these social identities are essential parts of self-concept (Hogg & Abrams, 1988; Tajfel, 1978). Together with self-categorization theories (Abrams & Hogg, 2004; Turner, Oakes, Haslam, & McGarty, 1994), a social identity framework suggests that when a social group to which one belongs is made situationally salient, both similarity to the in-group and the relevant meanings associated with the in-group social identity will be brought to mind (Cohen & Garcia, 2005; Haslam, O'Brien, & Jetten, 2005; Pickett & Brewer, 2001; Sidanius, Van Laar, & Levin, 2004). Thus, social identities provide a sense of self based on characteristics associated with one's in-group (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). Taken together, these characteristics form a socially constructed sense of who and what "we" are and also who and what "we" are not (e.g., Oyserman & Markus 1993, 1998).

In the current article, the health-related content of racial-ethnic identities and social class identities are explored by contrasting White and middle-class social identities with racial-ethnic minority and low SES identities. These social identities are the focus of attention because, for social structural and historical reasons, racial-ethnic minority identities are likely to be consequential social identities for Americans of color (e.g., African Americans, Mexican Americans, and American Indians). Although racial-ethnic social identities can be studied without reference to social class and social class identities can be studied without reference to race-ethnicity, these identities are often bound together (see Roccas & Brewer, 2002). That is, being both White and middle class is a powerful joint identity that contrasts with being a racial-ethnic minority with a low income.

Racial-ethnic minorities are exhorted to assimilate into White, middle-class American society (Jacobson, 1998). At the same time, however, racial-ethnic minorities experience a sense of otherness. Racial-ethnic minority status and non-middle-class status are often linked, a linkage reinforced by stereotyping, discrimination, and structural racism. These barriers reinforce a sense of being an outsider to White (middle-class) American society (Massey, 1999). These contradictory inclusion and exclusion messages make questions of in-group similarity to and difference from White, middle-class Americans and broader society chronically salient and increase the likelihood that racial-ethnic minorities do not see as in-group identifying that which is identified as being White (middle-class) American (Portes, 1995).

According to Tajfel and Turner (1986), when the majority (White and middle class) group takes on health promotion as self-defining, racial-ethnic minorities (and low SES Americans) have a number of choices. They can also include health promotion as in-group defining (social competition). They can view health promotion as irrelevant to racial-ethnic in-group identity (disengagement), accept a self-definition as not successful in health promotion, or choose risky health behaviors as positively defining their in-group (social creativity). They can also attempt to leave the

in-group and join the majority group (social mobility) or incorporate health promotion as part of their social identity by creating a dual identity that includes both the in-group and larger society (see, Oyserman, Kimmelmeier, Fryberg, Brosh, & Hart-Johnson, 2003).

The stereotype threat literature has described the consequences of these self-defining choices and their potential negative consequences for academic success, even when individual group members do not explicitly endorse or accept in-group focused stereotypes and do not claim that academics are central to social identity content (Steele, 1997; Steele & Aronson, 1995). However, a number of studies have shown that these effects are modified by the content of racial-ethnic social identity. Academic outcomes are more positive for minority group individuals when academic success is included as an aspect of being an in-group member, as part of one's racial-ethnic identity (Altschul, Oyserman, & Bybee, 2006; Oyserman, Gant, & Ager, 1995), and when racial-ethnic identity includes both membership in racial-ethnic in-group and in larger American society (Oyserman et al., 2003; Oyserman, Brickman, & Rhodes, 2007).

In the current article, we focus on health outcomes. African Americans, Mexican Americans, and American Indians report engaging in fewer health-promoting behaviors (U.S. Department of Health and Human Services, 1996) and experience more health complications and higher morbidity than White Americans, especially White middle-class Americans (Bell, Quandt, Arcury, McDonald, & Vitols, 2000; King et al., 2000; Taylor, Denny, & Freeman, 1999; J. Thompson et al., 2001). Similarly, low-SES Americans engage in fewer health-promoting behaviors and experience more health complications than middle-class Americans (Bolam, Murphy, & Gleeson, 2004).

We ask why might this be and focus on the potential impact of identity-based motivation. Specifically, we ask how content of social identities may influence motivation to engage in health promotion. Unlike the academic domain, this area is not well researched. We did however find some clinically focused studies that illustrate aspects of our argument by showing a link between social identity and mammography. These studies suggest that women are more likely to obtain such cancer screens when their social identity includes a positive sense of connection to both in-group and larger society. Thus, Bowen, Hickman, and Powers (1997) found that African American women who self-identified as "African American" were more likely to seek mammography screening than those who self-identified as "Black" (the women did not differ in how worried they were that they might get breast cancer). Bowen and colleagues speculated that women who self-identified as African American felt less at odds with the dominant culture than those who self-identified as Black.

In a follow-up study, Bowen, Christensen, Powers, Graves, and Anderson (1998) used group psychosocial counseling (vs. a no-counseling control) to attempt to increase intention to obtain mammography screening among African American women. Participants and group leaders were all African American. Results were congruent with Bowen's previous speculation about feelings of inclusion in the dominant culture. In this study, counseling increased intentions to obtain mammography screening only among African American women who described their racial identity in terms of integration with White, middle-class society and not among African American women who described their racial

identity in terms of separation from White, middle-class society. Finally, in a study focusing on Latino and African American women, H. S. Thompson, Valdimarsdottir, Winkel, Jandorf, and Redd (2004) found less past use of mammography screening among women who were suspicious of medical treatment not provided by in-group members and were less racially or ethnically acculturated. Taken together, this prior research suggests that content of social identity matters for health behaviors even though it does not explicitly show identity-based motivation in action.

To make the case for an identity-based motivation approach, we showed first that racial-ethnic minority and low-SES Americans view healthy and unhealthy behaviors as differentially characteristic of White and middle-class society versus characteristic of in-group identity; second, that these perceptions have health-related consequences; and third, that when these perceptions vary, so do health-related consequences. Our initial studies show that healthy behaviors are identified as White and middle class and that unhealthy behaviors are identified as in-group characteristics. Follow-up studies focus on the consequences of perceiving healthy behaviors as part of White and middle-class identity (not in-group identity), using as dependent variables salience of knowledge about healthy behaviors, the perceived utility of health promotion behaviors, felt efficacy for engaging in health promotion, and feeling of fatalism about changing health.

We began with a series of ethnic-specific focus groups asked to discuss health. Participants were American Indian, Mexican American, and African American university students. The goal was to explore whether racial-ethnic minority and low-SES Americans represent healthy lifestyle behaviors as White and middle class and unhealthy lifestyle behaviors (eating fast food and smoking) as part of in-group social identities. Participants were told that the purpose of the group was to discuss everyday health behaviors such as eating and exercise to learn how students think about these topics and which aspects of health promotion behaviors feel "natural" and "me" versus "effortful" and "not me." We found that many participants were like the citizens of Arkansas described in the *New York Times* article discussed earlier. They did not see health promotion as in-group defining but rather described behaviors such as exercising, eating salad, dieting, calorie counting, and commenting on body and food intake as "White" behaviors. Conversely, unhealthy behaviors—such as not watching what one eats; not counting calories; eating fried food, fast food, and red meat; making fun of vegetarians; and being heavier than White women—were described as in-group characteristics. Eating fast food with other in-group members was also described as a way to reduce stress and to feel connected. Indeed, our initial title for the resultant studies was "McDonald's and I Are One." Focus-group generated statements were concrete and vivid, and we used them to develop materials for our studies.

In Studies 1–4, we asked whether making racial-ethnic minority and social-class identities salient increases accessibility of the kinds of attitudes and beliefs that undermine health promotion and decrease accessibility of health knowledge. In Studies 5–7, we followed up with further tests of our model, specifically, that it is the interface between content of social identity ("we" don't do health) and salience of distinction from larger society ("we" are different from White people) that drives health fatalism. We tested our model by experimentally manipulating feelings of dissimilarity

and assessing content of social identity as it relates to healthy and unhealthy behaviors.

Disentangling race–ethnicity from social class effects is theoretically important. Stereotyped notions of race and ethnicity are often based on social class. Stereotypes about being White focus on middle-class Whites, and stereotypes about being Black focus on lower income African Americans (for a discussion of the consequences of this assumed linkage for the content of racial stereotypes, see Celious & Oyserman, 2001). Given this intermingling, we assume that the social identities we study are a mix of social class and race–ethnicity even when it is clear that minority racial–ethnic status cannot be assumed to go with low SES (e.g., in our college samples compared with our non–college samples).

Finally, some caveats should be added to our straightforward presentation of identity-based motivation effects. Neither social identity theory nor our identity-based motivation model requires that content of social identity be explicit or rigidly fixed in order for it to influence motivation, behavior, and outcomes over time. That social identity content does not have to be explicit means that it is not necessary to show effects on explicit trait-listing or descriptor-endorsement checklists. Rather, implicit aspects of social identity can be shown by priming a social identity and showing change in motivation, behavior, or attitudes. Priming methods are particularly useful because identity-relevant characteristics often differ in social desirability, with some characteristics being desirable and others being undesirable. Differences in social desirability imply that explicit checklist methods provide conservative estimates of effects. Participants may not explicitly endorse positive characteristics as part of the out-group identity or negative characteristics as part of in-group identity.

That social identity content does not have to be rigidly fixed means that a social construction model can be applied. As a social construction, content of social identity is likely to be both heterogeneous and sensitive to social context change. The hypothesized average results that we described earlier are likely for those who see unhealthy behaviors as in-group defining, but, of course, not all members of racial–ethnic minority groups will do so. Moreover, as social contexts shift, so will content of social identity, opening the way for interventions to promote inclusion of health in social identity of low income and minority Americans.

As an initial conservative test of our identity-based model, we started with explicit content of identity. Because they are explicit, the questions are rather heavy handed. Specifically, in Study 1 we asked racial–ethnic minority and European American undergraduates to explicitly state both how often they engaged in a series of health promotion behaviors and whether they perceive these health promotion behaviors to be characteristic of “White” and middle-class individuals. Similarly, in Study 2 we asked racial–ethnic minority and European American undergraduates to rate the extent to which health promotion behaviors are identified as in-group defining. In Studies 3 and 4, we used a more subtle approach, manipulating the salience of minority racial–ethnic identity and testing whether it increased health fatalism and undermined access to knowledge about healthy behavior. In Studies 5–7, we investigated under what circumstances these negative effects of identity salience are likely to be expressed by manipulating how different from (White, middle class) American society study participants felt. Given the directional nature of our hypotheses, we used

one-tailed tests throughout. We did not posit and did not find gender effects, so analyses did not include gender.

Study 1

In Study 1, we asked racial–ethnic minority and European American undergraduates to explicitly state how often they engaged in a series of health promotion behaviors and whether they perceived these health promotion behaviors as characteristic of White and middle-class individuals. This study had two objectives: first, to examine the extent to which participants reported engaging in health promotion behaviors and second, to examine whether participants perceived these behaviors as being White, middle-class activities. We anticipated that racial–ethnic minorities would report engaging in less health promotion and would perceive health promotion behaviors as being more White, middle-class activities than would European Americans.

Method

Participants and Procedure

Stanford University undergraduates ($N = 155$; 83 women, 72 men) were approached on campus and asked to take a few minutes to fill out a health questionnaire. Participants reported being American Indian ($n = 41$, 22 women, 19 men), African American ($n = 33$, 23 women, 10 men), European American ($n = 55$, 25 women, 30 men), and Mexican American ($n = 26$, 13 women, 13 men). Students first rated their own engagement in a series of health promotion behaviors and then rated how White and middle class it is to engage in the behaviors. The final questions asked about gender and race–ethnicity.

Measures

Frequency of health promotion behaviors. Students filled in the number of days in the past month they exercised, watched what they ate, got enough sleep, ate nutritious food, and ate fruits and vegetables. A healthy eating score was obtained by computing a mean of the eating items (watching diet, eating nutritious food, eating fruits and vegetables; $\alpha = .73$). The exercise and sleep items were single-item constructs.

Health promotion as White, middle-class behavior. Students responded on a 4-point Likert scale (1 = *strongly disagree*, 4 = *strongly agree*) to the question “Some people believe that the behaviors you just rated are mostly White, middle-class ways of being. How much do you agree? For each of the behaviors listed below, rate how much you agree.” Again, a mean of the three eating items ($\alpha = .84$) was computed to form the “Eating Healthy Is White” construct, and exercise and sleep were single-item constructs.

Results

Analysis of variance (ANOVA) showed that, consistent with prior research, racial–ethnic minority students (Mexican American, American Indian, and African American students) reported significantly fewer health promotion behaviors—eating healthy, $F(1, 129) = 7.53, p < .01$; getting enough sleep, $F(1, 129) = 6.03, p < .02$; and exercising, $F(1, 134) = 5.50, p < .02$ —than

European American students. See Figure 1, Panel A, for means and standard errors. When minority groups were analyzed separately, the pattern of results was consistent, and results were significant for African Americans and American Indians ($ps < .05$) and were marginally significant for Mexican Americans ($p < .06$).¹

Racial-ethnic minority students were also more likely than European American students to view health promotion behaviors as White and middle class: eating healthy $F(1, 129) = 4.41, p < .04$; getting enough sleep $F(1, 152) = 6.60, p < .01$; and exercising $F(1, 152) = 5.22, p < .03$. See Figure 1, Panel B, for means and standard errors. When minority groups were analyzed separately, the pattern of results was consistent but significant ($p < .05$) only for American Indians.²

Discussion

Study 1 showed that even among university students, engagement in health promotion behaviors was lower in racial-ethnic

minorities than in European Americans and that minority students were more likely to rate these behaviors as White and middle class. Our results are noteworthy and should be assumed to be conservative estimates of identity-based motivation for a number of reasons. First, we asked the question very directly. Neither social identity theory nor our identity-based motivation model requires that content of identity be quite so explicit. Second, to the extent that engaging health promotion is the “right” thing to do, participants may be motivated to claim more healthy behaviors for themselves and their in-group, especially when asked. A straightforward social identity theory prediction would be that individuals prefer to define the in-group positively and so would rate positive behaviors as being more in-group than out-group defining. Identity-based motivation theory does not make this prediction and indeed we found participants agreeing that positive behaviors are part of the out-group. By showing that minority students rate health promotion behaviors as White and middle class, Study 1 began to build the case that identity-based motivation may influence health promotion. However, Study 1 did not assess the extent to which racial-ethnic minority students rated health promotion as an in-group activity. We addressed this in Study 2.

Study 2

In Study 2, we asked racial-ethnic minority and European American undergraduates at a different university to describe their race-ethnicity and then rate how much they viewed health promotion as an in-group behavior. We expected that racial-ethnic minorities would be less likely to view health promotion as an in-group behavior than European American students.

Method

Participants and Procedure

University of Michigan undergraduates ($N = 103$; 58 women, 45 men; 71 European American, 16 Asian American/Pacific Islander, 5 African American, 5 Latino, 2 American Indian, 4 biracial) participated in partial fulfillment of a course requirement.

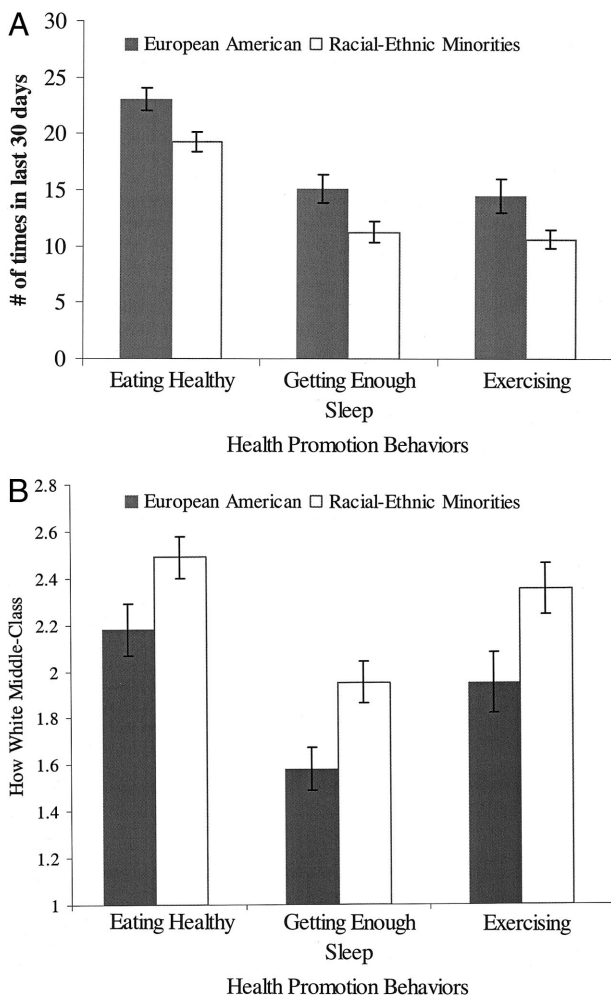


Figure 1. A. Study1: Means of college students' self-reported weekly frequency of health promotion behavior during the previous 30 days. Error bars = standard errors. B. Study 1: Means of college students' rating (on 4-point Likert scale: 1 = strongly agree, 4 = strongly disagree) of health promotion behavior as "White and middle class." Error bars = standard errors.

¹ The breakdown of racial-ethnic minority students (by group) showed differences in frequency of each behavior relative to European American students: eating healthy, $F(3, 126) = 3.12, p < .05$; getting enough sleep, $F(3, 126) = 2.46, p = .07$; and exercising, $F(3, 131) = 2.67, p < .05$. Orthogonal planned contrasts comparing each racial-ethnic minority group to European American students showed that American Indian and African American students (all $ps < .05$) reported significantly fewer health behaviors in each category than did European American students, whereas the difference between European American and Mexican American students, though in the same direction, was marginally significant only for the category of eating healthy ($p < .06$).

² The breakdown of racial-ethnic minority students (by group) found differences in the extent to which each behavior was viewed as "White, middle class": eating healthy, $F(3, 149) = 4.48, p < .01$; getting enough sleep, $F(3, 149) = 4.70, p < .01$; and exercising, $F(3, 149) = 3.90, p < .01$. Orthogonal planned contrasts comparing each racial-ethnic minority group with European American students showed a significant difference for American Indian students (all $ps < .05$), who reported stronger belief that each of the health promotion behaviors was White; results for the other groups were in the same direction, though not significant.

Students were asked to check off their social class (choosing between middle class or upper class and working class) and to write in their race–ethnicity. Immediately afterwards they were asked to fill out the in-group health behavior questions used in Study 1. Students were told that the term *in-group* referred to the groups they just chose. Because few students reported being low SES, these few students were dropped from analyses, and only students who reported being White and middle- or upper-class ($n = 67$) or racial–ethnic minority and middle- or upper-class ($n = 31$) were compared.

Measures of In-Group Health Behavior

A 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*) was used to rate 16 items to assess in-group health promotion behavior ($M = 3.12$, $SD = 0.60$, $\alpha = .91$). We brought racial–ethnic and social class groups to mind by beginning each item with “How much do you agree that members of your group are likely to” Sample items included “eat salad,” “brush teeth,” and “exercise daily.”

Results

We hypothesized that racial–ethnic minority students would be less likely than White students to view health promotion as an in-group behavior. Indeed, racial–ethnic minority students ($M = 2.90$, $SD = .62$) were significantly less likely than White students ($M = 3.22$, $SD = .64$) to report positive health promotion behaviors as in-group behaviors, $F(1, 94) = 6.15$, $p = .01$.

Discussion

We proposed an identity-based motivation model to understand barriers to engaging in health promotion among racial–ethnic minorities and low-SES Americans, suggesting that these Americans are more likely to perceive health promotion as an out-group characteristic (White and middle class, Study 1) and not as an in-group characteristic (Study 2).

In Study 1, we showed that racial–ethnic minority students are less likely to engage in health promotion and are more likely to view health promotion as White and middle class. In Study 2, we found that racial–ethnic minority students are less likely than European American students to view health promotion as in-group behavior. What are the implications of these findings? We suggest that minority students may have less identity-based motivation to engage in health promotion, especially when in-group identity or the boundaries between in- and out-groups are made salient.

According to social identity theory, if health promotion is perceived as not characterizing racial–ethnic minority groups, the negative consequences for minority groups should be apparent when these social identities are made situationally salient. Thinking about oneself as a minority in-group member should dampen health promotion efficacy (e.g., “health is not a thing that we do”), increase health fatalism (e.g., “there is nothing we can do about it”), and make health knowledge less accessible (because it is not cued by the situationally salient minority identity). In Studies 1 and 2, we did not have enough low-SES participants to include social class identity; however, to the extent that health promotion activities are perceived as White and middle class, making salient one’s

race–ethnicity and social class should have an effect, whether one is part of a racial–ethnic minority or low-SES group. To examine these hypotheses, in Studies 3 and 4, we subtly manipulated the salience of racial–ethnic and social class identities among low-SES teenaged participants.

Study 3

In Study 3, we asked low-SES, mostly racial–ethnic minority middle-school students how fatalistic they were about being able to stay healthy either before or after their status as low SES (and racial–ethnic minority) was made salient. The objective of this study was to examine the extent to which making salient low-income and/or racial–ethnic minority status would increase fatalism about health, as hypothesized by our identity-based motivation perspective. We anticipated that when membership in low SES and racial–ethnic minority group was made salient, participants would report more fatalism about health than when membership in low SES and racial–ethnic minority group was not made salient. To increase ecological validity, we used a different location and sample for each study. Studies 1 and 2 sampled college students enrolled in two different elite universities, and Study 3 sampled eighth grade students enrolled in a public urban middle school.

Method

Participants and Procedure

Participants ($N = 51$) were eighth grade students (26 girls, 25 boys) in a high poverty middle school in Michigan. All of the students were eligible for the free or reduced-price lunch program and were living in high-poverty neighborhoods in which 32% of residents live below the federal poverty line (U.S. Census Bureau, 2003). Most students were Hispanic ($n = 36$), some were African American or African American and Hispanic ($n = 6$), and the remaining students ($n = 9$) described themselves as White and something else (e.g., European American and Native American, European American and Hispanic). It was not possible to determine whether these students meant that they were biracial. Questionnaires were anonymous, took a few minutes to complete, and were filled out in class. Pairs of research assistants—one Hispanic or African American and one European American—administered the questionnaires.

We manipulated the salience of race–ethnicity and low income by randomly assigning students to respond to questionnaires in one of two orders. In the salience condition, students ($n = 26$) filled out race–ethnicity and SES information before answering health fatalism questions. In the not-salient condition, students ($n = 25$) filled out health fatalism questions first. Specifically, students were presented with the stem “I am . . .” followed by boxes, each containing a race–ethnicity: Black/African American, White/European American, and Hispanic/Mexican American/Latino. Then they were presented with the stem “In my family, having enough money . . .” followed by boxes, each containing a phrase: “is an issue all the time,” “is an issue some months more than others,” and “is an issue when I make plans.” All youths checked off at least one race–ethnicity, and all but two checked one of the social class boxes.

Measures of Health Fatalism

The participants rated two items assessing health fatalism—"Some people are healthy; others die young; that is just the way it is" and "Everyone gets fat over time; there is no point worrying about it"—on a 5-point scale (5 = *strongly agree*, 1 = *strongly disagree*; $M = 2.94$, $SD = .66$).

Results

A one-way ANOVA revealed the hypothesized effect of the identity salience manipulation, $F(1, 49) = 4.90$, $p < .01$. When social identity was salient ($M = 3.13$, $SD = 0.69$), participants were more likely to report fatalistic beliefs about health promotion than when social identity was not made salient ($M = 2.74$, $SD = 0.58$).³

Discussion

In Studies 1 and 2, we documented that at elite universities, minority college students are more likely to rate healthy behaviors as being White and middle-class concerns and less likely to rate them as in-group behaviors than are White middle-class students. In Study 3, we focused on low-income, racial-ethnic minority middle-school students. Study 3 documented that priming social identity increases feelings of fatalism about improving health. Specifically, when race-ethnicity minority and low-SES status were brought to mind, students were more fatalistic about their chances for good health than when race-ethnicity minority and low-SES status were not brought to mind. Together, these studies suggest that when health behavior is viewed as an out-group behavior and not an in-group behavior, bringing these identities to mind may have the unintended consequence of making individuals feel more fatalistic about health promotion. In addition to this increase in fatalism, our identity-based motivation model would also suggest that if social identity does not include the belief that "we" (members of the in-group) engage in health promotion, then health knowledge would be less accessible when social identity is made salient. In Study 4, we examined this hypothesis.

Study 4

Using the same identity salience manipulation as in Study 3, we asked low-SES, racial-ethnic minority middle-school students about their health knowledge. Specifically, the study examined whether making racial-ethnic minority and low-SES status salient would reduce access to health promotion knowledge, as hypothesized by our identity-based motivation model. We anticipated that when racial-ethnic minority and low-SES status was made salient, access to health knowledge would be lower than when racial-ethnic minority and low SES status was not salient.

Method

Participants and Procedure

Participants ($N = 51$) were eighth grade students (25 girls, 25 boys, 1 no response on gender; 35 Hispanic, 9 African American, 7 European American or other race-ethnicity) in the same high-poverty middle school whose students participated in Study 3. We

used the same salience manipulation described in Study 3 ($n = 26$ identity salient, $n = 25$ identity not salient). The dependent measure was health knowledge. Questionnaires were anonymous, took a few minutes to complete, and were filled out in class.

Measures of Accessibility of Health Knowledge

Health knowledge was assessed through four open-ended questions, which according to the school health curriculum, were appropriate for middle-school students. Specifically, students were asked to list three benefits of physical activity (e.g., less likely to get fat, good for bones and muscles, less likely to die young of diseases like diabetes or to have heart disease or high blood pressure), five benefits of drinking water (e.g., need it to survive, do not feel well if thirsty, helps body function, lubricates joints, regulates temperature, contains nutrients), the number of daily servings for each of the three main food groups (e.g., fruits and vegetables; grains and carbohydrates; dairy, meat, and protein), and three things that can be learned from reading a food label (e.g., serving size, calories, ingredients). Blank lines followed each question.

A research assistant, blind to our hypothesis, study condition, and child demographic information, coded the total number of answers and the total number of correct answers (using the school's health curriculum). Factor analysis (varimax rotation) showed that the total number of answers loaded on a single factor; a second factor analysis (varimax rotation) showed that the total number of correct answers also loaded onto a single factor. Because each question had a different number of possible correct answers, we took the mean of the standardized number of correct responses ($M = 0$, $SD = 1$; range = from -2.04 to 2.37 , $\alpha = .54$). We also computed the proportion of correct answers from the total number of answers generated for each question and computed a mean proportion ($M = .56$, $SD = .20$, $\alpha = .39$); this latter dependent variable was developed in case priming influenced participants' propensity to answer questions at all. Analyses were computed twice, once with each score.

Results

A one-way ANOVA showed that, as hypothesized, students generated fewer correct responses in the identity-salient condition than in the identity-not-salient condition. The standardized sum of correct responses was significantly lower in the identity-salient condition ($M = -0.23$, $SD = .95$) than in the identity-not-salient control condition ($M = 0.24$, $SD = 1.01$), $F(1, 49) = 2.89$, $p < .05$. The same pattern of results was found when the proportion of correct responses was analyzed (identity-salient condition, $M = .52$, $SD = .21$; identity-not-salient condition, $M = .61$, $SD = .18$), $F(1, 49) = 2.53$, $p < .06$, though in this case effects were marginally significant.

Discussion

Studies 1 and 2 showed that minority students are more likely to perceive health promotion and health activities as White and

³ This effect remained when the two youths who did not fill out their SES were omitted from analyses (salient: $M = 3.18$, $SD = 0.66$; not salient: $M = 2.75$, $SD = 0.59$), $F(1, 47) = 5.77$, $p < .005$.

middle-class behaviors and are less likely to perceive health promotion behaviors as belonging to the in-group than do White and middle-class students. Study 3 showed that making membership in low-income and racial-ethnic minority groups salient increases students' fatalism about improving their health. In Study 4, we followed up by asking whether part of the reason for less engagement in health and more fatalism about health is that thinking about oneself as a member of a low-income and racial-ethnic minority group reduces accessibility of health knowledge.

In Study 4, the same pattern was found whether the number of correct responses or the correct responses as a proportion of all responses were used (although, in the latter case, the effect was only marginally significant). The proportion score is a more conservative estimate of effects because it adjusts for the possibility that the identity-salient condition results in disengagement (because school generally might not be seen as an in-group activity). If that were the case, students in the control (identity-not-salient) condition would have had more responses as well as more correct responses. However, the pattern of effects remained when we controlled for the number of responses. In conjunction with the findings from Studies 1–3, the results of Study 4 suggest an effect of priming social identity on accessibility of health knowledge, rather than simply a stereotype threat effect.

Although the brief health knowledge measures are limited by low reliability, taken together, Studies 1–4 support the hypothesis that racial-ethnic minority and low-SES participants view health promotion as a characteristic of the White middle class and not part of their in-group identity and that making salient in-group identity increases health fatalism and dampens access to health knowledge. These results are congruent with a basic finding in social cognition research that judgments (e.g., of efficacy of health promotion) are influenced by what comes to mind when making the judgment if what comes to mind seems relevant to the judgment task (for a review see Higgins, 1996). As noted in the introduction, social identity theory outlines a number of possible consequences of including health promotion as a characteristic of White middle-class identity. Specifically, if health promotion is White and middle-class behavior, then racial-ethnic minority groups may either view health promotion as irrelevant to their in-group social identity or incorporate the opposite of health promotion (e.g., unhealthy lifestyle) as an in-group characteristic.

In the studies described so far, we have found that, on average, the identity-salient manipulation increased health fatalism and reduced access to health knowledge. We expected that this occurred because participants implicitly or explicitly contrasted their in-group with a salient image of what it means to be White and middle class in the way described by self-categorization theory (e.g., Oakes, Haslam, & Turner, 1994). We further expected that increased health fatalism and reduced access to health knowledge would not result if, instead of contrasting in-group with an imagined White and middle-class group, similarities to White middle-class Americans were brought to mind or if the in-group were perceived as engaging in healthy behaviors. However, Studies 1–4 did not provide direct tests of this process model. Therefore, in the final set of studies (Studies 5–7), we moved beyond the average effects shown in Studies 1–4 to ask if the undermining effect of making in-group salient was found only for those who see unhealthy behaviors as in-group defining (or do not see healthy

behaviors as in-group defining) and only when difference to White (middle-class) Americans is cued.

Study 5

Schwarz et al.'s (1991) fluency model was used as a basis for the manipulations in Studies 5–7. Schwarz and colleagues showed that participants judge themselves as more similar to a target after following instructions to generate a few (typically three) similarities to the target than after following instructions to generate many (typically eight) similarities (even though they have just successfully generated many similarities). This is because generating a few examples is easier and judgment is based on the feeling of fluency derived from the task; judgments that feel easy are assumed to be true whereas those that feel onerous are assumed to be false. In the particular case of generating similarities between one's in-group and Whites, we expected that participants generating a few similarities would not differ from control (no-similarities-generated) participants in their rating of similarities to Whites because some similarities between one's in-group and Whites are likely to be chronically primed by participation in American society (e.g., Plaut, 2002). Compared with the control and few-similarities conditions, bringing to mind many similarities to Whites should dampen participants' feelings of similarity to Whites.

However, bringing to mind similarities to Whites does not simply influence feelings of similarity. It should also bring content to mind that should be brought to bear on the judgment task if it feels relevant. To the extent that health promotion is viewed as White, bringing to mind many similarities to Whites should also make accessible information about the utility of health promotion via spreading activation of semantic content. If this salient content feels relevant to the judgment task, participants should judge health promotion as having more utility after bringing to mind many similarities to Whites. This effect should not occur if the accessible health information is discounted as irrelevant to the judgment (Schwarz, 2005). An identity-based motivation model suggests that the accessible health information is deemed irrelevant to the judgment task if it is not in-group defining. Thus, participants who rate unhealthy behavior as in-group defining should discount as irrelevant to judgment accessible health information brought to mind via spreading activation when thinking about Whites; this should not be the case for participants who do not rate unhealthy behavior as in-group defining. When the task of listing similarities to Whites is made difficult (the many-similarities condition), participants who see unhealthy behavior as in-group defining should respond to the difficult task by asserting that health promotion is not effective. These hypotheses were tested in Studies 5–7.

In Study 5, African American university students were asked to generate a list of either three (easy, few-similarities condition) or eight (difficult, many-similarities condition) similarities to Whites or were not asked to generate any similarities at all (control condition). After generating the list, they were asked whether healthy eating actually is helpful. Finally, they were asked to rate the extent that healthy and unhealthy behaviors are in-group behaviors. This study had two objectives: first, to examine the extent to which the many-similarities condition reduced belief in healthy eating, and second, to examine whether this effect was moderated

by content of social identity (the belief that unhealthy behaviors are in-group defining). We hypothesized that the combination of being primed to feel different from Whites (after having difficulty generating a long list of similarities) and believing that the in-group engages in unhealthy behaviors that would produce the effect. We anticipated that African American students who believed that unhealthy behaviors are in-group defining would report that healthy eating is less helpful after being primed to feel "different from Whites" by being asked to generate a long list of similarities.

Method

Participants and Procedure

Using Stanford University's African American Program Directory, we telephoned 69 African American undergraduates (30 men, 39 women; age, $M = 19.6$ years, $SD = 1.3$; years in school, $M = 14.4$ years, $SD = 1.3$) and invited them to participate in a 10-min anonymous telephone survey on their "opinions about health." Salience of similarities to Whites was manipulated via random assignment of participants to one of three conditions: control, few similarities, or many similarities. In both of the similarities conditions, instructions were "Please describe three (eight) ways African Americans and Whites are similar" (no similarities were requested in the control condition). We used three and eight similarities following earlier research (Grayson & Schwarz, 1999; Rothman & Schwarz, 1998; Schwarz et al., 1991; Winkielman, Schwarz, & Belli, 1998) showing that three examples are generally easy to generate and eight examples are generally hard. Participants were then asked about efficacy of eating healthy, after which we conducted a manipulation check. The final section of the survey included demographics and in-group social identity questions.

All participants provided the requested number of similarities to Whites, and content of similarities responses was not distinguishable by condition or order of generation. Common responses included "They like the same music," "They eat the same food," "They wear similar clothes," "They care for their families," and "They value education." The salience manipulation showed the expected pattern with respect to participants' beliefs about similarity to Whites, $F(2, 55) = 2.10$, $p = .13$, when years of education ($p = .09$) was included as a covariate. Planned contrasts were not significant but showed mean similarity to Whites shifted in the expected direction of being lower in the many-similarities condition ($M = 2.14$, $SD = .55$) than in the control ($M = 2.68$, $SD = 1.04$, $p < .07$) and few-similarities ($M = 2.64$, $SD = .87$, $p < .10$) conditions. Effect of prime was not moderated by content of racial-ethnic identity, $F(2, 55) = .05$, $p = .96$.

Measures

Utility of health promotion. We assessed the utility of health promotion behavior by asking students to estimate with a percentage response (from 0% to 100%) how much a person's health is influenced by eating healthy foods.

Social identity (Healthy behavior is in-group/unhealthy behavior is in-group). Two five-item scales were used: Healthy Behavior Is African American ($M = 2.31$, $SD = 0.53$, $\alpha = .67$.) and

Unhealthy Behavior Is African American ($M = 3.40$, $SD = 0.62$, $\alpha = .71$.). Participants were asked to rate "How Black is it to . . .?" using a 5-point Likert scale response format (1 = *not at all Black*, 5 = *very Black*). The Healthy Behavior Is African American Scale was a mean of the items "floss your teeth," "buy reduced-fat foods," "exercise as an adult," "diet," and "eat salad." The Unhealthy Behavior Is African American Scale was a mean of the items "eat red meat," "smoke cigarettes," "add salt to food," "eat fried food," and "eat candy or drink soda." The two identity scales were correlated, $r(69) = .34$, $p < .01$.

Results

Unhealthy behavior appeared to be more in-group defining than healthy behavior. Participants rated unhealthy behavior ($M = 3.44$, $SD = 0.61$) as more African American than healthy behavior ($M = 2.28$, $SD = 0.52$), $t(59) = 13.63$, $p < .001$. Means for unhealthy behavior were above the scale midpoint, whereas means for healthy behaviors were below the scale midpoint.

Using condition and endorsement of unhealthy behavior as in-group defining and controlling for years of education, we conducted regression analyses to test the hypothesized effect of believing that the in-group is characterized by unhealthy behavior when difference of the in-group from White (middle-class) Americans is made salient. We entered first the main effects of condition (dummy coded), endorsement of engaging in unhealthy behavior as an in-group characteristic (as a continuous variable centered around its mean), and Years of Education and then Condition \times Endorsement of Engaging in Unhealthy Behavior as an in-group characteristic interaction.

We did not expect a main effect of endorsement of unhealthy behavior as an in-group characteristic but rather an effect when endorsement was high and participants were made to think about differences between the in-group and White (middle-class) Americans. Because the hypothesis focused on the difference between the difficult, many-similarities condition and the two other conditions, which were not expected to differ, we first tested the difference between the control and few-similarities condition (excluding the many-similarities condition) and then tested the difference between the many-similarities condition and each of the other conditions (control and few-similarities). Because these later two effects were in the same direction, we plotted as figures the difference between the many-similarities condition and both the other conditions combined, in all cases controlling for years of education ($p = .28$).

When we compared the control and few-similarities conditions, the regression revealed no main, $\beta = -.23$, $t(44) = -1.66$, $p = .11$, or interaction, $\beta = .22$, $t(44) = 1.30$, $p = .20$, effects of condition and no effect of endorsement of engaging in unhealthy behavior as an in-group characteristic, $\beta = .17$, $t(44) = 1.20$, $p = .24$. When the many-similarities condition was compared with the control and few-similarities conditions combined, we found the expected interaction, $\beta = -.41$, $t(69) = -3.02$, $p < .01$, and no main effect of years of education, $p = .28$, condition, $\beta = -.09$, $t(69) = -.71$, $p = .48$, or endorsement of engaging in unhealthy behavior as an in-group characteristic, $\beta = -.03$, $t(69) = -.23$, $p = .82$. Figure 2 shows the plot of this interaction; following the recommendation of Aiken and West (1991), we compared those participants high in endorsement of unhealthy behavior as an

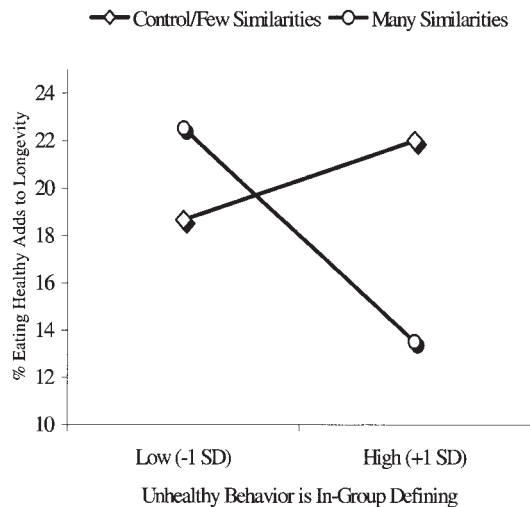


Figure 2. Study 5: Interactive effect of content of social identity and primed similarities with Whites on perceived utility of eating healthy among African American college students. Low (-1 SD) = those with low endorsement of unhealthy behavior as in-group characteristic, High ($+1$ SD) = those with high endorsement of unhealthy behavior as in-group characteristic.

in-group characteristic (1 SD above the mean) and those low in endorsement of unhealthy behavior as an in-group characteristic (1 SD below the mean).

Among participants high in their endorsement of unhealthy behavior as an in-group characteristic, condition mattered: Those participants in the difficult, many-similarities condition reported less utility of health promotion than those in the control or few-similarities conditions, $\beta = .49$, $t(69) = 2.77$, $p < .01$. Among participants low in endorsement of unhealthy behavior as an in-group characteristic, condition did not matter, $\beta = -.22$, $t(69) = -1.44$, $p = .15$.

Analyses of the simple slopes indicated that in the difficult, many-similarities condition, high endorsers of unhealthy behavior as in-group defining (compared with low endorsers) rated engaging in health behavior as less effective, $\beta = -.56$, $t(69) = -2.66$, $p < .01$. This effect was not found in the control or few-similarities conditions. In these conditions, the simple slope was not significant, $\beta = .20$, $t(69) = 1.49$, $p = .14$.

To examine whether these effects were, in fact, due to including unhealthy behavior in racial-ethnic identity (as opposed to not including healthy behaviors in racial-ethnic identity), we ran these analyses again using the same regression structure but replacing the social identity variable to focus on endorsement of healthy behavior as in-group defining instead of unhealthy behavior as in-group defining. As before, we controlled for years of education ($p = .42$). When the identity construct focused on healthy behavior, the previously reported significant pattern was not found. The Condition \times Healthy Behavior Is In-Group Defining interaction was not significant, $\beta = -.19$, $t(69) = -1.25$, $p = .22$, and there was no main effect of condition, $\beta = -.11$, $t(69) = -.90$, $p = .37$. A difficult-to-interpret significant main effect of perceiving healthy behaviors as in-group defining, $\beta = -.26$, $t(69) = -2.19$, $p < .04$, was found, implying a negative association between

viewing healthy behavior as in-group defining and perceived efficacy of health promotion.

Discussion

Studies 1 and 2 showed that racial-ethnic minority students were less likely to view health promotion as in-group behavior and more likely to see it as a White and middle-class characteristic, and Studies 3 and 4 showed that making social identity salient increased health fatalism and reduced accessibility of health knowledge among low-SES and minority students. We assumed that these effects were because of an implicit contrast between the in-group and the dominant White and middle-class group. In Study 5, we made this contrast explicit.

We first compared endorsement of healthy behavior versus unhealthy behavior as in-group defining and found that African American students in our sample were significantly more likely to see unhealthy behavior, rather than healthy behavior, as in-group defining, with average endorsement of unhealthy behavior as in-group defining being above the midpoint in the scale and the reverse being true for average endorsement of healthy behavior as in-group defining. These results supported our claim that racial-ethnic minorities are likely to define the in-group as engaging in unhealthy behaviors.

We then asked about the consequence of racial-ethnic identity content, finding support for our hypothesis that this content has an undermining effect only when the in-group is contrasted with White (middle-class) Americans (the difficult, many-similarities condition). These results made explicit that priming racial-ethnic identity itself does not fully explain the outcome but rather that the content of primed racial-ethnic identity is crucial. The African American students in our sample differed in the extent that healthy and unhealthy behaviors were perceived as in-group characteristics. The negative effects found in Studies 3 and 4 occurred only when contrast to White middle-class Americans was made salient. Results from Study 5 suggested that the results of Studies 3 and 4 were driven by effects of priming social identity among students whose social identity included the belief that the in-group engaged in unhealthy behaviors. Indeed, in Study 5, contrasting in-group and White middle-class Americans had no negative consequence for African American students whose social identity did not include the belief that the in-group engaged in unhealthy behaviors.

Thus, the content of social identity affects how salient information is used. Contrasting the in-group with White middle-class Americans had an undermining effect only for African American students high in endorsement of unhealthy behavior as in-group defining. The stumbling block for this group is that health promotion is not viewed as something the in-group does. These individuals do not need to be convinced that health promotion works (note that they were not lower in belief in efficacy of health promotion when contrast to White middle-class Americans was not primed). Rather, these individuals need to be convinced that health promotion is something that members of their in-group do.

We also found a difficult-to-interpret negative effect of endorsing health promotion as in-group defining. Given that average scores were below the midpoint on this scale, we conducted Studies 6 and 7 to see whether this anomalous finding was replicated. In Studies 6 and 7, we sought to extend findings from Study

5 by using a broader dependent measure and another racial–ethnic group and, in Study 7, older adults.

Study 6

Method

The objective of this study was to replicate effects in Study 5 and to examine generalizability of the findings to another racial–ethnic group. We anticipated replicating the following key effects: first, that minority students would differ in the extent to which the in-group was characterized as engaging in the unhealthy behavior; second, that negative effects would be found when students who believed that unhealthy behavior was in-group defining contrasted their group with White middle-class Americans (many-similarities condition); and third, that students would be generally more likely to rate their in-group as characterized by engaging in unhealthy rather than in healthy behaviors.

The methods used in Study 6 replicated those of Study 5 with the following exceptions. First, our participants were American Indian students at Stanford rather than African American students at that university; and second, we used a broader dependent variable (participants were asked to list the average number of years added to one's life by engaging in each one of a list of health promotion behaviors). Using the same priming paradigm and conditions as in Study 5, we hypothesized that in the difficult condition, high endorsers (participants high in endorsement of unhealthy behavior as characteristic of American Indians) would contrast themselves to White (middle-class) Americans and would rate health promotion as less effective for them.

Participants and Procedure

We used Stanford University's American Indian/Alaska Native/Native Hawaiian Program Directory to contact 68 American Indian undergraduates (30 men, 38 women; age, $m = 20.1$ years, $SD = 2.3$). Students were invited to participate in a 10-min anonymous telephone interview on their "opinions about health." Replicating Study 5, we manipulated salience of similarities to Whites by randomly assigning participants to one of three conditions: control, few similarities, or many similarities. In both of the similarities conditions, instructions were "Please describe three (eight) ways American Indians and Whites are similar" (no similarities were requested in the control condition). Participants were asked about efficacy of health promotion; we then conducted a manipulation check. The final section included demographics and in-group social identity questions.

All participants provided the number of similarities requested. Inspection of responses to the similarities question did not reveal differences by condition or by order of response; responses were prosaic: "They drive cars," "They live in houses," "They have families," and "They love." The manipulation influenced participants' beliefs about their similarity to Whites, $F(2, 57) = 3.54$, $p < .05$. As expected, one-tailed contrasts ($ps < .05$) revealed that participants in the many-similarities condition reported feeling less similar to Whites ($M = 2.03$, $SD = 0.84$) than participants in the control ($M = 2.67$, $SD = 0.93$) or few-similarities conditions ($M = 2.52$, $SD = .75$). Adding content of racial–ethnic identity did not result in a significant interaction effect, $F(2, 54) = .05$, $p = .96$.

Measures

Utility of health promotion behaviors. A five-item health promotion utility scale was developed ($\alpha = .83$). The stem "How many years does it add to a person's life if a person . . ." was followed by the items "exercises regularly as an adult," "does not smoke cigarettes," "does not drink alcohol excessively," "does not become overweight," and "does not eat a lot of sugar and fatty foods." The number of years added to life was calculated as a mean utility of health promotion score.

Social identity (Healthy behavior is in-group/unhealthy behavior is in-group). Two five-item scales, Healthy Behavior Is American Indian ($\alpha = .73$) and Unhealthy Behavior Is American Indian ($\alpha = .73$), were constructed and were rated on a 5-point Likert scale (1 = *not at all American Indian*, 5 = *very American Indian*). Following the stem: "How American Indian is it to . . .," 10 items were asked in random order. The Healthy Behavior Is American Indian items were "floss your teeth", "buy reduced-fat foods", "exercise as an adult," "diet," and "eat salad." The Unhealthy Behavior Is American Indian items were "eat red meat," "smoke cigarettes," "add salt to food," and "eat candy or drink soda". The two scales were not correlated, $r(68) = -.03$, $p = .83$, that is, believing that healthy behavior is not American Indian was not the same as believing that unhealthy behavior is American Indian.

Results

As in Study 5, unhealthy behavior was endorsed as in-group social identity more than healthy behavior. Participants rated unhealthy behavior ($M = 3.35$, $SD = 0.77$) as more American Indian than healthy behavior ($M = 2.27$, $SD = 0.62$), $t(68) = 9.20$, $p < .001$. Average endorsement of unhealthy behavior as American Indian was above the scale midpoint; average endorsement of healthy behavior as American Indian was below the scale midpoint, close to "not American Indian."

We did not expect a main effect of endorsement of unhealthy behavior as an in-group characteristic but rather an effect when endorsement was high and participants were made to think about differences between the in-group and White (middle class) Americans. Because the hypothesis focused on the difference between the difficult, many-similarities condition and the two other conditions (which were not expected to differ), we first tested the difference between the control and few-similarities condition, excluding the many-similarities condition. We then tested the difference between the many-similarities condition and each of the other conditions (control and few similarities). Because these latter two effects were in the same direction, we plotted as figures the difference between the many-similarities condition and both the other conditions combined, in all cases, controlling for years of education ($p = .87$).

When the control and few-similarities conditions were compared, the regression revealed no main effect, $\beta = -.09$, $t(42) = -.62$, $p = .54$, or interaction effect, $\beta = .09$, $t(42) = .43$, $p = .67$, for condition. The effect of endorsement of engaging in unhealthy behavior as an in-group characteristic, $\beta = .27$, $t(42) = 1.82$, $p = .08$, was marginal. When the many-similarities condition was compared with the control and few-similarities conditions combined, the expected interaction was found, $\beta = -.39$, $t(61) =$

-2.35, $p < .03$, and no main effect of years of education, $p = .28$, condition, $\beta = .09$, $t(61) = .69$, $p = .49$, or endorsement of engaging in unhealthy behavior as an in-group characteristic, $\beta = -.07$, $t(61) = .56$, $p = .58$, was found. Figure 3 is the plot of this interaction; following the recommendation of Aiken and West (1991), we compared those participants high in endorsement of unhealthy behavior as an in-group characteristic (1 SD above the mean) and those low in endorsement of unhealthy behavior as an in-group characteristic (1 SD below the mean).

As can be seen in Figure 3, thinking of many similarities to Whites is helpful for participants who do not perceive engagement in unhealthy behavior as part of American Indian identity (low endorsers). That is, compared with the control and few-similarities conditions, participants in this many-similarities condition were primed to see healthy behaviors as quite effective (adding many years to longevity), $\beta = -.41$, $t(61) = -2.25$, $p < .03$. Thinking of many similarities to Whites did not have this effect for participants who perceived engagement in unhealthy behavior as part of American Indian identity (high endorsers, $\beta = .19$, $t(61) = 1.12$, $p = .27$).

As in Study 5, we found that it is not that high endorsers do not see healthy behaviors as effective. Indeed, analyses of the simple slopes indicated that in the control/few-similarities conditions, $\beta = .29$, $t(61) = 1.90$, $p = .07$, high endorsers (participants high in endorsement of unhealthy behavior as in-group defining) reported marginally greater belief in the efficacy of these behaviors in increasing longevity than low endorsers (participants low in endorsement of unhealthy behavior as an in-group characteristic). As expected, in the many-similarities condition, effects reversed. Although it was in the hypothesized direction, this simple slope was not significant, $\beta = -.34$, $t(61) = -1.59$, $p = .12$.

To examine whether these effects were, in fact, due to including unhealthy behavior in racial-ethnic identity as opposed to *not* including healthy behaviors in racial-ethnic identity, we performed these analyses again, this time using the same regression structure but replacing the social identity variable to focus on healthy behavior as in-group defining instead of unhealthy behav-

ior as in-group defining. As in Study 5, incorporating unhealthy behavior in social identity had an undermining effect. We looked for but did not find an effect of including healthy behavior in social identity. After we controlled for years of education ($p = .06$), regression analyses predicting the utility of health promotion from condition (control/few similarities, many similarities, dummy coded) and endorsement of healthy behaviors as in-group defining (continuous and centered) revealed no main effect for condition, $\beta = .06$, $t(61) = .49$, $p = .63$, no main effect for healthy behaviors as in-group defining, $\beta = .16$, $t(61) = 1.22$, $p = .22$, and no two-way interaction, $\beta = .63$, $t(61) = 1.24$, $p = .22$.

Discussion

As expected, the overall pattern of results in Study 6 is consistent with that in Study 5. As in Study 5, endorsement of healthy behavior as in-group defining was low, whereas endorsement of unhealthy behavior as in-group defining was high. In both studies, minority students were more likely to describe their in-group as characterized by engaging in unhealthy than in healthy behaviors, and in both cases, participants varied in their endorsement of this characterization. In both cases, low endorsers of this characterization—those who did not see their in-group as characterized by engagement in unhealthy behaviors—were not negatively affected by thinking of many similarities to White Americans. Effects were found for endorsement of unhealthy behavior as in-group defining: In Study 5, negative consequences for high endorsers primed to contrast themselves with White Americans were significant; the pattern was replicated (though the simple slope was not significant) in Study 6. These results were congruent with our hypothesis that minority social identity is likely to have content focused on unhealthy behaviors as in-group defining; moreover, differential effects for those high and low in endorsement of unhealthy behavior as in-group defining support our contention that content of this social identity matters. Because we believe that these effects are not limited to college students, we included as Study 7 a final replication with an older, nonstudent sample.

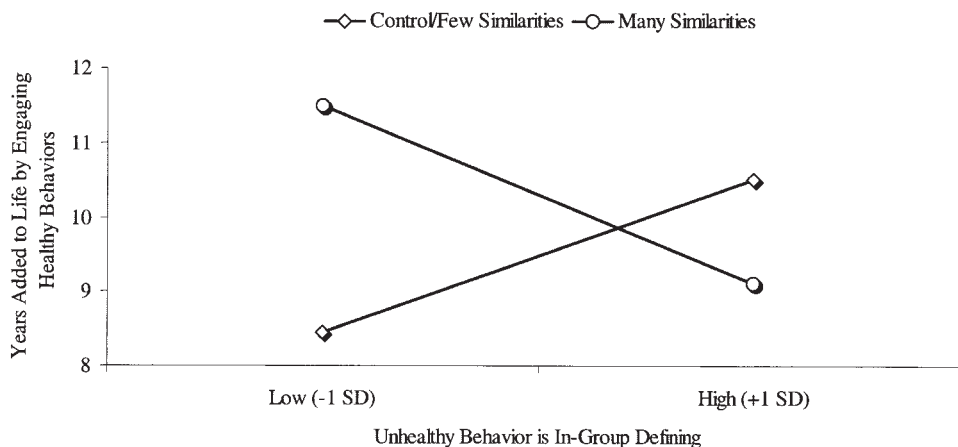


Figure 3. Study 6: Interactive effect content of social identity and primed similarities with Whites on perceived efficacy of health promotion among American Indian college students. Low (-1 SD) = those with low endorsement of unhealthy behavior as in-group characteristic, High (+1 SD) = those with high endorsement of unhealthy behavior as in-group characteristic.

Study 7

In Study 7, we used the same manipulation as in Studies 5 and 6 and the same dependent variable as in Study 6. In this study, participants included adults living on an American Indian reservation rather than American Indian students at Stanford University. The objective of this study was to examine the generalizability of the findings in Studies 5 and 6. As before, we expected to find differences in the extent to which the in-group was characterized as engaging in unhealthy and healthy behaviors and decreased efficacy of health promotion only when participants were both high in the belief that the in-group engages in unhealthy behavior and in the perception of the contrast between their in-group and White (middle class) Americans.

Method

Participants and Procedures

Participants were Coastal Salish American Indian adults ($N = 109$; 52 men, 57 women; age, $M = 40.1$ years, $SD = 11.5$; years of school, $M = 12.9$ years, $SD = 2.2$) who were in good health and resided on an Indian reservation in Washington State. The procedure replicated those of Studies 5 and 6. Participants were randomly assigned to control, few-similarities, or many-similarities conditions; were asked about efficacy of health-promoting behaviors; completed a manipulation check; and answered demographic and in-group social identity questions.

All participants generated the requested number of similarities with Whites, and response content was not distinguishable by condition or by order of response generation. The responses were prosaic (e.g., "They have families," "They go to work," "They eat food," "They worry about their children," and "They want to be happy"). The salience manipulation had the expected impact on similarity judgment, $F(2, 99) = 2.73$, $p < .07$; planned contrasts showed that rated similarity to Whites was significantly lower in the many-similarities ($M = 2.14$, $SD = 0.73$) than in the few-similarities ($M = 2.58$, $SD = 0.73$, $p < .03$) condition. No differences were found between the control ($M = 2.26$, $SD = 1.00$) condition and either the few-similarities ($p = .11$) or the many-similarities ($p = .57$) condition. The pattern fits an ease-of-recall argument (Schwarz, 2005): Bringing to mind many similarities resulted in a lower similarity judgment than bringing to mind few similarities. Adding content of racial-ethnic identity did not result in a significant interaction effect, $F(2, 96) = .85$, $p = .43$.

Measures

In Study 7, we used the same measures as in Study 6: Efficacy of Health Promotion, $\alpha = .83$; Healthy Behavior Is American Indian, $\alpha = .73$; and Unhealthy Behavior Is American Indian, $\alpha = .64$. As in Study 6, the Healthy Behavior Is American Indian and Unhealthy Behavior Is American Indian identity scales were not correlated, $r(109) = -.04$, $p = .64$.

Results

Unhealthy behavior was viewed as a part of in-group identity more than healthy behavior. Participants rated unhealthy behavior ($M = 3.44$, $SD = 0.81$) as more American Indian than healthy

behavior ($M = 2.43$, $SD = 0.73$), $t(109) = 9.35$, $p < .001$. Means for unhealthy behavior were above the midpoint, whereas means for healthy behavior were below the midpoint.

We did not expect a main effect of endorsement of unhealthy behavior as an in-group characteristic, but rather we expected an effect when endorsement was high and participants were made to think about differences between the in-group and White (middle-class) Americans. Because the hypothesis focused on the difference between the difficult, many-similarities condition and the two other conditions (which were not expected to differ from one another), we first tested the difference between the control and few-similarities conditions (excluding the many-similarities condition) and then tested the difference between the many-similarities condition and each of the other conditions (control and few similarities). Because these latter two effects were in the same direction, we plotted as figures the difference between the many-similarities condition and both the other conditions combined. Because education levels did not vary much, we did not include education as a control.

When we compared the control and few-similarities conditions, the regression revealed no main effect, $\beta = -.04$, $t(64) = -.34$, $p = .73$, or interaction effect, $\beta = -.18$, $t(64) = -.96$, $p = .34$, for condition. The effect of endorsement of engaging in unhealthy behavior as an in-group characteristic, $\beta = .36$, $t(64) = 3.10$, $p < .01$, was significant, suggesting that in this sample, including unhealthy behavior in social identity had an effect even when contrast with White Americans was not made salient. When the many-similarities condition was compared with the control and few-similarities conditions combined, the expected interaction was found, $\beta = -.55$, $t(100) = -4.23$, $p < .001$. Once this interaction was included, the condition, $\beta = .02$, $t(100) = .22$, $p = .83$, and unhealthy behavior in social identity, $\beta = .01$, $t(100) = .08$, $p = .94$, main effects were not significant. Figure 4 is the plot of this interaction. Following the procedure of Aiken and West (1991), we compared those high in endorsement of unhealthy behavior as an in-group characteristic (plotting those 1 SD above the mean) and those low in endorsement of unhealthy behavior as an in-group characteristic (plotting those 1 SD below the mean).

As can be seen in Figure 4, thinking of many similarities to Whites was helpful among participants who did not perceive engagement in unhealthy behavior as part of American Indian identity. That is, among such low endorsers, the many-similarities condition increased perceived effectiveness of healthy behaviors, $\beta = -.39$, $t(100) = -3.09$, $p < .01$. They rated these behaviors as adding significantly more years to one's expected lifespan than did low endorsers in the control and few-similarities conditions. Thinking of many similarities to Whites did not have this positive effect for participants who perceived engagement in unhealthy behavior as part of American Indian identity, $\beta = .35$, $t(100) = 2.75$, $p < .01$. Among such high endorsers, thinking of many similarities to Whites resulted in a contrast, and they rated health promotion behaviors as less effective than did high endorsers in the control and few-similarities conditions.

As in Studies 5 and 6, it was not that high endorsers did not see healthy behaviors as effective. Indeed, analyses of the simple slopes indicated that in the control and few-similarities conditions, $\beta = .39$, $t(100) = 3.04$, $p < .01$, high endorsers reported more belief in the efficacy of these behaviors in increasing longevity than did low endorsers. As expected, in the many-similarities

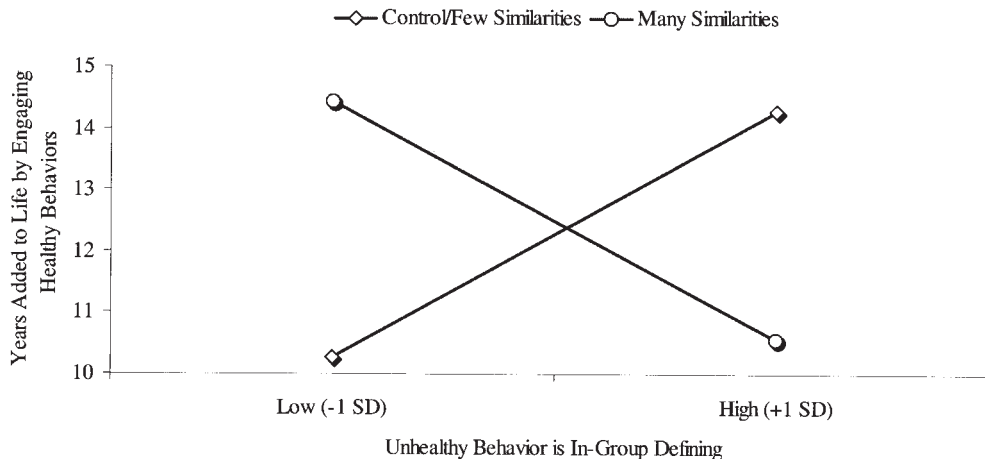


Figure 4. Study 7: Interactive effect of content of social identity and primed similarities with Whites on perceived efficacy of health promotion among adults from an American Indian reservation. Low (-1 SD) = those with low endorsement of unhealthy behavior as in-group characteristic, High ($+1$ SD) = those with high endorsement of unhealthy behavior as in-group characteristic.

condition, effects were reversed, with high endorsers contrasting themselves to Whites and low endorsers assimilating this information, $\beta = -.39$, $t(100) = -2.94$, $p < .01$.

To examine whether these effects were, in fact, due to including unhealthy behavior in racial-ethnic identity as opposed to not including healthy behaviors in racial-ethnic identity, we performed these analyses again, this time using the same regression structure but replacing the social identity variable to focus on healthy behavior as in-group defining instead of unhealthy behavior as in-group defining. As in Studies 5 and 6, it was incorporating unhealthy behavior, not healthy behavior, in social identity that mattered. A regression predicting the utility of health promotion from condition (control/few similarities, many similarities, dummy coded) and endorsement of healthy behaviors (continuous and centered) revealed no main effect for condition, $\beta = -.02$, $t(100) = -.22$, $p = .82$, no main effect for endorsement of health behavior as in-group defining, $\beta = .07$, $t(100) = -.66$, $p = .51$, and no two-way interaction, $\beta = -.09$, $t(100) = -.66$, $p = .51$. As in Study 6, there was simply no effect of this social identity—perhaps because endorsement of this content was generally so low.

Discussion

American Indian adults differed in their beliefs about healthy and unhealthy behaviors as in-group defining. Compared with those in the control condition or asked to generate a few similarities to White Americans, American Indian adults who were asked to generate many similarities to White Americans either increased or decreased their belief that engaging in health promotion is actually beneficial to longevity, depending on whether they characterized the in-group as engaging in unhealthy behaviors. If they believed that the in-group engages in unhealthy behaviors, then bringing to mind many similarities between American Indians and White Americans resulted in a contrasting response: These American Indian participants stated that health promotion activities do not actually help much. If they did not characterize the in-group as engaging in unhealthy behaviors, then bringing to mind many

similarities between American Indians and White Americans resulted in an assimilating response: These American Indian participants stated that health promotion activities help quite a lot.

General Discussion

Although each study has limitations, in combination, the reported results provide consistent support for our hypothesized identity-based motivation model in the domain of health promotion. Following this model, we argue first that health and health promotion are perceived as part of what it means to be a White (middle-class) American and that this makes racial-ethnic and minority Americans likely to include unhealthy behaviors as part of their own social identities. Second, we argue that this content of identity reduces engagement in health-promoting behaviors and dampens belief in the efficacy of health promotion for low-SES and racial-ethnic minorities, especially when differences with White (middle-class) Americans are made salient. Our results are consistent across samples differing in age, social class, and race-ethnicity, including middle-school students, college students, and nonstudent adults. Our results suggest that minority racial-ethnic and low-SES Americans are likely to see health promotion as White (middle-class) American and are more likely to see unhealthy than healthy behaviors as part of in-group identity.

In our studies, we found that unhealthy behaviors (such as smoking and drinking soda) are more likely to be part of in-group social identity than healthy lifestyle behaviors (such as exercising as an adult) and that health promotion is associated with being White and middle class. On average, making social identity salient had negative effects—increasing health fatalism and reducing access to health knowledge. We assumed that this was because the in-group was being contrasted with White and middle-class Americans. To test this process model, we primed participants to generate many similarities to White Americans and tested the moderating effect of content of in-group identity. If participants characterized health promotion as White and middle-class behavior, then thinking about many similarities to Whites should bring

this to mind and increase the felt applicability of health promotion even though generating many similarities is a difficult task. However, this should only occur if participants did not also characterize the in-group as engaging in unhealthy behavior.

We were able to separately explore these effects by drawing on Schwarz's fluency model (Schwarz, 2004, 2005); this model shows that judgments are influenced both by what comes to mind and by the inferences drawn from experience bringing the information to mind (i.e., how easy or difficult it is to bring to mind). In the case of judgments about the utility of engaging in health promotion, content brought to mind matters unless it is discounted as not self-relevant. Generating many similarities to Whites, even though it felt difficult, was assumed to enhance the salience of health promotion behavior (because Whites are associated with health promotion). This simple prediction was modified by our prediction about the effect of content of social identity. That is, even when thinking of similarities to Whites is difficult, the health promotion information brought to mind would be used unless health is also characterized as "not relevant to my group." In that case, the cued health information would be discounted as irrelevant. Indeed, generating many similarities to Whites did enhance the judged utility of health promotion behavior except when in-group identity included unhealthy behavior. In this case, generating many similarities to Whites undermined the judged utility of health promotion. This latter effect is important because, across studies, our results suggest that incorporation of unhealthy lifestyle into in-group racial-ethnic identity is common. Following an identity-based motivation model, this would suggest that engaging in health promotion would not come to mind, would feel effortful and uncomfortable when it did come to mind, and would be difficult to sustain over time.

Our health results are congruent with the large effects found in priming studies generally (see Bargh, 2006 for a review) and with the real world and priming effects found in research focused on content of racial-ethnic identity in the academic domain in particular. Academic outcomes research shows that negative effects of making racial-ethnic identity salient on academic performance are contingent on content of racial-ethnic identity. Making racial-ethnic identity salient can buffer youths' academic performance and can enhance or undermine behavioral and emotional engagement with school depending on content of racial-ethnic identity. Buffering effects are found when doing well in school is articulated as an in-group value and set of behaviors (Oyserman et al., in press; Oyserman et al., 1995), when racial-ethnic identity includes a sense of connection to broader society and its goals (Oyserman et al., 2003; Oyserman, Rhodes, & Brickman, 2007), and when racial-ethnic identity is articulated as congruent with personal academic goals (Oyserman, Bybee, & Terry, 2006).

That we find content-dependent effects of racial and ethnic identity in health and academic domains do not necessarily mean that these domains are the only or the central content of these identities. Rather, it suggests that these domains can be relevant to racial and ethnic identity depending on the context. In this way, effects of racial and ethnic identity on both health and academic outcomes can be considered within an identity-based motivation model that integrates social identity and social cognition approaches (for a longer discussion of this model, see Oyserman, 2007). Whether the goal is health or academic performance, beyond the wish to do well or be healthy, an identity-based motiva-

tion model suggests that social identities carry with them strategies that are identity-syntonic—the ways "we" do things. To the extent that these strategies are not effective or to the extent that effective strategies are not identity-syntonic because they are the ways "they" do things and not the way "we" do things, then taking action to work toward goals is unlikely, and wishes to do well or to be healthy are unlikely to be realized. We found effects for health fatalism, but it may be that fatalism is primed in other domains as well. Of course, the reverse is also likely to be true. If effective behaviors are identity-syntonic, then they are likely to be cued when identity is cued. This should cue feelings of efficacy and then cue effective goal pursuit. We believe that this is what underlies effective interventions to improve academic attainment among racial-ethnic minority students (e.g., Oyserman, Bybee, & Terry, 2006; Oyserman, Terry, & Bybee, 2002). These interventions create contexts in which effort, persistence, and eventual success in school are viewed not simply as personal goals but as in-group defining.

In this way, our findings and identity-based motivation model are consistent with an emerging literature suggesting that individuals automatically take into account and use the self- and identity-relevant information that comes to mind when making judgments and behavioral choices (see also Bargh, 2006). For example, research on automatic behavior effects (Bargh, 1989) has found that activating a group stereotype can lead to stereotype-consistent behaviors among individuals who are not members of the stereotyped group (Dijksterhuis & Bargh, 2001). Thus, when stereotypes of the elderly are elicited, student participants walk more slowly (Bargh, Chen, & Burrows, 1996) and have poorer memories (Dijksterhuis, Aarts, Bargh, & van Knippenberg, 2000). Our findings suggest that such automatic behavioral mimicry is likely to be qualified by the interface between beliefs about the in-group and beliefs about the group being brought to mind. In the case of health promotion, when similarities to middle-class Whites are brought to mind, participants do not necessarily take on "White" health promotion characteristics. If unhealthy lifestyle is seen as an in-group identity, then thinking of similarities to an out-group target, such as middle-class Whites, dampens perceived utility of health promotion. Participants contrast themselves with the out-group-primed standard of health promotion.

Our model and findings also provide some potential linkages with the literature on academic disengagement and concerns about "acting White." In this literature, it is argued that because "acting White" involves engaging in behaviors that are not in-group defining, students will not act this way even if they recognize that the behaviors are beneficial and that not engaging in them increases risk of school failure. In our focus groups, participants who acted in ways that were seen as defining the out-group rather than the in-group were described as "Oreos" and "apples." Within the medical community, a parallel discourse occurs with respect to the bad habits and subsequent health discrepancies of members of racial-ethnic and SES groups (Whaley, 2003). Our findings suggest that health-behavior-related stereotypes are, as Steele (1997) notes, "in the air" (p. 613). They are part and parcel of being American.

We have focused on racial and ethnic minority status to the extent that health promotion behaviors are identified as White and middle class American behaviors; however, it is possible that the effects that we found with particular racial and ethnic minority

groups are more generally cued whenever boundaries between oneself and the majority group are cued. Boundaries between middle class and the affluent elite, for example, could also prime these effects. This more general alternative is plausible from a social identity theory perspective (Tajfel & Turner, 1986). Indeed in initial studies, we found that health fatalism can be increased simply by making salient one's differences from the "average" college student and reduced by subtly including one's minority group in the mainstream (Oyserman, Fryberg, Yoder, & Swaney, unpublished data).

These initial findings suggest a mechanism to ameliorate the negative effects we have described so far. That is, by cuing inclusion in rather than exclusion from the "health-competent" group, positive health promotion could be increased. Given the dire need to develop interventions to promote health and reduce health risk such as obesity and diabetes, even among children, further work linking health promotion with social identities other than White and middle class is vital. Interventions aimed at bridging identities including both in-group and broader society are likely to facilitate incorporation of health promotion as in-group defining and dampen currently conceived connections between in-group and unhealthy lifestyle behaviors. Our results focus on groups at high risk of health problems: those who are African American, Mexican American, American Indian, and low SES.

We did not find gender differences in our results. However, further research disentangling the relative impact of social class versus racial-ethnic social identity effects, zeroing in on possible gender effects and mapping out content of identity among groups other than White middle-class Americans (e.g., Asian Americans) that are at lower risk of health problems might reveal possible strategies for intervention. Women and men engage in somewhat different patterns of health-promoting and health-risking behaviors. If Americans are to move beyond wishing for health, our studies suggest that it is important for social identities to change from including unhealthy lifestyle behaviors as in-group defining. If health disparities are to be reduced, all Americans must view healthy behaviors as in-group defining.

References

- Abrams, D., & Hogg, M. A. (2004). Metatheory: Lessons from social identity research. *Personality and Social Psychology Review*, 8, 98–106.
- Aiken, L., & West, S. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Allport, G. (1979). *The nature of prejudice: 25th anniversary edition*. Cambridge, MA: Addison-Wesley.
- Altschul, I., Oyserman, D., & Bybee, D. (2006). Racial-ethnic identity in mid-adolescence: Content and change as predictors of grades. *Child Development*, 77, 1155–1169.
- Bargh, J. (1989). Conditional automaticity: Varieties of automatic influence in social perception and cognition. In J. Uleman & J. Bargh (Eds.), *Unintended thought* (pp. 3–51). New York: Guilford Press.
- Bargh, J. (2006). What have we been priming all these years? On the development, mechanisms, and ecology of nonconscious social behavior. *European Journal of Social Psychology*, 36, 147–168.
- Bargh, J. A., Chen, M., & Burrows, L. (1996). Automaticity of social behavior: Direct effects of trait construct and stereotype activation on action. *Journal of Personality and Social Psychology*, 71, 230–244.
- Bell, R., Quandt, S., Arcury, T., McDonald, J., & Vitolins, M. (2000). Health behaviors of rural White, African American and Native American elders. *American Journal of Health Behavior*, 24, 349–360.
- Blanton, H., Christie, C., & Dye, M. (2002). Social identity versus reference frame comparisons: The moderating role of stereotype endorsement. *Journal of Experimental Social Psychology*, 38, 253–267.
- Bolam, B., Murphy, S., & Gleeson, K. (2004). Individualisation and inequalities in health: A qualitative study of class identity and health. *Social Science & Medicine*, 59, 1355–1365.
- Bowen, D., Christensen, C., Powers, D., Graves, D., & Anderson, C. (1998). Effects of counseling and ethnic identity on perceived risk and cancer worry in African American women. *Journal of Clinical Psychology in Medical Settings*, 5, 365–379.
- Bowen, D., Hickman, K., & Powers, D. (1997). Importance of psychological variables in understanding risk perceptions and breast cancer screening of African American women. *Women's Health: Research on Gender, Behavior, and Policy*, 3, 227–242.
- Branscombe, N., & Ellemers, N. (1998). Coping with group-based discrimination: Individualistic versus group-level strategies. In J. Swim & C. Stangor (Eds.), *Prejudice: The target's perspective* (pp. 243–266). San Diego: Academic Press.
- Celious, A., & Oyserman, D. (2001). Race from the inside: An emerging heterogeneous race model. *Journal of Social Issues*, 57, 149–165.
- Cohen, G., & Garcia, J. (2005). "I am us": Negative stereotypes as collective threats. *Journal of Personality and Social Psychology*, 89, 566–582.
- Dewan, S. (2006, September 10). 100 pounds lighter, with advice to share. *New York Times*, p. 22.
- Dijksterhuis, A., Aarts, H., Bargh, J., & van Knippenberg, A. (2000). On the relation between associate strength and automatic behavior. *Journal of Experimental Social Psychology*, 36, 531–544.
- Dijksterhuis, A., & Bargh, J. (2001). The perception-behavior expressway: Automatic effects of social perception on social behavior. In M. P. Zanna (Ed.), *Advances in experimental social psychology: Vol. 33*. (pp. 1–40). San Diego, CA: Academic Press.
- Grayson, C., & Schwarz, N. (1999). Beliefs influence information processing strategies: Declarative and experiential information in risk assessment. *Social Cognition*, 17, 1–18.
- Haslam, S., O'Brien, A., & Jetten, J. (2005). Taking the strain: Social identity, social support, and the experience of stress. *British Journal of Social Psychology*, 44, 355–370.
- Haslam, S., & Reicher, S. (2006). Stressing the group: Social Identity and the unfolding dynamics of responses to stress. *Journal of Applied Psychology*, 91, 1037–1052.
- Higgins, T. (1996). Knowledge activation: Accessibility, applicability, and salience. In T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 133–168). New York: Guilford Press.
- Hogg, M., & Abrams, D. (1988). *Social identifications: A social psychology of intergroup relations and social process*. New York: Routledge.
- Jacobson, M. (1998). *Whiteness of a different color: European immigrants and the alchemy of race*. Cambridge, MA: Harvard University Press.
- King, A., Castro, C., Wilcox, S., Eyster, A., Sallis, J., & Brownson, R. (2000). Personal and environmental factors associated with physical inactivity among different racial-ethnic groups of U.S. middle-aged and older-aged women. *Health Psychology*, 19, 354–364.
- Lemaine, G. (1974). Social differentiation and social originality. *European Journal of Social Psychology*, 4, 17–52.
- Massey, D. (1999). America's apartheid and the urban underclass. In F. Pincus & H. Ehrlich (Eds.), *Race and ethnic conflict: Contending views on prejudice, discrimination, and ethnoviolence* (2nd ed., pp. 125–139). Boulder, CO: Westview Press.
- Mummendey, A., Kessler, T., Klink, A., & Mielke, R. (1999). Strategies to cope with negative social identity: Predictions by social identity theory and relative deprivation theory. *Journal of Personality and Social Psychology*, 76, 229–245.
- Oakes, P. J., Haslam, S. A., & Turner, J. C. (1994). *Stereotyping and social reality*. Oxford, England: Blackwell.

- Oyserman, D. (2007). Social identity and self-regulation. In A. Kruglanski & T. Higgins (Eds.), *Handbook of social psychology*, (2nd ed., pp. 432–453). New York: Guilford Press.
- Oyserman, D., Brickman, D., & Rhodes, M. (2007). Racial-ethnic identity in adolescence: Content and consequences for African American, Latina, and Latino youth. In A. Fuligni (Ed.), *Social categories, identities, and educational participation* (pp. 91–114). New York: Russell Sage Foundation.
- Oyserman, D., Bybee, D., & Terry, K. (2006). Possible selves and academic outcomes: How and when possible selves impel action. *Journal of Personality and Social Psychology*, *91*, 188–204.
- Oyserman, D., Fryberg, S. A., Yoder, N., & Swaney, B. (2003). [Identity-based motivation and health: Priming inclusion and exclusion]. Unpublished raw data.
- Oyserman, D., Gant, L., & Ager, J. (1995). A socially contextualized model of African American identity: Possible selves and school persistence. *Journal of Personality and Social Psychology*, *69*, 1216–1232.
- Oyserman, D., Kimmelmeier, M., Fryberg, S., Brosh, H., & Hart-Johnson, T. (2003). Racial-ethnic self-schemas. *Social Psychology Quarterly*, *66*, 333–347.
- Oyserman, D., & Markus, H. (1993). The sociocultural self. In J. Suls (Ed.), *Psychological perspectives on the self* (pp. 187–220). Hillsdale, NJ: Erlbaum.
- Oyserman, D., & Markus, H. (1998). Self as social representation. In U. Flick (Ed.), *The psychology of the social* (pp. 107–125). New York: Cambridge University Press.
- Oyserman, D., Rhodes, M., & Brickman, D. (2007). *Racial-ethnic self-schemas, well-being, and academic outcomes*. Manuscript under review.
- Oyserman, D., Terry, K., & Bybee, D. (2002). A possible selves intervention to enhance school involvement. *Journal of Adolescence*, *24*, 313–326.
- Parker, S. (2004, August 24). In the land of deep fried, one man's health crusade. *Christian Science Monitor*, USA section, p. 1.
- Pickett, C., & Brewer, M. (2001). Assimilation and differentiation needs as motivational determinants of perceived in-group and out-group homogeneity. *Journal of Experimental Social Psychology*, *37*, 341–348.
- Plaut, V. (2002). Cultural models of diversity in America: The psychology of difference and inclusion. In R. A. Shweder, M. Minow, & H. R. Markus (Eds.), *Engaging cultural differences: The multicultural challenge in liberal democracies* (pp. 365–395). New York: Russell Sage Foundation.
- Portes, A. (1995). Children of immigrants: Segmented assimilation and its determinants. In A. Portes (Ed.), *The economic sociology of immigration: Essays on networks, ethnicity, and entrepreneurship* (pp. 248–280). New York: Russell Sage Foundation.
- Roccas, S., & Brewer, M. (2002). Social identity complexity. *Personality and Social Psychology Review*, *6*, 88–106.
- Rothman, A., & Schwarz, N. (1998). Constructing perceptions of vulnerability: Personal relevance and the use of experiential information in health judgments. *Personality and Social Psychology Bulletin*, *24*, 1053–1064.
- Schwarz, N. (2004). Metacognitive experiences in consumer judgment and decision making. *Journal of Consumer Psychology*, *14*, 332–348.
- Schwarz, N. (2005). When thinking feels difficult: Meta-cognitive experiences in judgment and decision making. *Medical Decision Making*, *25*, 105–112.
- Schwarz, N., Bless, H., Strack, F., Klumpp, G., Rittenauer-Schatka, H., & Simons, A. (1991). Ease of retrieval as information: Another look at the availability heuristic. *Journal of Personality and Social Psychology*, *61*, 195–202.
- Sidanius, J., Van Laar, C., & Levin, S. (2004). Ethnic enclaves and the dynamics of social identity on the college campus: The good, the bad, and the ugly. *Journal of Personality and Social Psychology*, *87*, 96–110.
- Steele, C. (1997). A threat in the air: How stereotypes shape intellectual identity and performance. *American Psychologist*, *52*, 613–629.
- Steele, C., & Aronson, J. (1995). Stereotype threat and the intellectual test performance of African Americans. *Journal of Personality and Social Psychology*, *69*, 797–811.
- Tajfel, H. (1978). *Differentiation between social groups: Studies in the social psychology of intergroup relations*. London: Academic Press.
- Tajfel, H. (1984). *The social dimension*. London: Cambridge University Press.
- Tajfel, H., & Turner, J. (1986). The social identity theory of intergroup behavior. In W. Austin and S. Worchel (Eds.), *Social psychology of intergroup relations* (2nd ed., pp. 33–48). Chicago: Nelson-Hall.
- Taylor, T., Denny, C., & Freeman, W. (1999). American Indian and Alaska Native trends in behavioral health, 1990–1996. *American Journal of Health Behavior*, *23*, 345–351.
- Thompson, H. S., Valdimarsdottir, H. B., Winkel, G., Jandorf, L., & Redd, W. (2004). The Group-Based Medical Mistrust Scale: Psychometric properties and association with breast cancer screening. *Preventive Medicine*, *38*, 209–218.
- Thompson, J., Davis, S., Gittelsohn, J., Going, S., Becenti, A., Metcalfe, L., et al. (2001). Patterns of physical activity among American Indian children: An assessment of barriers and support. *Journal of Community Health*, *26*, 423–445.
- Turner, J., Hogg, M., Oakes, P., Reicher, S., & Wetherell, M. (1987). *Rediscovering the social group: A self-categorization theory*. Oxford, England: Blackwell.
- Turner, J., Oakes, P., Haslam, A., & McGarty, C. (1994). Self and collective: Cognition and social context. *Personality and Social Psychology Bulletin*, *20*, 454–463.
- U.S. Census Bureau. (2003, September). *Poverty in the United States: 2002*. Retrieved August 15, 2005, from www.census.gov/prod/2003pubs/p60-222.pdf
- U.S. Department of Health and Human Services. (1996). *Physical activity and health: A report of the Surgeon General*. Retrieved August 15, 2005, from <http://www.cdc.gov/nccdphp/sgr/pdf/sgrfull.pdf>
- Whaley, A. (2003). Ethnicity/race, ethics, and epidemiology. *Journal of the National Medical Association*, *95*, 736–742.
- Winkielman, P., Schwarz, N., & Belli, R. (1998). The role of ease of retrieval and attribution in memory judgments: Judging your memory as worse despite recalling more events. *Psychological Science*, *9*, 124–126.

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