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Mastering One's Destiny: Mastery Goals Promote Challenge and Success Despite Social Identity Threat

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Abstract

We used an achievement goal framework to enhance identity-threatened individuals' motivation and performance by way of an understudied mechanism, namely, challenge appraisals. In three experiments, women were given a mastery goal (focus on building skills) or a performance goal (perform well, avoid errors) before a mock job interview. Women who focused on mastery rather than performance felt more challenged and less threatened when anticipating an identity-threatening interview; goals did not affect appraisals of a nonthreatening interview (Experiment 1). Mastery relative to performance goals enhanced women's intention to be assertive (Experiment 2) and their actual face-to-face performance during the job interview (Experiment 3); challenge appraisals (but not threat appraisals) served as a mediator for these effects. Whereas a great deal of prior work has alleviated identity threat by altering construals of one's identity, the current research uses an alternative strategy—modifying appraisals of the *situation*, leaving one's self-concept intact.

Keywords

social identity threat, achievement goals, stress appraisals, challenge, performance

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> Turn your wounds into wisdom. You will be wounded many times in your life. You'll make mistakes. Some people will call them failures but I have learned that failure is really God's way of saying, "Excuse me, you're moving in the wrong direction." It's just an experience, just an experience.
>
> —Winfrey (1997)

Oprah Winfrey's statement succinctly captures how adversity and obstacles may be interpreted in very different ways: as a personal failure, a wrong decision, or a learning experience. The same objective reality can look very different depending on how people appraise or make meaning of the situation. These appraisals then affect how people act, which in turn have important downstream consequences, both short-term and long-term. Consider situations in which professionals face difficulty at work, students struggle with classes important to their major, or musicians stumble over new repertoires. The way in which individuals handle these difficulties is shaped by their mind-set (i.e., their goal orientation) as they approach the situation. A goal to perform successfully or avoiding failure may be demoralizing if one's performance ends up being mediocre or one's goals are blocked by unexpected obstacles. However, a focus on learning in a difficult situation casts the same obstacles in a different light, where adversity is an opportunity to acquire new skills. In this case, regardless of performance, individuals can remain engaged and confident in the fact that they can always learn something from the experience no matter the difficulty.

One type of adversity that many individuals face in professional and achievement contexts is social identity threat. This phenomenon occurs when individuals become aware that their social group does not fit in or belong in a particular professional or academic environment (see C. M. Steele, Spencer, & Aronson, 2002). Sometimes, social identity threat arises in situations that activate a specific stereotype questioning one's in-group's ability in a particular domain (i.e., stereotype threat), such as negative stereotypes questioning women's ability in math and science (Spencer, Steele, & Quinn, 1999; J. R. Steele, James, & Barnett, 2002).

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Other times, social identity threat has nothing to do with preexisting stereotypes. Rather, it takes the form of general belonging threat wherein one feels alienated because one's in-group is invisible in a situation, even when the situation does not activate group-specific stereotypes (C. M. Steele, Spencer, et al., 2002; Stout & Dasgupta, 2011). Whatever its form, social identity threat can make individuals feel unwelcomed, underperform, and leave a domain, or disengage psychologically if they cannot exit.

Social identity threat occurs mostly in high performance contexts where individuals' primary goal is to demonstrate their ability and avoid mistakes. Paradoxically, this performance orientation may be part of the reason people feel unmotivated and alienated when social identity threat obstructs their goal and undermines their performance. We propose that if individuals approach high performance contexts with a different goal in mind—*the goal to learn and master new skills*—they will appraise the situation as a challenge, which may, in turn, enhance motivation, confidence, and, ultimately, performance.

Achievement Goals: The Benefit of Focusing on Mastery Rather Than Performance

A large body of research indicates that when individuals are in achievement-oriented contexts such as classes or professional settings, their goals or mind-set influence their thoughts, feelings, and actions (see A. J. Elliot, 2005; Hulleman, Schrager, Bodmann, & Harackiewicz, 2010). People tend to enter achievement settings with a goal of *demonstrating* competence and focusing on being evaluated (a *performance goal*) or with a goal of *developing* competence and learning new skills (a *mastery* goal; Dweck, 1986; E. Elliot & Dweck, 1988).

Of particular relevance to our research is the fact that achievement goals have differential effects on how people react to performance failure and poor evaluations. Relative to performance goals, mastery goals tend to make individuals feel less discouraged and perform better after a setback, such as low performance evaluation, especially if they have fragile self-confidence in their ability (E. Elliot & Dweck, 1988; Grant & Dweck, 2003). This effect can be understood as follows: poor performance signals an inability to *demonstrate* competence, but does not impair one's ability to *develop* competence. As such, low performance evaluation can be demoralizing when one is focused on performance versus mastery goals. Although past research has shown that mastery goals can maintain motivation and performance after failure, the literature has yet to put forth a clear hypothesis and empirical evidence illuminating the underlying mechanism—*why* do mastery goals facilitate subsequent performance?

What is the Root of a Mastery Goal's Benefits?

We predict that a focus on mastery rather than performance allows one to construe adversity as a challenge thereby facilitating an approach orientation and performance. This prediction is informed by stress and coping theory, which indicates that the demands of an adverse situation may be appraised as exceeding one's personal resources, which result in feeling *threatened* and is followed by inhibitory responses. Alternatively, the same demands may be appraised as something that can be overcome, which result in feeling *challenged* and is followed by activational responses (see Blascovich & Mendes, 2000; Lazarus, 1966; Lazarus & Folkman, 1984).

Threat and challenge have been measured in a variety of ways in psychology including the use of physiological indices (e.g., Blascovich & Mendes, 2000), self-reported emotions that signal inhibition or activation (e.g., Derks, Van Laar, & Ellemers, 2009), and cognitive appraisals assessing the personal relevance of a situation and if its demands outweigh one's personal resources (e.g., Folkman, Lazarus, Dunkel-Schetter, Delongis, & Gruen, 1986). Because of inhibition, threat predicts anxiety and results in avoidance behaviors and impaired performance; because of activation, challenge predicts confidence and results in approach-oriented behavior and enhanced performance (Folkman, 1984; Folkman, & Lazarus, 1985; Lazarus, 1966; Tomaka, Blascovich, Kelsey, & Leitten, 1993).

In the current research, we predicted that mastery goals would lead individuals to appraise an adverse situation (social identity threat) as a challenge, which would enhance approach-oriented behavioral intentions and performance. Importantly, we expected that increased challenge (but not decreased threat) will be the underlying process that drives improved performance in response to a mastery goal. Moreover, we predicted that performance goals (compared with mastery goals) would lead individuals to appraise high-stakes situations as a threat, report avoidance-oriented behavioral intentions, and exhibit impaired performance.

The Aversiveness of Social Identity Threat and Ways to Overcome It

Individuals who belong to societally devalued groups are especially attentive to cues in achievement settings that signal whether their in-group is accepted and welcomed therein (Walton & Cohen, 2007). These cues may be overt such as clear instances of discrimination (e.g., J. R. Steele, James, et al., 2002) or covert such as noticing the virtual absence of in-group members (e.g., Murphy, Steele, & Gross, 2007; Stout, Dasgupta, Hunsinger, & McManus, 2011). Once people pick up on identity threat in an achievement

setting, they feel a deflated sense of belonging (Cheryan, Plaut, Davies, & Steele, 2009; Murphy et al., 2007), express less positive attitudes and domain identification (J. R. Steele & Ambady, 2006; Stout et al., 2011), less self-efficacy (Stangor, Carr, & Kiang, 1998; Walton & Cohen, 2007), and avoid or drop out of those settings (Kiefer & Sekaquaptewa, 2007; J. R. Steele, James, et al., 2002). Social identity threat also increases anxiety and negative thoughts (Bosson, Haymovitz, & Pinel, 2004; Vick, Seery, Blascovich, & Weisbuch, 2008), as well as a preoccupation with failure avoidance rather than performance enhancement (Brodish & Devine, 2009; Seibt & Forster, 2004; Smith, 2006), all of which take a toll on actual performance (Keller, 2007; Seibt & Forster, 2004; C. M. Steele & Aronson, 1995; for a review, see Schmader, Johns, & Forbes, 2008; Smith, 2004).

These findings raise the important question—what strategies help people overcome social identity threat? Research indicates that individuals can focus on alternative, nonstigmatized identities (Shih, Pittinsky, & Ambady, 1999), reflect on values important to the self (Cohen, Garcia, Apfel, & Master, 2006; Martens, Johns, Greenberg, & Schimel, 2006), focus on similarities between their in-group and successful out-groups (Rosenthal & Crisp, 2006), think about their ability as malleable (Aronson, Fried, & Good, 2002), or benefit from contact with competent in-group role models (Marx & Roman, 2002; McIntyre, Paulson, & Lord, 2003; Stout et al., 2011). Collectively, prior research has sought to ward off the negative effects of identity threat by teaching individuals to modify their *social identity* or *self-concept*. In contrast, our research focuses on one's appraisal of the *situation*, with a goal to learn and grow therein.

Theoretical Contributions of the Current Research

Our work integrates theoretical literatures in social psychology—achievement goals, social identity threat, and stress and coping—to make three important theoretical contributions. First, our proposed intervention is predicted to *promote challenge* and confidence in the adverse situation, which will be the driving force behind individuals' intent to approach and actually do well in the face of identity threat. In contrast, prior research alleviates the pernicious effects of identity threat by focusing on threat reduction (e.g., Johns, Inzlicht, & Schmader, 2008; Schmader, Forbes, Zhang, & Mendes, 2009). Although a few studies have measured increases in physiological challenge in response to identity threat (e.g., Derks et al., 2009; Derks, Scheepers, Van Laar, & Ellemers, 2011), these studies did not measure its link to subsequent performance, which is an explicit goal of our work. Other work has measured threat and challenge appraisals of an identity-threatening task but did not endeavor to *manipulate* those appraisals (Berjot, Roland-Levy, & Girault-Lidvan, 2011), as was our aim.

Second, whereas other types of interventions have sought to alleviate identity threat by altering how people perceive *their self-concept* (Shih et al., 1999), *their personal values* (Cohen et al., 2006; Martens et al., 2006), or their *group identity* (Derks et al., 2009; Derks et al., 2011; Rosenthal & Crisp, 2006), our intervention alters people's perception of *their situation*, thereby leaving one's identity intact. One notable exception to this lies in the recent work by Alter, Aronson, Darley, Rodriguez, and Ruble (2010) who asked individuals to view an ability test as a tool to increase future performance rather than thinking of it as diagnostic of current ability; the authors found that such an appraisal increased performance. However, they did not identify what underlying *mechanism* (e.g., challenge, threat, or something else) was driving improved performance, which, again, is a key focus in our research.

Third, whereas prior research has compared the impact of an approach-oriented performance goal to an avoidance-oriented performance goal (e.g., Keller, 2007; Seibt & Forster, 2004; see also Chalabaev, Major, Cury, & Sarrazin, 2009) or focused narrowly on the detrimental impact of a performance-avoid goal (Brodish & Devine, 2009; Smith, 2006) on performance in identity-threatening situations, we sought to pit all three goal types against each other with the clear prediction that mastery will be most beneficial in terms of psychological challenge processes and downstream effects on behavior.

Overview of Experiments

Across three experiments, female college students participated in a mock job interview—a professional situation that is highly relevant to college students as they prepare for the job market after graduation. They were told to enter the job interview with either a mastery goal or a performance goal in mind. In one condition, the interview was made identity threatening when women discovered that the interviewer consistently used gender-exclusive language as he spoke to them, which tacitly ignored women by referring to all future employees as "he" and "him." In another condition, the interview was made nonthreatening when the interviewer consistently used gender-neutral language (e.g., "one," "them"). We tested participants' stress appraisals (how challenged vs. threatened they felt) of the ensuing job interview (Experiments 1-3), their behavioral intentions to be assertive therein (Experiment 2), and their actual behavior during the interview (Experiment 3). We then examined whether increased challenge (or decreased threat) mediated changes in behavioral intentions and actual behavior in the job interview (Experiments 2-3). Importantly, we also disaggregated two different types of performance goals—striving for

success (performance-approach goal) versus avoiding failure (performance-avoid goal)—and compared the impact of each performance goal versus a mastery goal on women's stress appraisals and behaviors in the job interview. Across all three experiments, we predicted that compared with the two performance goals, women who adopted a mastery goal would feel more challenged and less threatened. Greater challenge (rather than less threat) would elicit more assertive behavioral intentions and better performance.

Experiment 1

Method

Participants. One hundred seventy-five undergraduate women participated in exchange for extra course credit. Of them, 76% identified as Caucasian, 7% as Asian or Pacific Islander, 6% as African American, 5% as Hispanic/Latina, 3% as belonging to multiple ethnic groups, 1% as Native American, and 2% as belonging to some other ethnic group. The median age of participants was 20.

Manipulations and Measures

Achievement goal manipulation. At the beginning of the experiment, participants were given either a mastery goal or a performance goal to keep in mind during an upcoming mock job interview. Mastery goal instructions were as follows:

> During the interview, try to focus on how this experience will help you build your interviewing skills. Throughout this experience, think about what you can learn instead of how well you're doing. Being the best interviewee is not important right now—what is important is that you use this experience to figure out what skills you still need to learn. If you focus on learning throughout this interview, it will be helpful later on when you apply for jobs.

Performance goal instructions were as follows:

> During the interview, try to focus on performing as well as you can as a job applicant. Being the best interviewee is important right now. Try to do as well as you can and also try not to make mistakes during this job interview. If you focus on performing well, demonstrating your ability, and avoiding mistakes during this interview, it will be helpful later on when you apply for jobs.

Social identity threat manipulation. Social identity threat was manipulated during a "pre-interview" meeting with the interviewer where he offered a brief overview of the type of job for which participants were interviewing. In the identity-threatening condition, the interviewer always used gender-exclusive language (e.g., he, him, guys) in describing the job. Our prior research using this type of manipulation has demonstrated that women perceive gender-exclusive language to be sexist and identity threatening compared with gender-neutral language but that men are personally unaffected by gender-exclusive language (Stout & Dasgupta, 2011). The specifics of the job were left vague so that participants' own career interests could easily fit into the hypothetical job description. The job overview described an entry-level position that encouraged creativity and individual expression in a fast-paced and competitive work environment; the organization also distributed employees' workload fairly and utilized a reward system for superior work performance. See Appendix A for both versions of the job description.

Threat and challenge measures. Perceived threat in anticipation of the job interview was assessed by asking participants to rate the extent to which they felt "anxious" and "worried" as they thought about the upcoming interview using a scale ranging from (1) *not at all* to (7) *very much* ($\alpha = .85$). Challenge in anticipation of the job interview was assessed by asking participants to rate the extent to which they felt "confident" and "determined," using a scale ranging from (1) *not at all* to (7) *very much* ($\alpha = .86$). These emotion items were borrowed from classic research on appraisal theory, which used these stimuli to measure threat (anxiety; fear) and challenge (confidence, eagerness; Folkman, 1984; Folkman, & Lazarus, 1985). Contemporary research continues to use these types of emotion items to measure threat and challenge (see Chalabaev et al., 2009; Derks et al., 2009; McGregor & Elliot, 2002). Furthermore, these two groupings of emotions nicely map onto the inhibitory versus activational nature of threat versus challenge, respectively (Blascovich & Mendes, 2000; Lazarus, 1966; Lazarus & Folkman, 1984).

Manipulation check. The following three items assessed the extent to which the interviewer was perceived as sexist in the social identity threat condition compared with the nonthreat condition: "Was the way in which the interviewer described the work environment sexist?" (1) *not at all sexist* to (7) *very sexist*; "Was the way in which the interviewer described the work environment gender-neutral, or did it favor one gender over the other?" (1) *favored women* to (7) *favored men*; and "Based on the way in which the representative described the work environment, how macho would you estimate the work environment at this organization to be?" (1) *not at all macho* to (7) *very macho* ($\alpha = .82$).

Procedure. Upon arrival, participants met a female experimenter who informed them that the study was in collaboration with a career development program at the university. The mission of this alleged program was to prepare students to enter the workforce by offering practice job interviews. The current study was purportedly designed to assess which, among a variety of interviewing formats, was most helpful to

prepare students for the job market. Participants were then given either a mastery goal or a performance goal to keep in mind during the job interview. Next, they were taken to a separate room for a "pre-interview" where they met individually with a male interviewer who gave them an overview of the job for which they would interview. The interviewer was played by two male confederates who were dressed in business casual attire and trained to maintain a friendly yet professional demeanor throughout the interview. The confederate interviewer recited a scripted job overview verbatim in a way that sounded natural (his script was the social identity threat manipulation depicted in Appendix A). If participants requested details about the job, interviewers were trained to deflect questions by saying "You will have a chance to ask questions in the next portion of the interview."

The interviewer then told participants that they would complete a questionnaire relevant to the interviewing process before the actual interview. He then escorted participants to a separate room to complete a computerized questionnaire that included the dependent variables: perceived threat and challenge (counterbalanced), followed by the perceived sexism manipulation check. Once finished, participants were informed that there would be no interview; they were debriefed, probed for suspicion, and thanked for participating.

Results and Discussion

Manipulation Check: Perceptions of Sexism. An Achievement Goal (Mastery vs. Performance) × Social Identity Threat (Threat vs. No Threat) between subjects ANOVA indicated that women found the interviewer to be more sexist in the identity-threatening condition ($M = 5.94$, $SD = 0.79$) than the nonthreatening condition ($M = 3.39$, $SD = 0.86$), $F(1, 171) = 408.65$, $p < .001$, $\eta_p^2 = .71$. Neither achievement goals alone nor the interaction of achievement goals by social identity threat affected women's perceptions of sexism (Fs < 1).

Threat. A significant Achievement Goal × Social Identity Threat interaction, $F(1, 171) = 4.20$, $p < .05$, $\eta_p^2 = .02$, indicated that in the identity-threatening condition women felt less threatened if they had a mastery goal in mind ($M = 3.02$, $SD = 1.62$) rather than a performance goal ($M = 3.78$, $SD = 1.62$), $F(1, 171) = 4.17$, $p < .05$, $\eta_p^2 = .05$. However, in the no identity threat condition, women's feelings of threat did not vary as a function of mastery versus performance goals ($M = 3.55$, $SD = 1.77$ and $M = 3.28$, $SD = 1.54$, respectively), $F(1, 171) = 0.64$, $p = .42$, $d = .01$ (see Figure 1, Panel A). Main effects of achievement goals and social identity threat were not significant (Fs < 1).

Challenge. We also found a significant Achievement Goal × Social Identity Threat interaction, $F(1, 171) = 5.44$, $p < .05$, $\eta_p^2 = .02$, where in the identity threat condition, women felt more challenged if they were focused on a mastery goal ($M = 5.01$, $SD = 1.30$) than a performance goal ($M = 4.39$, $SD = 1.48$), $F(1, 171) = 4.02$, $p = .05$, $\eta_p^2 = .05$. But in the no identity threat condition, women felt equally challenged regardless of their achievement goal ($M = 4.80$, $SD = 1.61$ in mastery goal condition; $M = 5.19$, $SD = 1.31$ in performance goal condition), $F(1, 171) = -1.75$, $p = .19$, $\eta_p^2 = .02$ (see Figure 1, Panel B). Again, main effects of achievement goals and social identity threat were not significant (ps > .15).

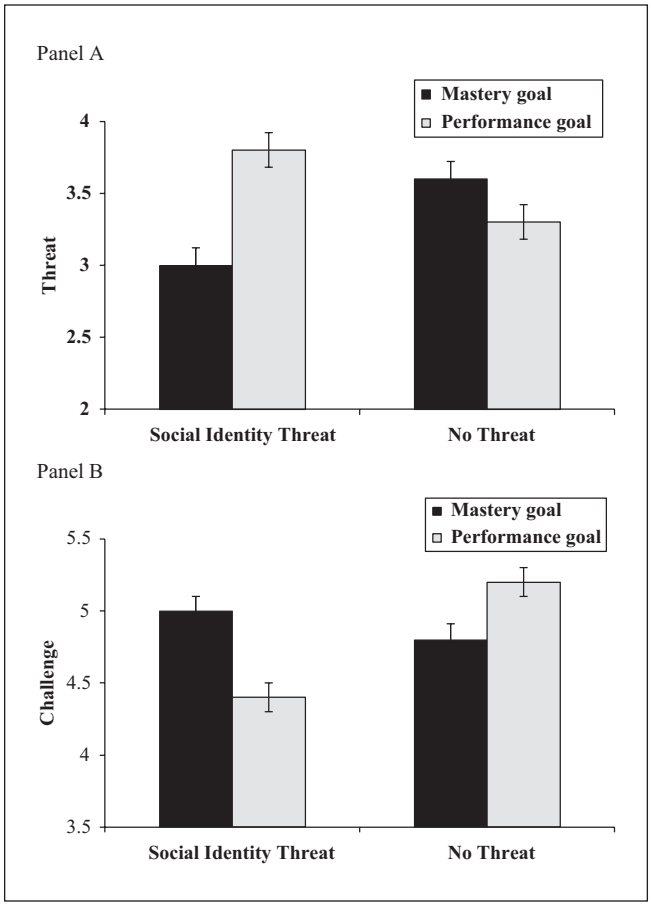

Figure 1. Experiment 1: Effect of Achievement Goal × Social Identity Threat on (a) threat appraisals before a job interview (Panel A) and (b) challenge appraisals before a job interview (Panel B).

In sum, Experiment 1 showed that achievement goals altered women's appraisals of an upcoming job interview with an interviewer who created an identity-threatening environment. They felt significantly more challenged and less threatened when they pursued the job interview with a mastery goal rather than a performance goal. However, as expected, achievement goals did not alter women's appraisals of a nonidentity-threatening interview. These findings provide initial evidence that a mastery goal is more beneficial than a performance goal for women approaching professional situations that raise the specter of identity threat.

Experiment 2

Past research indicates that performance goals come in two varieties, such that one focuses on preventing failure (performance-avoid goal) and a second focuses on demonstrating one's competence (performance-approach goals; see A. J. Elliot, 1999; A. J. Elliot & Church, 1997). Importantly, a performance-avoid goal predicts higher anxiety, lower intrinsic motivation, and greater self-doubt than both a mastery goal and a performance-approach goal (e.g., Dickhäuser, Buch, & Dickhäuser, 2011; McGregor & Elliot, 2002). Performance-approach goals, although somewhat better, also tend to produce worse outcomes than mastery goals, such as a fear of failure (A. J. Elliot, 1999; A. J. Elliot & McGregor, 1999) and deflated motivation, lower self-worth, and impaired performance after negative feedback (Grant & Dweck, 2003). In sum, both types of performance goals tend to be less beneficial than mastery goals, but performance-approach goals tend to be better than performance-avoid goals.

In Experiment 2, we sought to compare the impact of all three types of achievement goals on women's stress appraisals as well as their behavioral intentions in an identity-threatening job interview. We predicted that a mastery goal would lead women to feel most challenged and least threatened; in comparison, a performance-avoid goal would lead to least challenge and most threat; and a performance-approach goal would fall in between. Having established in Experiment 1 that goals do not change women's appraisals of a nonidentity-threatening interview, we did away with this condition in Experiment 2. Instead, the control condition in Experiment 2 was one in which women were not given any explicit goal instruction for their upcoming (identity threatening) interview.

A second goal of Experiment 2 was to capture women's behavioral intentions to confront the identity-threatening situation rather than shy away from it by examining the degree to which they intended to be assertive during the upcoming interview. Finally, we investigated whether appraisals of challenge (but not threat) serve as the underlying process that mediates the beneficial effect of mastery goals on women's behavioral intentions in the job interview. Of interest, threat and challenge are correlated in our work ($r = .57$, $p < .001$, collapsed across all three experiments), but there is a large amount of nonoverlapping variance between the two constructs, suggesting that they are distinct phenomena. The multiple mediation analyses in this experiment and Experiment 3 also indicate that threat and challenge are related yet distinct in their effects on intentions and behavior. Based on previous research showing that challenge is associated with activating emotions, activating physiological responses, and the motivation to overcome obstacles but threat is associated with inhibiting emotions, inhibiting physiological responses, and the motivation to avoid harm (Folkman, 1984; Lazarus, 1966; Tomaka et al., 1993), we predicted that challenge would be the critical mediator. That is, increased challenge, but not decreased threat, would significantly mediate and strengthen women's intentions to be assertive in an identity-threatening context.

Method

Participants. One hundred twenty-eight undergraduate women participated in exchange for extra course credit. Two women's data were not collected due to computer malfunction, leaving an $N = 126$. Within the sample, 85% identified as Caucasian, 6% as African American, 6% as Asian or Pacific Islander, 2% as multiracial, and 1% as Hispanic/Latina. The median age of participants was 20.

Manipulations and Measures

Achievement goal manipulations. Participants were randomly assigned to one of four achievement goal conditions: mastery goal (identical to the previous experiment), performance-approach goal, performance-avoid goal, or no goal (control condition).

Instructions for the performance-approach goal condition were as follows:

> During the interview, try to focus on performing as well as you can. Being the best interviewee is important right now. If you focus on demonstrating your ability and performing well during this interview, it will be helpful later on when you apply for jobs.

Instructions for the performance-avoid goal condition were as follows:

> During the interview, try to avoid making mistakes. It is also important that you downplay any weaknesses you have. If you focus on avoiding mistakes and not showing your weak points during this interview, it will be helpful later on when you apply for jobs.

Participants in the No Goal condition did not receive goal instructions before meeting the job interviewer.

Social identity threat. All participants underwent a pre-interview meeting with a male interviewer whose gender-exclusive language created social identity threat; thus, social identity threat was held constant for all participants in this experiment.

Threat and challenge measures. The threat and challenge measures were bolstered by adding four new items based on prior research on the inhibitory nature of threat appraisals and activational nature of challenge appraisals (Folkman, 1984; Lazarus, 1966; see also Berjot et al., 2011). Two of these new items gauged participants' motivation to avoid or retreat, which is part of feeling threatened: "I just want to finish the interview quickly and leave" and "I want to get the interview over with." These were added to the previous

threat items ("I feel anxious" and "I feel worried"); the measure's α = .75.

The remaining two new items gauged participants' eagerness and interest in approaching a difficult task, which are part of feeling challenged: "I am really looking forward to the interview"; "I am glad that I will get to do the upcoming interview." These were added to the previous challenge items ("I feel confident" and "I feel determined"); the measure's α = .79. All response scales used to assess threat and challenge ranged from (1) *not at all* to (7) *very much.*

Assertive behavioral intentions. Two items assessed participants' intention to be assertive during the upcoming interview: "I will make my views known during the interview" and "I want the interviewer to understand my perspective" (α = .82). Participants indicated their response on a 7-point scale ranging from (1) *not at all* to (7) *very much*.

Procedure. The procedure used in Experiment 2 was very similar to that of Experiment 1 with three modifications. First, we used four achievement goal conditions (mastery, performance-approach, performance-avoid, no goal) instead of two, which varied between subjects. Second, all participants met an interviewer whose gender-exclusive language created an identity-threatening situation (the no identity threat condition was eliminated). Third, after completing the threat and challenge measures (counterbalanced), participants reported on the degree to which they intended to be assertive with the interviewer. After completing the questionnaires, participants were debriefed and thanked for participating.

Results and Discussion

Threat. We predicted that the type of achievement goal women had in mind would change their perceptions of threat as they anticipated the interview, and in fact it did, $F(3, 122) = 4.20$, $p < .01$, $\eta_p^2 = .09$. Follow-up Dunnett *t* tests revealed that as predicted, women felt least threatened when they held a mastery goal ($M = 3.07$, $SD = 1.43$) and significantly more threatened when they held a performance-avoid goal ($M = 4.01$, $SD = 1.30$, $p < .05$, $d = .69$) or no goal ($M = 4.13$, $SD = 0.88$, $p < .01$, $d = .89$). Responses to the performance-approach goal fell in the middle and elicited marginally more threat ($M = 3.79$, $SD = 1.33$, $p = .07$, $d = .52$) than the mastery goal (see Figure 2, Panel A).

Challenge. We also found that achievement goals significantly affected the degree to which women felt challenged about the interview, $F(3, 122) = 3.95$, $p < .05$, $\eta_p^2 = .09$. Specifically, Dunnett *t* tests revealed that women felt significantly more challenged when they held a mastery goal ($M = 4.64$, $SD = 0.82$) relative to when they held a performance-avoid goal that showed the least challenge ($M = 3.70$, $SD = 0.89$, $p < .01$, $d = 1.10$); the performance-approach goal condition ($M = 4.17$, $SD = 1.32$, $p = .22$, $d = .32$) and no goal condition ($M = 4.07$, $SD = 1.23$, $p = .11$, $d = .55$) fell in between and were nonsignificantly different from mastery (see Figure 2, Panel B).

Assertive Behavioral Intentions. Achievement goals also significantly influenced women's intentions to be assertive during their interview, $F(3, 122) = 6.39$, $p < .001$, $\eta_p^2 = .14$. Again, Dunnett *t* tests revealed that women intended to be significantly more assertive when they held a mastery goal ($M = 5.55$, $SD = 1.24$) compared with a performance-avoid goal ($M = 4.47$, $SD = 1.11$, $p < .01$, $d = .92$) and a performance-approach goal ($M = 4.47$, $SD = 1.18$, $p < .01$, $d = .89$). In this case, the no goal condition was similar to the mastery condition ($M = 5.18$, $SD = 1.20$, $p = .46$, $d = .30$; see Figure 2, Panel C).

Does Challenge Rather Than Threat Mediate the Relation Between Goals and Intentions to be Assertive?. We simultaneously tested whether threat and challenge served as mediators for the relation between mastery and performance goals and assertive behavioral intentions using Preacher and Hayes' (2008) SPSS macro testing for indirect effects of multiple mediators. Our comparison of theoretical interest was between women who held mastery versus performance goals (both approach and avoid); we expected that mastery goals would promote stronger assertive intentions than performance goals because women felt comparatively more challenged (but not less threatened). However, because women who focused on mastery felt significantly more challenged than women who held a performance-avoid goal ($p < .01$), but did not differ from women who held a performance-approach goal ($p = .22$), we only compared the mastery goal condition to the performance-avoid goal condition.

We found that adopting a mastery goal rather than a performance-avoid goal produced more assertive behavioral intentions (outcome variable), $B = .54$, $SE = .14$, $p < .001$, and made women feel less threatened (potential mediator), $B = -.47$, $SE = .17$, $p < .01$, and more challenged (potential mediator), $B = .47$, $SE = .10$, $p < .001$. Controlling for challenge and threat rendered the effect of goals on assertive intentions nonsignificant, $B = .27$, $SE = .16$, $p = .09$. The 95% confidence interval (CI) for challenge did not contain zero [.0773, .5300], but the 95% CI for threat did [−.1288, .0991], indicating that challenge, but not threat, mediated the relationship between goals and assertive intentions (see Figure 3).

Experiment 2 qualified our findings from Experiment 1 by showing that the benefits of holding a mastery goal versus performance goal in an identity-threatening situation may be contingent on the type of performance goal one holds. That is, women felt most challenged and least threatened when they adopted a mastery goal compared with a performance-avoid goal, with a performance-approach goal falling in between. However, women intended to be significantly more assertive when they had adopted a mastery goal compared with both types of performance goals (performance-approach

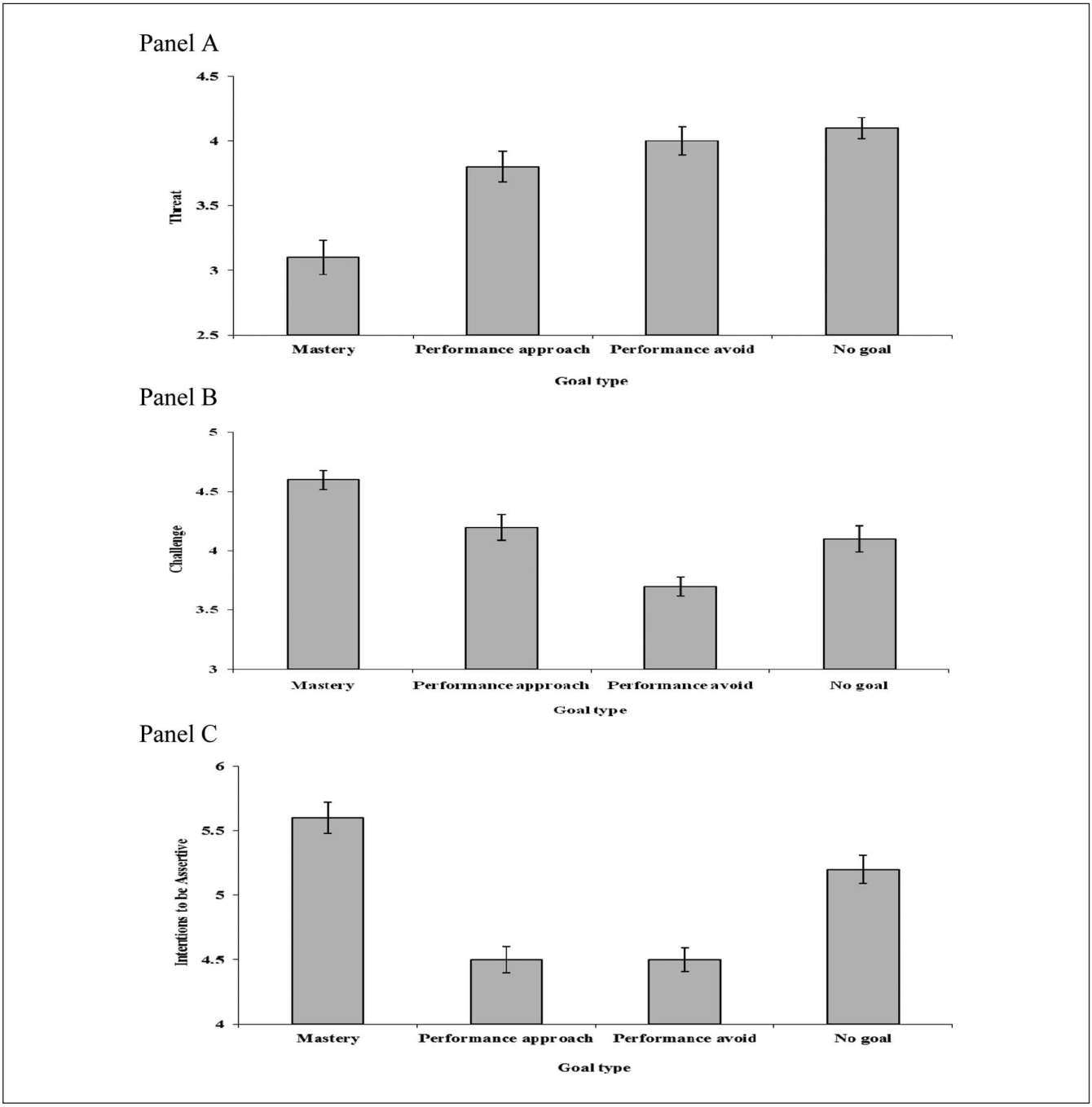

Figure 2. Experiment 2: Effect of achievement goals on (a) feeling threatened (Panel A), (b) feeling challenged (Panel B), and (c) intentions to be assertive (Panel C).

and performance-avoid). Finally, women's intention to be assertive elicited by a mastery goal versus performance-avoid goal was mediated by increased feelings of challenge (not reduced threat).

We should note that women who held no goal sometimes responded more negatively than their peers in the mastery goal condition but other times did not differ from the mastery goal condition. One reason for this may have been that women in the "no goal" condition adopted idiosyncratic goals of their own accord because they had not been given any specific instruction about how to behave. Most important for our hypotheses are the predicted differences between the mastery goal condition versus the performance-avoid goal condition with the performance-approach goal condition falling in the middle. The obtained results are largely consistent with these

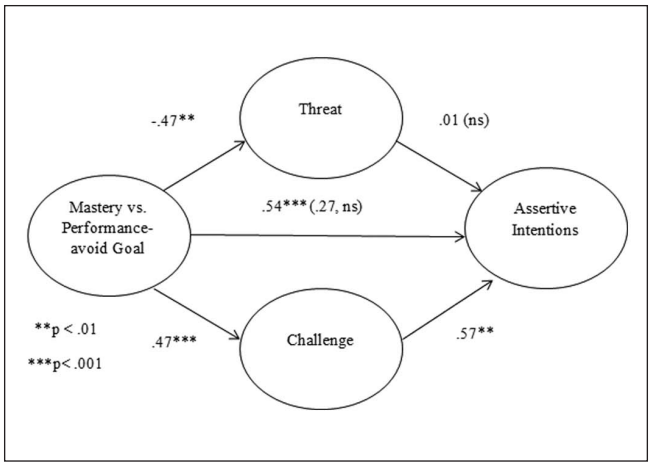

Figure 3. Experiment 2: Feeling challenged (but not threatened) mediates the effect of achievement goals (mastery vs. performance-avoid) on assertive intentions.
Note: The values are unstandardized beta weights; the numbers inside parentheses indicate that the relationship between the predictor variable and the outcome variable becomes nonsignificant after controlling for challenge and threat.
$^{**}p < .01$. $^{***}p < .001$.

predictions, with a mastery goal actually outshining *both* types of performance goals in terms of assertive behavioral intentions.

Experiment 3

Experiment 3 focused attention on women's actual performance in an identity-threatening job interview by covertly recording women's interviews. Later, trained coders evaluated women's nonverbal behavior to identify how much positive and negative affect they displayed during the interview (affective performance) as well as the degree to which coders would want to hire each participant (hireability). We focused on participants' positive and negative affect during the interview in addition to hireability because, not surprisingly, having a positive demeanor is an important predictor of positive first impressions during job interviews (Keenan, 1977; Macan, 2009).

Method

Participants. One hundred twenty-five women participated in exchange for US$5 plus extra course credit. Of these, 9 of the women's interviews were not recorded due to camera malfunction and 8 women did not consent to having their video data analyzed; these 17 women's data were excluded from data analysis resulting in a final $N = 108$. Within the final sample, 80% identified as Caucasian, 7% as multiracial, 5% as Asian or Pacific Islander, 3% as African American, 3% as Native American, 2% as Hispanic/Latina, and 2% as some other ethnic group. The median age of participants was 20.

Manipulations and Measures

Achievement goal manipulation. The achievement goal manipulations used in this experiment were identical to Experiment 2.

Social identity threat. All participants underwent the same pre-interview meeting as that of Experiment 2.

Interviewer questions. Women interviewed with the same interviewer who had conducted the pre-interview. He asked a set of open-ended questions similar to many real job interviews (e.g., "Tell me a bit about yourself," "Why should we hire you?").

Threat and challenge measures. These measures were identical to Experiment 2.

Behavioral coding. Two independent coders who were unaware of participants' achievement goal condition watched each video in its entirety twice (length of video ranged from 52 to 183 s) and evaluated participants' affective performance and hireability. Interrater reliability was satisfactory ($\alpha = .73$), so we averaged the two coders' ratings for each item that follows. Coders first watched each video with no sound and evaluated (a) how much positive affect they displayed based on their facial expressions (e.g., genuine smiling) and (b) how much negative affect they displayed based on their facial expressions (e.g., furrowed brow, frowning): (1) *not at all* to (7) *very much* ($\alpha = .73$). Coders then watched each video a second time, this time with sound, and rated the following items: "How likely would you be to hire this interviewee?" and "How well thought out was the interviewee's response to the question?": (1) *not at all* to (7) *very* ($\alpha = .95$).

Procedure. The procedure was identical to that of Experiment 2, with the exception that rather than completing the assertive behavioral intention measure, participants performed the actual interview during which the interviewer asked a series of scripted questions. These interviews were covertly recorded using a small camera hidden inside computer equipment in the room. No participants expressed any suspicion that they were being video recorded. After the interview, participants were debriefed about the purpose of the study and were told that their interviews had been recorded. They were offered the opportunity to either have their video recording analyzed or to have it erased immediately. After debriefing, participants were paid and thanked for participating.

Results and Discussion

Threat. Achievement goals altered threat responses to the upcoming interview, $F(3, 104) = 3.08$, $p < .05$, $\eta_p^2 = .08$. Specifically, Dunnett t tests revealed that women felt least threatened when they held a mastery goal ($M = 3.18$, $SD = 1.11$) and comparatively most threatened when they held a performance-avoid goal ($M = 4.24$, $SD = 1.49$, $p < .05$, $d = .81$). The no goal condition also produced significantly more threat than the mastery condition ($M = 4.02$, $SD = 1.28$, $p < .05$, $d = .70$). The performance-approach goal condition

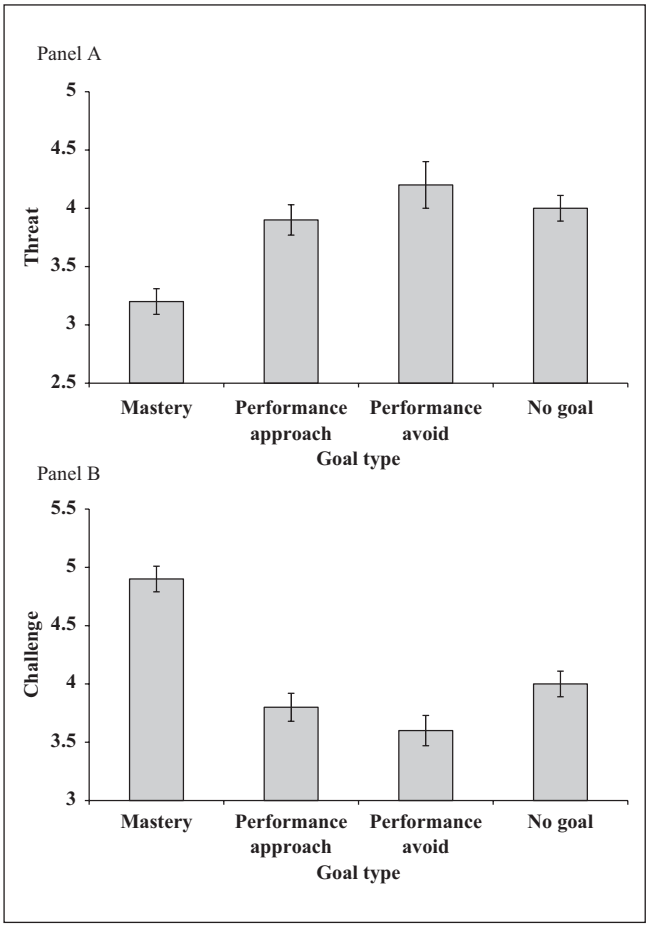

Figure 4. Experiment 3: Effect of achievement goals on feeling (a) threatened (Panel A) and (b) challenged (Panel B).

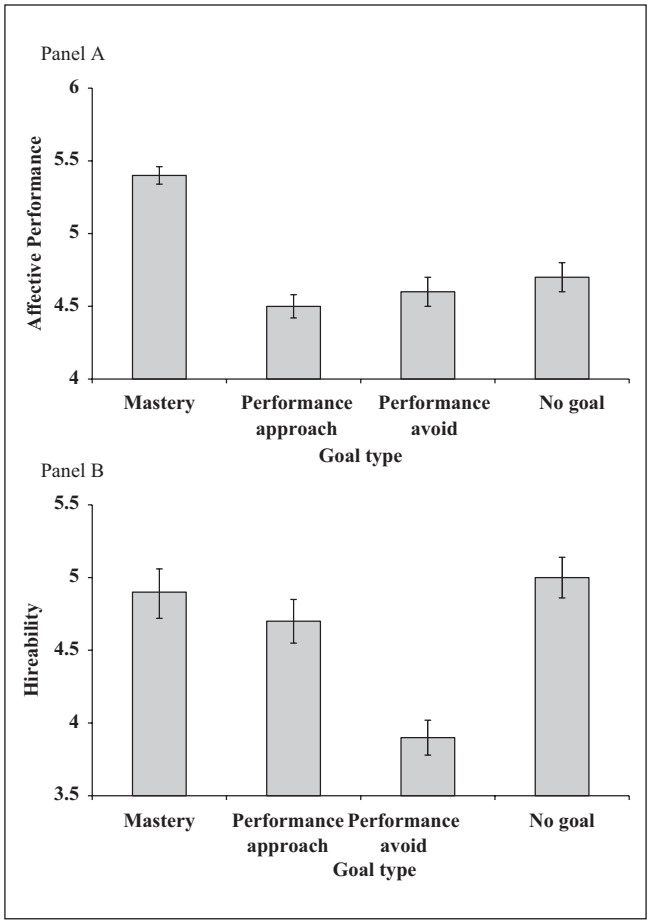

Figure 5. Experiment 3: Effect of achievement goals on (a) affective performance (Panel A) and (b) hireability (Panel B).

produced somewhat more threat than the mastery condition although this comparison was not statistically significant ($M = 3.91$, $SD = 1.37$, $p = .14$, $d = .59$; see Figure 4, Panel A).

Challenge. Achievement goals also altered challenge appraisals significantly, $F(3, 104) = 5.08$, $p < .01$, $\eta_p^2 = .13$. Dunnett *t* tests showed that a mastery goal led women to feel significantly more challenged ($M = 4.89$, $SD = 1.18$) than a performance-avoid goal, which elicited lowest feelings of challenge ($M = 3.64$, $SD = 1.30$, $p < .05$, $d = 1.01$). Mastery also produced more challenge than a performance-approach goal ($M = 3.79$, $SD = 1.21$, $p < .05$, $d = .92$) and no goal ($M = 4.04$, $SD = 1.26$, $p < .05$, $d = .69$; see Figure 4, Panel B).

Affective Performance. Women's affective performance, as indicated by their nonverbal behavior, varied systematically as a function of their achievement goal, $F(3, 104) = 2.66$, $p = .05$, $\eta_p^2 = .07$. Specifically, women who held a mastery goal appeared significantly more positive in their nonverbal behavior ($M = 5.35$, $SD = 0.76$) than others who held a performance-approach goal ($M = 4.51$, $SD = 1.26$, $p < .05$, $d = .81$), a performance-avoid goal ($M = 4.58$, $SD = 1.26$, $p = .05$, $d = .74$), or no goal ($M = 4.73$, $SD = 1.37$, though this difference was nonsignificant, $p = .13$, $d = .56$; see Figure 5, Panel A).

Hireability. Observers' ratings of hireability also varied as a function of participants' achievement goals, $F(3, 104) = 2.65$ $p = .053$, $\eta_p^2 = .07$. This pattern of results was somewhat different than expected but nonetheless sensible. Women who focused on avoiding poor performance were judged as less hireable ($M = 3.94$, $SD = 1.48$) compared with others who focused on mastery (this effect was marginal, $M = 4.87$, $SD = 1.67$, $p = .076$, $d = .59$), and those without any goal in mind ($M = 4.98$, $SD = 1.42$, $p < .05$, $d = .72$). Participants' hireability was statistically equivalent in the two performance goal conditions (performance approach $M = 4.68$, $SD = 1.46$; performance avoid $M = 3.94$, $SD = 1.48$, $p = .20$, $d = .51$; see Figure 5, Panel B).

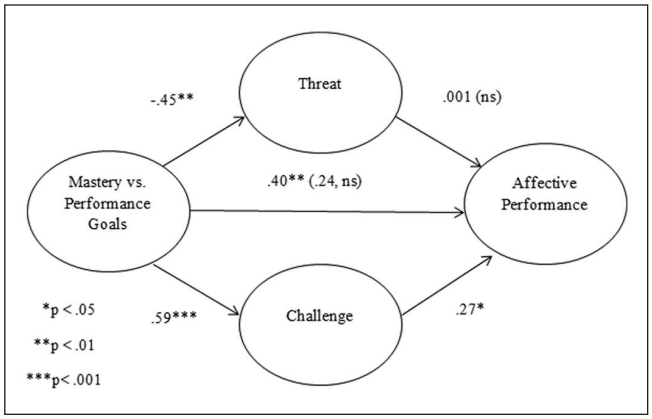

Figure 6. Experiment 3: Feeling challenged (but not threatened) mediates the effect of achievement goals (mastery vs. performance) on affective performance.
Note: The values are unstandardized beta weights; the numbers inside parentheses indicate that the relationship between the predictor variable and the outcome variable becomes nonsignificant after controlling for challenge and threat.
*$p < .05$. **$p < .01$. ***$p < .001$.

Does Challenge Rather Than Threat Mediate the Relationship Between Goals and Interview Behavior?

Affective performance. We simultaneously assessed whether challenge, but not threat, mediated the effect of goals on nonverbal affect. Because mastery goals led to higher challenge appraisals compared with both performance-approach and performance-avoid goals (ps < .05), we compared women in the mastery goal condition with women in performance-approach and performance-avoid goals combined. We found that women who focused on mastery (relative to performance of either variety) behaved more positively during the interview (outcome variable), $B = .40$, $SE = .13$, $p < .01$, and reported feeling less threatened (potential mediator), $B = -.44$, $SE = .16$, $p < .01$, and more challenged (potential mediator) before the interview, $B = .59$, $SE = .15$, $p < .001$.When controlling for threat and challenge appraisals, the mastery goal condition no longer predicted more positive behavior compared with the performance goal conditions, $B = .24$, $SE = .14$, $p = .09$. As predicted, challenge served as a mediator (95% CI = [.0142, .3930]), but threat did not, (95% CI = [−.1544, .1429]; see Figure 6).

Hireability. Recall that women tended to appear less hireable when they held a performance-avoid goal versus mastery goal ($p = .076$). A multiple mediational analysis comparing women in the mastery goal to performance-avoid goal conditions indicated that neither threat nor challenge served as mediators for this effect. It may be the case that a more in vivo measure of stress appraisals (e.g., physiological measures) could better assess the mechanisms behind women's hireability performance. Or, something other than stress appraisals might have been driving hireability ratings (e.g., evaluative concerns). Future research might assess these hypotheses.

Relation between perceived hireability and affective behavior. Correlational analyses indicated that women's hireability was more strongly correlated with their affective performance when they held a mastery goal ($r = .39$, $p = .056$) than when they held a performance-approach goal ($r = .12$, $p = .59$), performance-avoid goal ($r = .19$, $p = .34$), or no goal ($r = .28$, $p = .11$). One explanation for these differential correlations could be that women who focused on mastery were free to think of the interview as a learning (positive) experience; thus, greater positive affect elicited during the interview correlated with higher ratings of hireability. However, in the remaining goal conditions, women's hireability ratings may have been driven more by performance concerns rather than positive affect per se. Of course, this is speculative and future research should empirically test this hypothesis.

In sum, Experiment 3 extended the previous experiments by examining women's *actual performance* in an identity-threatening interview. We predicted and found that focusing women on mastery rather than both types of performance increased their affective performance during a job interview, which was driven by increased feelings of challenge rather than decreased threat. Finally, as expected, a mastery goal did tend to give women an edge in perceived hireability compared with women who held a performance-avoid goal, though neither our challenge nor threat measure was able to account for this effect.

General Discussion

People sometimes feel they do not belong in certain situations or are just not good at certain things because identity threat in the situation rattles their confidence and undercuts their performance. However, as Winfrey's quote at the beginning of this article suggests, what some call threatening, others call an opportunity to learn and grow. Our research suggests that individuals can appraise identity-threatening situations in positive ways, which can affect how they feel and act. Specifically, when individuals construe identity threat as a learning experience (rather than a time to perform at one's best or avoid errors), it allows them to feel challenged, engaged, and ultimately perform well.

The Benefit of a Mastery Goal and Why It Works

The current work provides support for achievement goal theory by reinforcing the beneficial nature of holding a mastery goal and takes it further by shedding light on the underlying mechanism driving its benefits.[1] Although prior studies have shown that mastery goals protect individuals' intrinsic motivation and facilitate performance following negative performance feedback (e.g., E. Elliot & Dweck, 1988; Grant & Dweck, 2003), it has not been clear *why* mastery goals produced these benefits. Our work answers the "why question" using theoretical insights from the stress and coping research (Folkman, 1984; Folkman, & Lazarus, 1985; Lazarus, 1966; Tomaka et al., 1993) and by providing

empirical data to back up these insights. We provide empirical evidence that adopting a mastery goal is a markedly better strategy than adopting a performance-avoid goal, and, to some degree, a performance-approach goal (we discuss inconsistencies regarding the effects of performance-approach goals below). We found that the benefits of a mastery goal on behavioral intentions and behavior itself were driven by feeling more challenged rather than less threatened. Thus, the current work suggests that threat and challenge responses to adversity may be different psychological processes (this is consistent with prior work such as Berjot et al., 2011 and Derks et al., 2009).

At a practical level, our work also provides a simple and effective means by which individuals might feel confident, feel engaged, and do well in identity-threatening contexts by changing the way they *think about the situation*, such that identity threat is framed as an opportunity for learning and mastery. Such an approach is rooted in theories of emotion regulation whereby individuals learn to reappraise aversive situations to change their subjective meaning to promote positive emotional reactions, which influence behavior later on (see Gross, 2008; Lazarus, 1966). In other words, although one cannot always prevent occurrences of identity threat, one can control one's perceptions and appraisals that subsequently shape emotions and behaviors.

The importance of our focus on real job interviews is twofold. First, identity threat and achievement goal research via dynamic face-to-face interactions is rare, and work that bridges these two research areas tends to focus mainly on written test performance (e.g., A. J. Elliot & Church, 1997; Grant & Dweck, 2003; Schmader, 2010; Spencer et al., 1999). We, however, studied people's reactions to identity threat during an actual face-to-face interview as a function of their goal orientation. Second, our intervention overlaps with contemporary business coaches' advice for individuals to adopt a "growth mindset" while on the job market (Dweck, 2006) whereby they encourage applicants to think about job interviews as opportunities to gain experience to cope with stress (Fubra, 2009; Prock, 2011). Our work provides rigorous experimental evidence supporting this argument, specifically for individuals who face identity threat, which is no doubt stressful during interviews. For these individuals, adopting a mastery goal is likely to allow one to learn and grow from an identity-threatening experience so that they remain engaged rather than lose their motivation to try again.

Future Directions

In our work, performance-approach and performance-avoid goals tended to operate similarly, but in prior work, these goals tend to have differential effects on achievement (e.g., McGregor & Elliot, 2002; Smith, Sansone, & White, 2007). One explanation for this inconsistent trend may be that some obstacles are daunting when one focuses on performance regardless of an approach or avoidance orientation (e.g., a job interview), and other obstacles are daunting only if one is oriented to avoiding failure (e.g., when faced with a negative stereotype about one's ability; see Smith, 2006). Thus, depending on the situation in which performance goals are activated, the impact of performance-approach versus performance-avoid goals might sometimes converge and at other times diverge. This hypothesis regarding matching specific situational obstacles with the most adaptive goal orientation warrants future research.

We also found that a mastery goal was sometimes but not always more beneficial than holding a performance-approach goal. Prior research indicates that a performance-approach goal's effects in identity-threatening achievement settings can depend on an individual's personal achievement motivation (Smith et al., 2007). Specifically, individuals with higher versus lower initial motivation tend to benefit more from a performance-approach goal. In our work, it may have been the case that women differed in their degree of initial motivation for the interview, yielding unmeasured error variance in women's reactions to a performance-approach goal and inconsistent results across experiments. Future research might test this hypothesis.

It would also be useful to assess whether adopting a mastery goal in practice situations spills over into and benefit actual high-stakes performances later on. In other words, can repeatedly adopting a mastery goal in many practice "dry runs" eventually become an automatic response in a later high-stakes achievement situation? Such a spillover effect would not only make identity-threatening settings easier to navigate but would also present an opportunity for growth in situations that individuals may have otherwise avoided. Thus, mastery goals might not only temper the sting of social identity threat in achievement contexts but also allow individuals to capitalize on the threatening experience so that they can, in the words of Oprah Winfrey, turn wounds into wisdom.

Appendix A

Job Description Using Gender-Exclusive Language (Emboldened; Experiments 1-3) and Gender-Neutral Language (In Parentheses; Experiment 1)

Our organization is continually growing and thriving. We're looking to hire enthusiastic and bright college graduates—we usually know a good employee when we see **him** (one).

Our ideal employee is a smart and ambitious **guy** (person). **He is** (They are) someone who can work in a fast-paced and energetic environment—we certainly wouldn't want an employee's workload to catch **him** (them) unprepared.

We expect our **guys** (employees) to help us become a leading player in our field, so when a new employee joins us,

he (they) may be asked to stay after work hours from time to time. Naturally, **he** (they) would be compensated for the extra time that **he puts** (they put) in.

Finally, we believe in rewarding excellent employees. When we come across an outstanding person, we feel that rewarding **him** (them) will boost our overall productivity. Some examples of our reward system are extended paid-vacation and monetary bonuses. Our **guys** (employees) are very pleased with our current reward system; the harder an employee works, the more money **he makes** (they make)!

If you are smart, ambitious, and creative, and this work environment sounds like a good fit for you, we encourage you to apply.

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Declaration of Conflicting Interests

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Note

1. Although we did not find consistent differences between women's responses to identity threat when they held a mastery goal versus no goal (Experiments 2 and 3), we believe this occurred because the No Goal condition is a muddy comparison group. It is unlikely that women in the No Goal condition truly had no goal in mind. It is more likely that they adopted their goal of choice, thereby promoting individual differences in that condition. The comparison of theoretical interest to us is between performance goals versus a mastery goal. This comparison consistently shows that focusing on mastery in lieu of a performance-avoid goal, and to some extent a performance-approach goal, allows individuals to cast identity threat in a positive light.

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