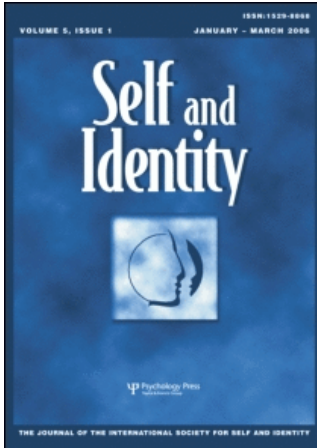


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### The downside of feeling better: Self-regard repair harms performance

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## The Downside of Feeling Better: Self-regard Repair Harms Performance

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*While threats to self-regard are unpleasant and aversive, such threats can also be motivating, leading people to change their views of themselves, and their behavior. The current studies show that when individuals experience a threat to self-regard through upward social comparison, learning about an opportunity to demonstrate competency can be affirming, leading to restored self-regard. However, self-regard is repaired only when the new task is in a domain different from the threatened domain (Study 1), and only when that new task is diagnostic of an important ability (Study 2). Study 3 examines the behavioral outcomes associated with threat, demonstrating the positive impact of threat on performance on these new tasks; ironically, when threat—the motivating force behind improved performance—is reduced, performance suffers.*

It is generally accepted that threats to self-evaluations are bad. Among Westerners, the motivation to maintain a positive self-view has been revealed as a primary motive behind cognition and behavior (Sedikides, 1993; Sedikides, Gaertner, & Vevea, 2005), and a multitude of ways to obtain and retain positive self-regard have been identified (Tesser, 1988; see also Tesser, Wood, & Stapel, 2005). The current studies

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contribute to this rich research tradition in two ways and demonstrate that threats to self-evaluations may not be as uniformly negative as one might think. First, we suggest that affording people who have experienced threats to self-regard the opportunity to showcase their abilities on diagnostic tasks may be affirming, leading to reductions in threats to self-regard. Second, we suggest that because such threats can motivate better performance on diagnostics tasks, alleviating that threat prior to the task will have negative consequences for performance.

### *Threatening and Repairing Self-evaluations*

Threats to self-regard may arise within any number of situations. Here, we are concerned with a common situation: threats to self-regard that arise in response to the superior performance of one's peers. Previous research has shown that self-regard may be threatened when individuals compare themselves to someone who outperforms them but who is otherwise very similar (Wood, 1989). Many different means of repairing such threats have been identified (Tesser, 1988), and one way is to improve performance in alternative domains (Johnson & Stapel, 2007a, 2007b). Here, we argue that although improved performance may mitigate self-threat, it may not be necessary. That is, psychological well-being may not derive from the improved performance itself, but instead may come from anticipation of the opportunity to demonstrate personal worth.

Why should simply learning about a performance opportunity be self-affirming? Typical manipulations of self-affirmation have asked individuals to reflect on important values, provided positive feedback, or placed individuals in situations in which prosocial behavior is possible (McQueen & Klein, 2006). Thus, individuals have experienced self-affirmation when placed in situations where positive outcomes are likely. An evaluative performance situation, however, might not appear to be such a situation; indeed, one might imagine that after being threatened, the prospect of an evaluative exam might merely increase the intensity of that threat. That is, having appeared less competent than another person in one instance, individuals simply could fear appearing more incompetent given another chance. On the other hand, an additional performance opportunity could allow individuals to redeem themselves if the test is seen as an opportunity to demonstrate one's capabilities and competencies and therefore be self-affirming (Steele, 1988). Thus, we suggest that when individuals see a performance situation as an opportunity to address the original threat, anticipation of the exam should repair self-regard and be self-affirming.

*Performance as opportunity.* Importantly, we suggest that not all situations are affirming when individuals have been threatened. Indeed, a rich tradition of research has outlined the kinds of tasks that individuals are likely to find affirming following threat. In the studies below, we focus on two dimensions: similarity to the domain of comparison and the diagnostic value of that task.

Performance tasks that are similar to the domain of comparison are unlikely to be regarded as opportunities to repair self-regard. For instance, if a first-year history student has experienced threats to self-evaluations because she was outperformed by another student on a history test, further history-related tasks may simply perpetuate that threat. On the other hand, tasks from other domains may offer opportunities for superior performance and restoration of self-evaluations, and thus may be affirming: giving this student a chance to shine on a math exam might allow her to view herself more optimistically. This logic is supported by previous work on social comparison

and performance (Johnson & Stapel, 2007a, 2007b). In these studies, when participants were given tasks from a domain different than the comparison, they reported higher performance expectations on those tasks and rated those tasks as more important than tasks from the same domain. We thus expect that anticipation of performance opportunities will be affirming only when a task is dissimilar to the initial domain of comparison.

While tests that are too close to the domain of comparison might be demotivating, this does not mean that all tests in other domains will serve to repair self-esteem. Previous research demonstrating that diagnostic tests, but not non-diagnostic tests, lead to enhanced self-esteem and were preferred when success was anticipated (Trope, 1979) and other research showing that individuals are especially sensitive to the diagnosticity of additional comparison information following threatening comparisons (Pemberton & Sedikides, 2001), suggests that task diagnosticity should determine when a task is affirming. Returning to our history major, if she were given the opportunity to outshine her rival on a finger-painting test—a domain that is not likely to be an important part of her competent self-image—we would not expect her to see this task as a true opportunity to repair self-regard. If, however, she outperforms her rival on a task that does allow her to demonstrate her competence, her self-regard should be restored. Thus, because individuals feel more optimistic about their performance on dissimilar tasks and expect success (following a threatening upward comparison; Johnson & Stapel, 2007a), anticipation of diagnostic tasks should be affirming while non-diagnostic tasks should not.

*The benefits of threat, and the costs of repair.* While widely regarded as negative, threat to self can have a positive side: it can motivate and change behavior. For example, individuals who have experienced threats are more likely to engage in prosocial behavior (Jonas, Schimel, Greenberg, & Pyszczynski, 2002; Nelson & Norton, 2005; Steele, 1975). In one set of studies, when individuals experienced heightened mortality salience because of their proximity to a funeral home, they were more likely to give to a charity and contributed more to those charities, presumably to restore their threatened self-esteem (Jonas et al., 2002). If threat and the desire to recover from threats motivate behaviors, then reductions in threat should be associated with reductions in those behaviors. Once the goal to restore or buffer self-esteem has been met, other goal-related behaviors are reduced. Again, support for this hypothesis can be found in previous research. For example, those who have previously experienced a boost in self-regard through positive comparisons with others engage in less self-affirmation than those in a control condition when given the opportunity to boost their self-esteem through affirmational essays (Tesser, Crepaz, Collins, Cornell, & Beach, 2000). Similarly, we argue that when the purpose of high performance on a task is to repair threatened self-regard and individuals experience a reduction in threat prior to performance, performance should not improve. Thus, it may be more beneficial for performance outcomes for individuals to experience threat and remain threatened.

### *Current Studies*

The current studies test two related hypotheses. First, we examine the threat-reducing properties of anticipating a performance opportunity. In particular, we seek to demonstrate that not all performance tasks are equally useful in reducing threat; only tasks from domains dissimilar to the domain of comparison and tasks

that provide diagnostic ability information are expected to reduce threat. Study 1 compares reductions in threat elicited by performance tasks from the domain of comparison and tasks from other domains. Study 2 compares reductions in threat elicited by diagnostic versus non-diagnostic tasks. Study 2 also tests whether anticipation restores threatened self-evaluations or boosts all self-evaluations by examining the effects of anticipating a performance task among individuals who have and have not experienced threat. Second, we examine the behavioral consequences of this repair. When learning about a performance opportunity fulfills the goal of self-regard repair, we expect that better performance should not occur. Study 3 examines how such reductions in threat impact performance. Because threat may motivate better performance, affirmation—despite other psychological benefits—may lead to performance decrements.

## Study 1

Study 1 examines changes in participants' self-evaluations after threatening social comparisons and after participants are made aware that they will have an opportunity to showcase their ability in a relevant domain. In Study 1, participants were exposed to an upward social comparison target and were told that they would be taking a test from the same domain as the comparison (no repair opportunity) or from a different domain (repair opportunity). Self-evaluations were measured immediately following exposure to the comparison target and immediately following test instructions.

### *Method*

#### ***Participants***

Participants were 40 university students. All students received partial credit towards a course requirement. Gender information was not collected.

#### ***Procedure***

Participants were brought to the lab to complete what they believed to be several unrelated studies. Participants were told that, in the first study, the researchers were interested in how the media could influence people's perceptions of different stories, and were asked to read a brief university press release. Participants then reported their self-evaluations under the guise of providing personality information that would help the researchers determine if their characteristics could have influenced their perceptions of the press release. Participants then moved on to the second part of the experiment, which was contained in a separate questionnaire packet. In this second part of the experiment, participants learned about the performance task, and self-evaluations were again assessed. In other pilot studies using this paradigm, participants did not report seeing the two studies as connected and did not report suspicions that they were connected.

*Comparison target.* Participants read about a university student, Hans de Groot, who had just won a prestigious award. His success was attributed to verbal ability, and he was always described as younger than the participants. Previous studies using these exact same stimuli with participants from the same participant pool have found that this upward comparison target has a negative effect on self-evaluations (Johnson & Stapel, 2007a), compared to a control condition.

After reading about the target, participants rated themselves on three self-evaluation items: “I feel good about myself,” “I feel confident about my abilities,” and “I feel confident that I understand things” ( $\alpha = .96$ ).

*Performance opportunity.* In the opportunity condition, participants were told that they would be taking a test of general ability. In the no-opportunity condition, participants were told that they would be taking a test measuring verbal ability. These replicate the conditions in which previous research has found improvements (opportunity) or decrements (no opportunity) in performance (Johnson & Stapel, 2007a). In both conditions, the measure described to them was the Remote Associates Task (RAT; Mednick, 1962). The RAT consists of test items in which participants are given three words (e.g., coffee, cake, butter) and asked to think of a word that relates to the other three (e.g., cup). Participants saw four practice items: two easy and two difficult. After seeing the test instructions and practice items, participants completed the same three state self-esteem items ( $\alpha = .89$ ). Participants did not complete the performance measure.

### Results and Discussion

We expected that participants in the opportunity condition, who expected to take a test from a domain different from the comparison domain, would experience a reduction in threat compared to those who expected to take a test from a domain that was the same as the comparison domain. That is, we expected that participants in the opportunity condition would show an increase in self-evaluations from the time they read about the comparison target until the time they read about the performance task. We did not expect participants in the no-opportunity condition to show any change in their self-evaluations.

To test these hypotheses, a mixed-factorial 2 (Task: opportunity or no opportunity)  $\times$  2 (Time: after comparison vs. after test instructions) ANOVA was conducted on self-evaluations with time of measurement as the repeated measure. We observed the predicted interaction,  $F(1, 38) = 25.06, p < .001$ , and paired sample *t*-tests supported our specific hypotheses. In the no-opportunity condition, no changes in self-evaluations were found,  $t(16) = 0.77, ns$ . However, in the opportunity condition, participants had higher self-evaluations ( $M = 3.95, SD = 0.75$ ) after reading about the performance task than after reading about the comparison target ( $M = 3.30, SD = 0.82$ ),  $t(22) = 6.20, p < .001$  (see Table 1).<sup>1</sup>

This study offers preliminary evidence that anticipation of a performance task that provides an opportunity to showcase one’s abilities can repair threatened self-regard.

**TABLE 1** Threat is Reduced After Reading About a Performance Task in a Different Domain (Opportunity Condition): Mean Self-evaluation Scores (and Standard Deviations) from Study 1

	Measurement time	
	After learning about comparison target	After learning about task
Opportunity condition	3.30 (0.83)	3.95 (0.75)
No-opportunity condition	3.47 (0.55)	3.41 (0.63)

## Study 2

Whereas Study 1 demonstrated that learning about a testing situation reduced threat, it did not specifically demonstrate that this change in self-evaluations represented a return to baseline self-regard rather than a boost in self-evaluations above baseline. That is, it is not clear whether performance opportunities are restorative or enhancing. Therefore, in Study 2, a control condition was included in which participants completed a filler task and then received the performance information, in order to explore how self-regard changes in the absence of initial threat. Also in Study 2, we operationalized opportunity for self-repair in a different way. Participants were told they were going to complete a diagnostic task (opportunity) or a fun task (no opportunity). If any performance opportunity can boost self-regard, then whether the task is described as diagnostic or fun should not influence changes in self-regard. In addition, if anticipation of a performance opportunity is self-enhancing, then participants who were not threatened and participants in the control condition should experience similar boosts in self-regard. Our prediction, however, is that only after threat and only when the task is diagnostic, will self-regard change. That is, we predicted that anticipation of diagnostic tasks would be restorative of threatened self-regard but not enhance non-threatened self-regard.

### *Method*

#### ***Participants***

Participants were 91 students (38 male, 52 female, one non-response) between the ages of 18 and 22. The study was administered as part of a larger mass-testing session, for which participants were paid \$20.

#### ***Procedure***

Again, participants reported to the lab for several unrelated studies. Participants completed 10 separate unrelated questionnaire studies in this session, and most participants had participated in a mass-testing session previously. As in Study 1, in the first packet, participants were told that the researchers were interested in how the media could influence people's perceptions of different stories. They were asked to read a brief university press release and report their self-evaluations. In a second packet, which had a different experimenter name in the header, participants learned about the performance task.

*Comparison targets.* Participants in the threat condition read about a threatening target, a younger university student, James Marshall, who had just received a prestigious award based upon his academic endeavors in high school and continued excellence during his first year in college. He was reported as being in the top 5% of his class as well as having noteworthy accomplishments outside of the classroom. He was cited by an advisor as being "confident, intelligent, and socially aware." In the control condition, on the other hand, participants simply read about a new printing system at the university. After several filler items pertaining to the press release, they completed an 8-item measure of self-esteem ( $\alpha = .90$ ), including the three items administered in Study 1 as well as items from the performance and social self-esteem subscales of the Heatherton and Polivy (1991) state self-esteem scale. At the bottom of the page, participants were thanked for their participation in the study.

*Performance opportunity.* Next, participants received the instructions for the performance task. In the no-opportunity condition, the task was described as a fun word game that people play for entertainment. In the opportunity condition, the task was described as a measure of integrative orientation:

This test measures **INTEGRATIVE ORIENTATION**. Integrative orientation consists of the ability to see connections between various stimuli and different kinds of information. It is related to one's ability to see solutions to problems and solve problems creatively. Individuals who are high in integrative orientation excel at solving difficult dilemmas and considering different types of information at the same time, like doctors, mechanics, technicians, and managers.

Thus, the task was described as diagnostic of an ability that, while related to the domain of success of the target, was different enough to allow for an opportunity for repaired self-regard.

After reading the instructions and completing several filler items, participants once again completed an 8-item self-esteem measure including different items from the performance and social self-esteem subscales ( $\alpha = .83$ ; Heatherton & Polivy, 1991). Participants in this study did not see sample task items.

## *Results and Discussion*

### ***Manipulation Check***

Confirming the manipulation of threat, the younger comparison target led to immediately threatened self-evaluations ( $M = 3.46$ ,  $SD = 0.83$ ) compared to the control condition ( $M = 3.85$ ,  $SD = 0.72$ ),  $t(86) = 2.58$ ,  $p = .01$ . That is, before reading about the performance task, participants in the threatening condition had lower self-regard than participants in the control condition.

### ***Threat and self-evaluation***

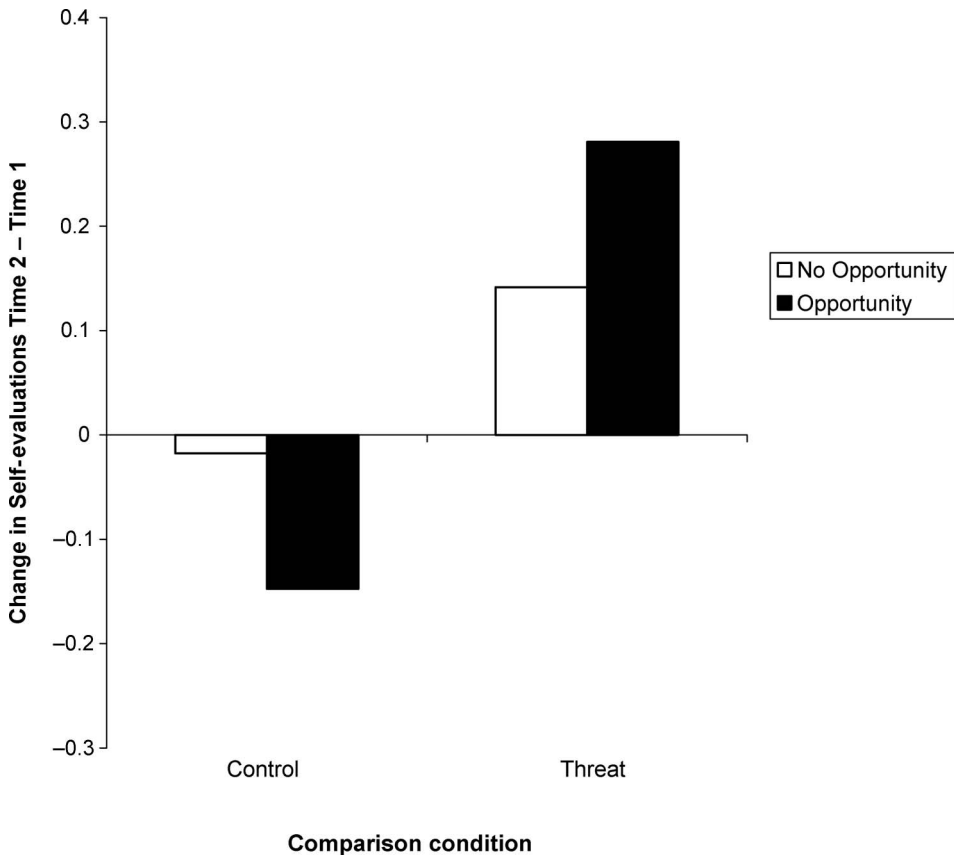
We expected that participants in the threat condition would experience an increase in self-evaluations between reading about the comparison target and reading about the performance opportunity, while no such increase was expected when participants were not threatened. Thus, the three-way interaction effect of task opportunity, type of target, and time of measurement was expected to be significant, and a mixed-factorial 2 (Target: threatening vs. control)  $\times$  2 (Task: opportunity or no opportunity)  $\times$  2 (Time: after comparison vs. after task instructions) ANOVA was conducted with time of measurement as the repeated measure. It revealed that both the interaction effects of target and time,  $F(1, 84) = 19.5$ ,  $p = .001$ , and of target and task,  $F(1, 84) = 8.12$ ,  $p = .006$ , significantly impacted self-evaluations. Most importantly, all were qualified by the predicted three-way interaction,  $F(1, 84) = 4.09$ ,  $p = .05$  (see Table 2).

To test our specific hypotheses, paired-sample  $t$ -tests were used. In the opportunity condition, those who had previously experienced a threatening social comparison had more positive self-evaluations (a reduction in threat) after reading about the performance task,  $t(25) = -4.47$ ,  $p < .001$ . On the other hand, participants in the control condition were not similarly affected. In fact, if anything, there was a trend towards a *decrease* in self-evaluations (an increase in threat) for those participants after reading about the test,  $t(20) = 1.86$ ,  $p = .08$  (see Figure 1). As expected, in the no-opportunity condition, no reductions in threat were found,  $t < 1$ .

This study offers further evidence that anticipating a performance task may affirm the self when the task offers the opportunity to showcase one's abilities.

**TABLE 2** Threat is Reduced after Reading About a Diagnostic Task (Opportunity Condition) Mean Self-evaluation Scores (Study 2)

	Control		Threatening target	
	Time 1	Time 2	Time 1	Time 2
Opportunity condition	4.02 (0.65)	3.83 (0.67)	3.12 (0.83)	3.47 (0.75)
No-opportunity condition	3.65 (0.78)	3.63 (0.72)	3.78 (0.69)	3.96 (0.56)

**FIGURE 1** Target effects on changes in self-esteem, by type of task (Study 2).

Non-diagnostic tasks did not restore threatened self-regard. Although both tasks represented an opportunity for participants to distract themselves from the threatening comparisons, only when the task was described as a diagnostic measure of ability did participants experience an increase in self-evaluations following task instructions.

### Study 3

In Studies 1 and 2, anticipation of a task viewed as a repair opportunity reduced feelings of threat. Study 3 explores the consequences of this reduction in threat for

actual performance: All else being equal, is it better to be threatened and recover, or not to be threatened at all? Previous research has suggested that performance improvements resulting from upward comparisons are motivated by the desire to address threats to self-evaluations (Johnson & Stapel, 2007b). Therefore, we expected that when the threat induced by the comparison target was reduced by learning about the performance task, performance on that task would suffer. For non-threatened participants, we expected no changes in self-regard upon hearing about the testing opportunity, and we expected lower performance overall.

In Study 3, participants read about a threatening or non-threatening target, completed measures of self-evaluation, learned about a performance task, completed additional measures of self-evaluation, and then completed a performance measure.

### *Method*

#### ***Participants***

First-year students aged 18 to 20 ( $N=44$ , 21 female) participated for partial fulfillment of a course requirement.

#### ***Procedure***

Again, participants reported to the lab for what they believe to be several unrelated studies. As in Studies 1 and 2, participants were told that, in the first study, the researchers were interested in how the media could influence people's perceptions of different stories. They read a brief university press release that included the comparison information, then their self-evaluations were assessed using the 8-item self-esteem scale used in Study 2 ( $\alpha = .74$ ). The experimenter then "debriefed" the participants by telling them that they had all received the same information in the press releases but that the information was in different orders. Participants were told that the experiment was examining primacy and recency effects. The experimenter then removed a separate packet of questionnaires from a separate folder, which included information about the testing opportunity. After learning about the test and completing measures of self-evaluations using the 8-item self-esteem scale ( $\alpha = .86$ ), participants completed the performance task.

*Comparison target.* Participants read about a student, Marcia Stevenson, who had impressed her instructors with a class project. The instructors were quoted as describing the student as bright, creative, and inventive. Threatening and non-threatening targets were constructed by altering target age. The target was described as either a high school sophomore (a threatening target), or a college junior (a non-threatening target) since our first-year participants still had the opportunity to impress their instructors by their junior year (Lockwood & Kunda, 1997).

*Performance measure.* The performance measure consisted of 20 items from the Remote Associates Task (RAT; Mednick, 1962). As in Study 2, participants were told that it was a measure of the "integrative orientation," which rendered the domain of the task dissimilar to the comparison domain. Therefore, in all conditions, the performance task was considered an opportunity for repair of self-regard.

### Results and Discussion

We expected that participants in the threat condition would find the performance opportunity affirming and would experience positive changes in self-evaluations. Moreover, we expected that these positive changes in self-evaluations (reduction in threat) would influence performance.

#### Self-evaluations

To test for the affirming effect of the performance task, a mixed-factorial 2 (Target Type: threatening vs. non-threatening)  $\times$  2 (Time 1: after comparison vs. Time 2: after test instructions) ANOVA was conducted with self-evaluations as the repeated measure. The analysis revealed the predicted two-way interaction,  $F(1, 41) = 7.01, p = .01$ . Again, a series of paired-sample  $t$  tests were used to follow up the significant interaction.

As in Studies 1 and 2, the effect of task instructions on self-evaluations depended on the type of target participants viewed. Participants in the threat condition reported reduced threat after task instructions than before,  $t(20) = -3.59, p = .002$ , whereas task instructions had no effect on participants exposed to the older target,  $t < 1$  (see Table 3).

#### Performance

As predicted, and shown in Table 3, participants who were exposed to the threatening comparison target solved more problems than those exposed to the older, non-threatening target,  $t(42) = 2.07, p = .04$  (see Table 3).

#### Self-evaluations and Performance

The overarching goal of Study 3 was to reveal the dynamic relationship between comparison, threat, and performance. To do so, we tested the hypothesis that *changes* in threat would predict performance. Because threatened self-evaluations are responsible for the improvements in performance we reported above, we expected that reductions in threat prior to performance would actually result in worse performance.

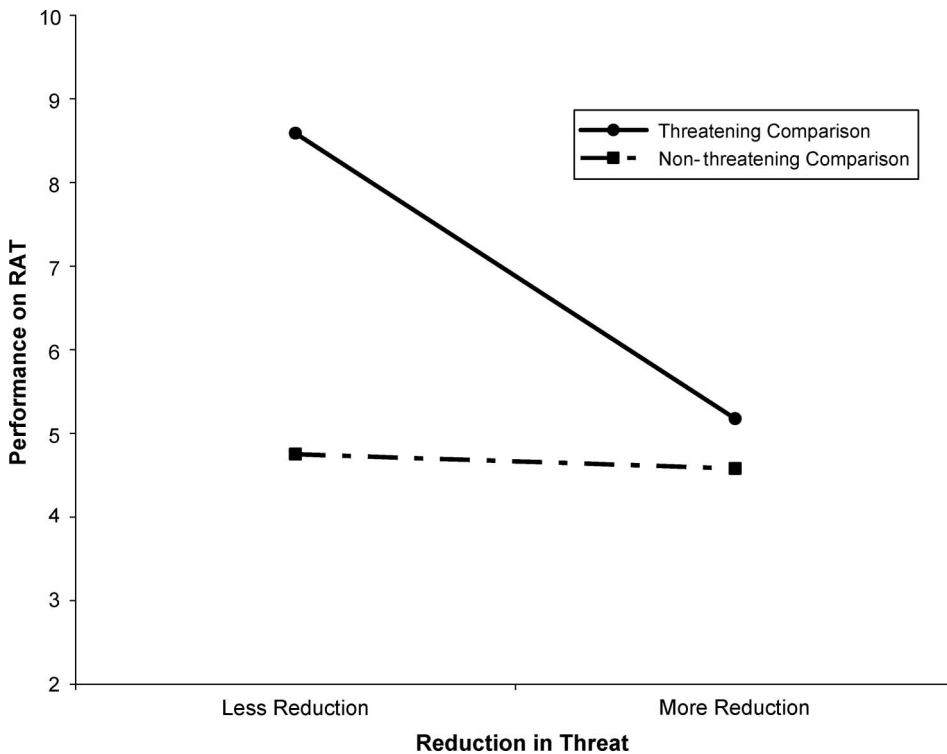
To test this hypothesis, the amount of threat reduction was calculated as the difference between Time 2 and Time 1 self-evaluations. This score was centered and entered into a regression analysis predicting performance. Table 4 outlines the steps of the analysis. As predicted, the interaction of type of target and reduction in threat significantly predicted performance. Figure 2 depicts this interaction and displays the predicted values of performance as a function of target type at high (+1 *SD*) and low (-1 *SD*) levels of threat reduction. Among those participants who were initially threatened, those who remained threatened performed better than those who

**TABLE 3** Self-evaluations and Performance Following Comparison and Test Instructions (Study 3)

	Threatening target		Non-threatening target	
	Time 1	Time 2	Time 1	Time 2
Self-evaluations	3.55 (0.43)	3.90 (0.63)	3.83 (0.37)	3.90 (0.77)
Performance	6.42 (2.60)		5.04 (1.80)	

**TABLE 4** The Effects of Target Type (1 = Threat, 0 = Non-threat) and Reduction in Threat on Performance (Study 3)

Model	B	Standard Error	<i>t</i>	<i>p</i>
1 Target	1.59	0.69	2.28	.028
2 Target	1.95	0.74	2.64	.012
$\Delta$ Threat	-0.86	0.64	-1.36	.183
3 Threat	2.21	0.72	3.06	.004
$\Delta$ Threat	-2.91	1.20	-2.42	.02
Target $\times$ $\Delta$ Threat	-2.77	1.40	-1.98	.055

**FIGURE 2** Predicted means showing significant negative relationship between self-regard repair and performance, in the threat condition (Study 3).

recovered,  $B = -2.91$ ,  $SEB = 1.20$ ,  $t(37) = -2.42$ ,  $p = .02$ . In other words, removal of the threat hurt performance. As expected, when participants were not threatened, change in self-evaluations did not predict performance,  $B = -0.14$ ,  $SEB = 0.71$ ,  $t(37) = -0.20$ ,  $p > .8$ .

Thus, while threatened participants performed better than those who were not threatened overall, the significant interaction effect demonstrates that performance was also affected by the *amount* of threat reduction among those threatened participants. Being threatened and remaining threatened led to the best performance outcomes, in this study.

## General Discussion

When self-evaluations are threatened by the superior performance of another, learning about performance opportunities can be self-affirming. However, not all performance tasks are equally affirming. Study 1 demonstrated that decreased self-evaluations caused by comparison with a superior peer are repaired only when individuals learn of an opportunity to perform in an unrelated domain; when individuals were given a task from the same domain as the comparison, hearing about the performance opportunity did nothing to alleviate the threat. Study 2 demonstrated that, in addition to switching domains, such tasks must also provide useful information about ability. When individuals were given tasks that were described as fun but not diagnostic of ability, learning about such tasks did not alleviate threat. Thus, the reduction in threat that accompanies learning about performance opportunities does not occur because individuals are distracted from the comparison or because they are seizing on any chance to demonstrate their ability. Rather, it appears that reductions in threat require specific self-evaluation maintenance strategies such as switching of domains (see Aronson, Cooper, & Blanton, 1995).

We also found that, ironically, lower levels of threat were associated with negative performance outcomes. In Study 3, exposure to non-threatening social comparisons led to worse performance than threatening comparisons. Thus, threat and performance were positively related. Moreover, we found that when learning about the performance task was affirming, worse performance followed. Again, threat and performance were positively related. This finding has two important implications. First, it provides additional evidence that it is the threat associated with upward social comparisons that leads to improved performance outcomes. When the threat was removed, so was the performance improvement. Second, it suggests that being threatened and remaining threatened may be more beneficial for performance than not being threatened at all.

### *Sameness, Similarity and Dissimilarity?*

Here, we have described two situations in which anticipation of a performance task can restore threatened self-evaluations: when the task domain is not the same as the threatening domain and when the task is diagnostic of ability. While diagnosticity and sameness may be fairly objective characteristics of situations and could be demonstrated through tests of validity and reliability, similarity is a more subjective judgment. That is, once a performance domain is not the same, when will it be similar enough to be relevant and dissimilar enough to provide an opportunity to restore threatened self-regard? In many ways, whether two domains are seen as similar or dissimilar lies in the eye of the beholder. For example, here we have argued that the domains of verbal and logical ability are dissimilar. However, one could argue that the two are similar on some level because success in either domain would meet the overarching goal of appearing intelligent and competent. That is, anticipation of the logic task following threat in the verbal domain might have been affirming because the logic task provided participants with another means of attaining the same overarching goal of being intelligent (Johnson & Stapel, 2007c; Kruglanski, 1996). If so, one would predict that if the alternative task were unrelated to academics entirely, then anticipation of the task would not be affirming and threat would not be associated with better performance. On the other hand, one could also argue that the primary goal of all people is to feel competent and good and that

negative feedback in any important self-aspect can be compensated for with better performance in another important self-aspect. Thus, following threats to academic ability, anticipation of physical ability tasks could be affirming, if physical ability were an important self-aspect. Future research should explore this interesting possibility.

### *Anticipation as Affirmation?*

Previous studies have found that when previously threatened participants were given the opportunity to complete a diagnostic task in a domain different than the domain of comparison, they responded with increased performance expectancies and optimism (Johnson & Stapel, 2007a, 2007b). We suggested that these optimistic and positive feelings regarding the tasks may reflect underlying self-affirmational processes. The current studies support this assertion. In three different studies, we demonstrated that learning about an upcoming performance opportunity can restore self-evaluations. Thus, according to the original conception of self-affirmation, anticipation of a diagnostic performance opportunity is a form of self-affirmation: Learning about the task restored views of the self as competent and good (McQueen & Klein, 2006; Steele, 1988). However, such processes are usually associated with positive outcomes (see McQueen & Klein, 2006; Sherman & Cohen, 2006, for extensive reviews); here, we found that focusing on positive self-aspects were associated with *worse* performance outcomes. Thus, one might argue that because positive changes in self-evaluation were not associated with positive performance outcomes, the process that changed the self-evaluations is not self-affirmation. Below, we describe how our results complement and extend self-affirmation theory.

First, self-affirmation theory is relatively silent with regard to how self-affirmation should change performance. Rather, studies involving self-affirmation often focus on how self-affirmational processes change self-evaluations or self-integrity and how those processes are reflected in other outcomes. For example, when individuals experience cognitive dissonance, but are given an opportunity to reflect on their values, they are returned to a baseline state of self-integrity. Because reflecting on values returned individuals to a baseline state of self-integrity, they no longer needed to engage in other behaviors, such as changing their attitudes, to restore their self-integrity (Steele & Liu, 1983). That is, the completion of one action that restored self-integrity yielded other restorative actions unnecessary. Similarly, we demonstrated that learning about a performance task that would provide an opportunity to showcase positive attributes returned threatened individuals to a baseline state of self-integrity. Furthermore, we showed that because anticipation was self-affirming, those previously threatened individuals no longer needed to engage in an additional behavior, such as performing well, to restore their self-integrity. Thus, while these studies suggest a relationship between a self-affirmational process and performance, it suggests that how those two constructs are related depends upon the efficacy of the self-affirmational process. When anticipation of the task was affirming, individuals did not need to use actual performance to restore self-regard. When learning about the task was not affirmational, individuals continued to use actual performance to do so.

These results extend theorizing on self-affirmation because relatively few studies have focused on performance outcomes specifically (see McQueen & Klein, 2006). In addition, in the research that has focused on performance, the relationship between threat, affirmation, and performance is not clear. For example, Schimel, Arndt, Banko, and Cook (2004) demonstrated that participants who had engaged in a

traditional self-affirmation task performed better on a task. However, because their participants were not exposed to an initial threat, our results and theirs are not directly comparable. That is, it is not clear that their manipulation of self-affirmation returned participants to a baseline level of self-regard or enhanced self-regard. In a second study, Schimel et al. (2004) employed a stereotype threat manipulation to create threat. Again, they demonstrated that a traditional self-affirmation task led to better performance. However, in that study, the kind of threat to which participants were exposed may have been a chronic threat. In other research on stereotype threat, researchers have shown that an evaluative situation where negative stereotypes are not made explicit but are generally known, can lead to stereotype threat effects (Smith & Johnson, 2006). Therefore, again, it is not clear if their manipulation of self-affirmation enhanced participants chronically threatened self-regard or eliminated threat.

Our results taken together with Schimel et al.'s (2004) findings suggest a novel hypothesis that should be tested in further research. Perhaps it is not the change in self-evaluations that influences performance, but the movement of the self-evaluations relative to an individual's chronic levels of self-regard that influences performance. That is, processes that increase the absolute discrepancy between chronic and current levels of self-regard may be associated with changes in performance, while processes that decrease the discrepancy between chronic and current levels of self-regard are not. Certainly, a number of theories of goal pursuit and motivation suggest that the magnitude of discrepancies should be motivating and have behavioral consequences (Carver & Scheier, 1998; Oettingen & Mayer, 2002). In addition, empirical evidence supports this hypothesis. Research has found that when self-affirmation is associated with boosts in self-evaluations relative to a baseline state, those increases in self-evaluations are related to better performance outcomes (Johnson & Stapel, 2007b, Study 2).

### *Conclusion*

These studies contribute to our understanding of the dynamic relationship between self-evaluations, change, and performance. First, these findings suggest that not all changes in self-regard (positive or negative) are the same. In some instances, change may be motivational and in some instances, change may be demotivational. Even changes that may outwardly look similar (e.g., a two-point increase in self-regard), may represent different psychological processes and be associated with different behavioral consequences. Second, for those interested in changing self-evaluations in order to change performance, these findings suggest that one must be conscious of the kind of change that is being produced in order to predict performance. Here, we demonstrated that threat reduction harms performance (Study 3) and elsewhere we have demonstrated that self-enhancement can boost performance (Johnson & Stapel, 2007b). Thus, this research suggests that when positive changes in self-regard are associated with moving individuals toward their baseline—toward a state of self-satisfaction—motivation and performance may be undermined.

Finally, while previous research has focused on the actions that individuals can take to repair threatened self-regard (e.g., distancing from threatening domain), this research suggests that the situations that individuals encounter can have similarly restorative effects. Indeed, these findings may resonate with instructors and students. Many an instructor has noticed that when students fail a test on one topic in a class,

learning about a future opportunity to demonstrate knowledge about a different topic seems to alleviate distress regarding that failure. These findings suggest that such a restoration is not an entirely good thing. While learning about the performance opportunity may restore self-evaluations, such repair may harm future performance. Thus, an instructor would be wise to walk a careful balance between alleviating the distress of students, and reminding them of their prior poor performance. More importantly, these findings suggest that anyone interested in helping others maximize their performance outcomes may need to choose between helping others to feel better and helping others to perform better. At times, it appears, experiencing threats to self-regard and remaining threatened leads to more positive performance outcomes.

## Note

1. In this, and all within-participant analyses, means were standardized prior to the comparisons and the results of statistical analyses using standardized values are reported here. However, for ease of interpretation, raw scores are reported in the text, tables, and figures.

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