"What've I done to deserve this?" The role of deservingness in reactions to being an upward comparison target

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Abstract

Outperforming others may be an ambivalent experience, simultaneously evoking pride and discomfort. Two experiments examined the role of deservingness in reactions to being an upward comparison target. Study 1 took place online and experimentally manipulated deservingness by modifying a self-report measure of Sensitivity about Being the Target of a Threatening Upward Comparison (STTUC). Participants predicted more distress and less positive affect under conditions of undeserved (vs. deserved) success; several individual difference variables moderated these effects. Study 2 systematically varied a confederate's effort to manipulate the perceived deservingness of an out-performed person. Participants were especially likely to downplay their score in the presence of a confederate who appeared to work hard on a task but nevertheless performed poorly. Collectively, findings suggest that people respond most strongly to STTUC when a mismatch exists between deservingness and outcomes.

Keywords

Deservingness, self-esteem, social comparison, STTUC, success

At the 1936 Berlin Olympics, Jesse Owens displayed pride at winning his first three gold medals, but he was less enthusiastic about winning his fourth. After American officials unexpectedly forced the withdrawal of two Jewish athletes, Marty Glickman and Sam

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Stoller, Owens reluctantly substituted in the 4 × 100 relay. Rather than express happiness at his win, he confided to his friends, "I feel bad for Marty and Sam" (Nelson & Grant, 2012). What explains the discrepancy between Owens' reactions to his first three gold medals versus his fourth? Perhaps he felt that he did not deserve the medal that he thought should belong to his teammates. The purpose of the present research is to examine the role of deservingness—on the part of both the outperformer and the outperformed—in reactions to being an upward comparison target.

Sensitivity about being the target of a threatening upward comparison

As the case of Jesse Owens demonstrates, doing well does not always bring unmitigated happiness. People often make downward social comparisons (i.e., comparing themselves to worse-off others) to provide a temporary self-esteem boost (e.g., Wills, 1981). However, realizing that the target of their downward comparison is making an upward comparison with them may be an ambivalent experience. In fact, recognizing that making an upward comparison may create discomfort in an outperformed person may, in turn, create discomfort in the outperformer. The term Sensitivity about being the Target of a Threatening Upward Comparison (STTUC; Exline & Lobel, 1999) captures this experience of discomfort that may arise when one perceives that another person (or group of people) is upset about being outperformed.[1]

A STTUC experience must meet three criteria (Exline & Lobel, 1999). First, an individual must perceive (accurately or not) that he or she is the target of an upward comparison. For example, two close friends applying for the same graduate programs may compare decision letters. If one friend is accepted and the other rejected from a preferred program, then the one who was accepted (the "outperformer") may assume that the one who was rejected (the "outperformed") has made an upward social comparison. Second, the outperformer must assume (again, accurately or not) that the outperformed person feels threatened (i.e., upset) by this comparison. For example, the friend who was accepted by his or her preferred graduate program may reasonably assume that his or her friend who was rejected is upset about this result. Third, the outperformer must experience some kind of concern about the comparison. This concern may take one (or more) of the following three forms: self-oriented concern (e.g., fear of retaliation), other oriented concern (e.g., worry that the outperformed feels dejected), or relationship-oriented concern (e.g., worry that interactions with the outperformed may be awkward). For example, the friend accepted to graduate school may worry that his or her friend will be jealous (self-oriented concern), he or she may worry that his or her friend will give up on graduate school (other-oriented concern) or he or she may worry that the graduate school decisions will put a strain on their friendship (relationship-oriented concern).

The STTUC framework shares some features with the extended Self-evaluation maintenance (SEM) model (e.g. Beach et al., 1998). According to the extended SEM model, outperforming one's spouse in a domain important to the spouse may dampen one's positive emotional response to doing well. Both the STTUC framework and the extended SEM model offer predictions about how relationship closeness and domain relevance (i.e., personal importance of the area of performance) will affect an

outperformer. The approaches, though, differ in several important respects. For example, the original extended SEM model focuses on comparisons within romantic relationships (cf. Pilkington & Smith, 2000), whereas the STTUC framework applies to comparisons in various relationships, ranging from mere acquaintances to intimate partners. Exline and Lobel (1999) also note that STTUC-related distress may involve self-oriented concern (and not only empathic responses), that the variables eliciting STTUC extend beyond closeness and relevance, and that STTUC does not require the perceived threat to be self-evaluative (although, of course, it may be). Thus, the STTUC framework may predict responses in a greater variety of situations than does the extended SEM model.

Effects of STTUC

Empirical evidence demonstrates the complexity of reactions to STTUC. When recalling instances of being an upward comparison target, participants simultaneously reported positive and negative responses (Exline & Lobel, 2001). Relationship quality played a role in these responses: In closer relationships, outperformers recalled less relationship strain but more negative affect. Even when imagining outperforming an enemy, participants envision some discomfort in communicating with the outperformed (Exline & Lobel, 2001). In fact, undergraduates report that they prefer private recognition of their academic performance over public recognition, presumably to avoid experiencing STTUC (Exline, Single, Lobel, & Geyer, 2004). STTUC may result in more than negative affect; given the potential relationship concerns involved in STTUC, and the close correspondence between interpersonal rejection and state self-esteem (Leary, Tambor, Terdal, & Downs, 1995), STTUC also may temporarily lower self-esteem. Consistent with this possibility, recent empirical evidence demonstrates that STTUC-related concerns negatively correlate with state self-esteem (Koch & Metcalfe, 2011). In sum, STTUC may create both negative affect and lowered state self-esteem in outperformers.

Research also demonstrates multiple behavioral effects of STTUC. For example, in a study of real estate agents, participants reported engaging in modest self-presentation upon receiving an award (Henagan & Bedeian, 2009). Some evidence suggests that outperformers may not even be aware of modifying their behavior toward the outperformed. Although not focused on STTUC per se, a laboratory experiment revealed that participants strategically underperformed in the presence of a liked confederate who had previously performed poorly (White, Sanbonmatsu, Croyle, & Smittipatana, 2002). Interestingly, questionnaire measures suggested that participants were completely unaware of their underperformance. Thus, these results suggest that people may make an effort to avoid STTUC, even if they are not consciously aware of such effort.

Deservingness and its relationship with STTUC

One factor originally proposed to influence STTUC is deservingness (Exline & Lobel, 1999). Deservingness is the degree to which an outcome, either positive or negative, is judged as consistent with the positivity or negativity of a person's actions (Feather, Wenzel, & McKee, 2013). Concerns about deservingness align with equity theory, which proposes, in part, that people are most satisfied when they perceive themselves as getting

what they deserve (Hatfield & Rapson, 2012). Broadly speaking, research has shown that positive outcomes, for the self or others, are perceived as deserved when they result from positive actions; negative outcomes are perceived as deserved when they follow from negative actions (Feather et al., 2013; Lupfer & Gingrich, 1999). When outcomes are inconsistent with the actions that preceded them, people tend to view these outcomes as undeserved. In a study of hypothetical scenarios, outperformed participants were more likely to experience sympathy toward the outperformer when the outperformer exerted strong effort and therefore deserved success than when the outperformer expended little effort and therefore did *not* deserve success (Feather et al., 2013).

Whether deservingness influences STTUC remains an open question awaiting empirical investigation. Despite the theoretical prediction that deservingness influences STTUC, we know of no published study that has manipulated deservingness on its own to see what effect it has on STTUC when other variables are controlled.

Individual differences in STTUC

Even when feeling that their success is undeserved, some individuals may not display an ambivalent reaction to outperforming others. Some people may gleefully compete against others, taking great pleasure in seeing another person upset about being outperformed. Not surprisingly, then, research has revealed several individual difference variables that predict differences in reactions to being an upward comparison target. For example, as noted previously, evidence suggests that undergraduates prefer private over public recognition for academic success. An exception to this pattern emerges among narcissists; narcissism positively correlates with desire for public recognition (Exline et al., 2004). Desire for public recognition also positively correlates with competitiveness and negatively correlates with sociotropy (i.e., excessive desire for people pleasing; Exline et al., 2004). Recent results also suggest that socially anxious individuals may demonstrate particularly strong reactions to STTUC (Koch & Metcalfe, 2011). Results involving a recently developed individual difference measure of STTUC revealed that narcissism and competitiveness positively predicted positive emotional reactions to being an outperformer, whereas sociotropy, neuroticism, and agreeableness positively predicted distress (Exline & Zell, 2012). Thus, agentic traits such as narcissism tend to predict positive reactions to outperforming others, whereas more communal traits tend to predict distress from outperforming others.

The original STTUC framework also proposed culture as a factor influencing STTUC, with members of collectivist cultures hypothesized to experience higher levels of STTUC than members of individualistic cultures do (Exline & Lobel, 1999). Cultural norms of modesty and social harmony may lead those in collectivist cultures to feel especially uncomfortable when their success visibly upsets another person, whereas cultural norms of independence and uniqueness may temper such reactions among outperformers in individualistic cultures. Consistent with these predictions, autonomy positively correlates with positive emotional reactions to outperforming others (Exline & Zell, 2012). Thus, having a sense of self that is fairly independent of others may predict relatively weak reactions to STTUC, whereas having a sense of self that is intertwined with others may predict relatively strong reactions to STTUC.

The domains in which people invest their self-worth may explain additional variance in how people respond to being the target of an upward comparison. Results of previous research suggest that people whose self-esteem is highly contingent on others' approval report a relatively high tendency to experience STTUC, whereas people whose self-esteem is highly contingent on succeeding in competition with others report a relatively low tendency to experience STTUC. Similar findings suggest that having self-esteem that is highly contingent on performing well academically corresponds with a high tendency to experience STTUC, at least among students (Koch & Spoonire, 2006).

The present research

Two questions guided the present research. First, what role does deservingness play in how people respond to being the target of an upward comparison? Second, do individual difference variables moderate these effects? Two studies addressed these questions. Study 1 took place online and used two modified versions of a previously validated measure of STTUC to manipulate perceived deservingness of the outperformer and outperformed. Study 2 took place in the laboratory and systematically varied a confederate's effort to experimentally manipulate deservingness of the outperformed.

Study 1

Hypotheses

The primary purpose of Study 1 was to examine main effects of deservingness on predicted reactions to outperforming others. Specifically, we hypothesized that outperformers would report higher levels of distress in the success-undeserved condition than in the success-deserved condition. The original STTUC framework makes no explicit predictions about effects on positive affect (Exline & Lobel, 1999); however, to expand on research that found individual differences in reactions to outperforming others (Exline & Zell, 2012), we report exploratory tests of whether deservingness condition—a situational factor—influences positive affect.

A secondary purpose of Study 1 was to examine whether several individual difference variables moderate the effects of deservingness. Prior research indicates that narcissism correlates negatively with STTUC-related concerns (Exline & Zell, 2012; Koch & Sutherland, 2009). Narcissism also may moderate the effects of deservingness on distress, such that people who are highly narcissistic may be insensitive to perceptions of deservingness, as they may enjoy outperforming others, regardless of how much those others deserve good fortune.

The original STTUC framework predicts that people in collectivist cultures should evince particularly strong negative reactions to outperforming others, given cultural norms of interdependence and modesty (Exline & Lobel, 1999). The distress among people with an interdependent self may be insensitive to perceptions of deservingness; thus, people with a highly interdependent sense of self may report relatively high levels of distress in STTUC situations, regardless of whether they believe that they deserve their good fortune. Although the STTUC framework makes no explicit

predictions about the relationship between independence of self and STTUC responses, we investigate possible moderating effects of an independent sense of self for exploratory purposes.

Finally, following up on preliminary findings indicating that contingencies of self-worth predict susceptibility to STTUC (Koch & Spoonire, 2006), we examine whether three domains of self-worth (others' approval, competition, and academic competence) moderate the effects of deservingness. For example, people with highly approval-contingent self-esteem and highly competition-contingent self-esteem may be relatively insensitive to perceptions of deservingness. Because preliminary evidence suggests that academically contingent self-esteem may uniquely predict STTUC only among college students, we had no a priori predictions about the academic competence domain, but we investigate it for exploratory purposes.

Method

Participants

Seven hundred forty-two participants (560 female, 172 male, and 10 unspecified) accessed the study titled "What Would *You* Do?" through various sources (e.g., psychology research sites, the first author's Social Psychology Network profile). These 742 participants were those who completed at least one of the dependent measures and the two manipulation check items (described below), which were the final measures in the study, with the exception of one participant reporting an age of "4," whose data were discarded. Among remaining participants, the average age reported was 22.55 ($SD = 8.57$), ranging from 13 to 71 years old.

Materials and procedure

After indicating informed consent and responding to demographic items, participants completed the brief version of the Narcissistic Personality Inventory (NPI; Ames, Rose, & Anderson, 2005). This scale consists of 16 forced-choice paired items, with the first item in each pair always the narcissistic option (e.g., "I am going to be a great person"), and the second item in each pair always the non-narcissistic option (e.g., "I hope I am going to be successful"). Higher scores indicate higher levels of narcissism ($\alpha = .74$). The next web page contained The Self-Construal Scale (Singelis, 1994), which assesses people's conceptualizations of themselves as independent (perceiving oneself as distinct and unique) and interdependent (perceiving oneself as part of a greater whole). Thus, the scale contains two 11-item subscales: Interdependent and Independent. One Interdependent item ("I often have the feeling that my relationships with others are more important than my own accomplishments") and one Independent item ("I am comfortable being singled out for praise or rewards") were not included in the current study due to their conceptual overlap with the STTUC construct. Responses ranged from 1 ("strongly disagree") to 7 ("strongly agree"), and after appropriate reverse scoring, higher scores indicate higher levels of independence ($\alpha = .78$) and interdependence ($\alpha = .76$), respectively.

The next individual difference measure presented was a shortened version of the Contingencies of Self-Worth (CSW) Scale (Crocker, Luhtanen, Cooper, & Bouvrette, 2003). This scale taps seven different domains from which people may derive their self-esteem. Three subscales potentially most relevant to STTUC (Others' Approval [e.g., "I don't care what other people think of me"; reversed; $\alpha = .80$), Academic Competence [e.g., "My self-esteem is influenced by my academic performance"; $\alpha = .79$], and Competition [e.g., "Knowing that I am better than others on a task raises my self-esteem"]; $\alpha = .85$) were used in the present study. Each subscale had 5 items, and, again, participants responded on a 1 ("strongly disagree") to 7 ("strongly agree") scale, with higher numbers indicating more highly contingent self-esteem in a particular domain.

After completing the final CSW item, participants were randomly assigned to a success-deserved or success-undeserved condition in a between-subjects design. Participants then completed 11 items adapted from the Test of Responses to Outperforming Others (TROO; Exline & Zell, 2012), which varied according to experimental condition. The TROO was originally designed as a measure of individual differences in responses to being the target of a threatening upward comparison (i.e., STTUC). The TROO presents participants with various scenarios in which they outperform someone who is in some way upset about being outperformed (e.g., " . . . You compare grades during the semester and consistently find that you are performing better than your [romantic] partner"). Scenarios cover a variety of domains, including academic, social, and professional. The original TROO consists of 15 scenarios; however, we excluded four scenarios because of the difficulty in manipulating deservingness within the scenarios (e.g., a situation in which one person has the flu and the other does not). For each remaining scenario, a brief addition to the original indicated whether the target (i.e., participant) deserved or did not deserve his or her positive outcome. For example, in a situation involving the target comparing grades with a romantic partner, the *success-deserved* scenario contained the sentence, "Your partner has been spending a lot of time partying lately, but you have been spending a lot more time studying." The same scenario in the *success-undeserved* condition contained the sentence, "Your partner has been spending a lot of time studying lately, but you have been spending a lot more time partying." After reading each scenario, participants reported their predicted responses on both negative[2] (sadness, anxiety, and guilt; $\alpha = .88$) and positive (gratitude, pride, happiness, and satisfaction; $\alpha = .95$) affect items, using a 0 ("not at all") to 10 ("extremely") scale. Higher scores indicate a stronger affective response (i.e., more negative affect or more positive affect).

Finally, participants completed two manipulation check items to test the effectiveness of the deservingness manipulation. The first item tapped participants' overall perceptions of how much they deserved to do well across the scenarios, and the second item tapped overall perceptions of how much the "other person" deserved to do well. Participants responded to each item on a 1 ("very slightly or not at all") to 5 ("very much") scale, with higher numbers indicating stronger perceptions of deservingness. The study concluded with links to several psychology research sites and a link to an optional debriefing page, which several sites that host psychology studies (e.g., socialpsychology.org) require.

Table 1. Study 1: Correlation matrix and descriptive statistics for all continuous predictor and outcome variables.

	1	2	3	4	5	6	7	8
1. Narcissism (NPI)								
2. Independence (SCS)	.20**							
3. Interdependence (SCS)	−.21**	.39**						
4. Others' approval (CSW)	−.22**	−.36**	.12**					
5. Ac. competence (CSW)	−.03	.15**	.28**	.13**				
6. Competition (CSW)	.20**	.16**	.16**	.17**	.47**			
7. Positive affect (TROO)	.26**	.18**	.05	−.10*	.09*	.26**		
8. Distress (TROO)	−.13**	−.16**	.21**	.35**	.10*	.06	−.00	
N	703	697	700	727	722	726	580	600
Actual range	16–22	12–77	17–77	5–35	5–35	5–35	0–440	0–330
M	21.01	53.69	52.44	19.05	25.67	23.09	206.47	107.38
SD	3.31	10.51	9.91	6.76	5.70	6.37	94.76	61.49

Note. NPI = Narcissistic Personality Inventory; SCS = Self-Construal Scale; CSW = Contingencies of Self-Worth; TROO = Test of Responses to Outperforming Others.
**$p < 0.01$; *$p < 0.05$.

Results

Preliminary analyses

The deservingness manipulation was highly successful. Participants reported significantly higher deservingness in the success-deserved ($M = 3.81$, $SD = .99$) condition than in the success-undeserved ($M = 2.95$, $SD = 1.17$) condition, $t(740) = −10.80$, $p < .001$, $d = .79$. Conversely, participants reported significantly higher deservingness for the other person in the success-undeserved ($M = 3.81$, $SD = 1.00$) versus success-deserved ($M = 2.53$, $SD = 1.09$) condition, $t(740) = 16.60$, $p < .001$, $d = 1.22$. Thus, participants in the success-deserved condition reported higher deservingness for themselves than did participants in the success-undeserved condition, and participants in the success-undeserved condition reported higher deservingness for the other person than did participants in the success-deserved condition.

Descriptive statistics for all remaining measures appear in Table 1. Due to the modest correlation between the Independence and Interdependence subscales ($r = .39$), the two subscales were analyzed separately. Consistent with previous research, three negative TROO affect items were combined into one Distress subscale, and the four positive TROO affect items were combined into one Positive Affect subscale (Exline & Zell, 2012). Before creating the Distress and Positive Affect subscales, we examined the reliability of each item within each subscale across all 11 scenarios (e.g., all gratitude items, all pride items; all αs ≥ .87). Thus, due to the high reliability of each subscale, we combined responses across scenarios.

Table 1 displays the correlation matrix for all continuous predictor and outcome variables. As indicated in Table 1, narcissism and independent self-construal negatively correlated with STTUC-related distress, while interdependent self-construal, others' approval CSW, and academic competence CSW all positively correlated

with STTUC-related distress. Others' approval CSW negatively correlated with positive affect, while narcissism, independence, academic competence CSW, and competition positively correlated with positive affect. Thus, the zero-order correlations demonstrate a typically complex pattern of responses to STTUC, highlighting the often ambivalent experience of outperforming others.

Primary analyses

Main effects of deservingness. Results of an independent samples *t*-test revealed that, consistent with predictions, participants reported more distress in the success-undeserved condition ($M = 112.37$, $SD = 60.31$) than in the success-deserved condition ($M = 102.52$, $SD = 62.33$), $t(598) = 1.97$, $p = .05$, $d = .16$.[3] In addition, participants reported more positive affect in the success-deserved condition ($M = 227.38$, $SD = 96.71$) than in the success-undeserved condition ($M = 184.67$, $SD = 87.68$), $t(578) = -5.57$, $p < .001$, $d = -.46$. Thus, as compared to participants induced to believe that they did not deserve their good fortune, participants induced to believe that they *did* deserve their good fortune reported less distress and more positive affect.

Preliminary inspection of the individual differences data revealed outliers (i.e., scores 3 *SD*s above or below the mean) for several participants on some of the measures (6 on Academic Competence CSW, 5 on Independence, 6 on Interdependence, and 5 on NPI). Subsequent analyses do not include data from any of these participants.

Narcissism. Separate simultaneous linear regression analyses for distress and positive affect tested for possible interactions between narcissism and condition (see Table 2.). For these and all subsequent regression analyses, condition was dummy coded (0 = *success undeserved*, 1 = *success deserved*), and each continuous predictor was mean-centered before creating interaction terms. Contrary to predictions, narcissism did not significantly interact with deservingness on either of the outcome variables.

Interdependent and independent self-construals. As Table 2 indicates, contrary to predictions, interdependence did not significantly interact with deservingness condition in predicting distress. As Table 2 indicates, independence significantly interacted with deservingness condition in predicting distress. To interpret this interaction (and subsequent significant interactions), we calculated simple slopes for values 1 *SD* above and below the mean for each relevant individual difference variable—in this case, self-construal independence (Aiken & West, 1991). As Figure 1 illustrates, the simple slope in the success-undeserved condition was nonsignificant, $B = -.40$, B 95% confidence interval (CI) $[-1.08, 0.28]$, $p = .25$, indicating that distress levels were relatively high, regardless of self-construal independence. In contrast, the simple slope in the success-deserved condition significantly differed from 0, $B = -2.09$, 95% CI $[-2.78, -1.40]$, $p < .01$, indicating that when considering situations in which they deserved their good fortune, participants with a highly independent self-construal predicted relatively low levels of distress. Independence did not interact with deservingness condition when predicting positive affect.

Table 2. Study 1: Simultaneous linear regression results for individual difference variables predicting STTUC-related distress and positive affect.

	Outcome = Distress				Outcome = Positive affect			
Predictor	B	B 95% CI	β	p	B	B 95% CI	β	p
Narcissism (NPI)	−2.32	[−4.43, −.22]	−.13	.031	7.42	[4.26, 10.57]	.26	<.001
Deservingness condition	−10.84	[−20.57, −1.11]	−.09	.029	45.02	[30.24, 59.80]	.24	<.001
Narcissism × Condition	−1.72	[−4.75, 1.31]	−.07	.27	−1.21	[−5.81, 3.40]	−.03	.61
Interdependence (SCS)	0.99	[.29, 1.69]	.16	.006	0.66	[−.46, 1.77]	.07	.25
Deservingness condition	−8.44	[−18.10, 1.23]	−.07	.087	45.64	[30.45, 60.83]	.25	<.001
Interdependence × Condition	0.41	[−.62, 1.44]	.04	.44	−0.53	[−2.19, 1.13]	−.04	.53
Independence (SCS)	−0.40	[−1.08, −.28]	−.07	.25	1.65	[0.57, 2.73]	.17	.003
Deservingness condition	−11.73	[−21.23, −2.23]	−.10	.016	49.77	[34.89, 64.66]	.27	<.001
Independence × Condition	−1.69	[−2.67, −7.2]	−.20	.001	0.48	[−1.07, 2.03]	.04	.54
Others' approval (CSW)	2.51	1.50, 3.53	.28	<.001	−0.54	[−2.19, 1.12]	−.04	.52
Deservingness condition	−11.16	−20.14, −2.17	−.10	.015	48.05	[33.32, 62.79]	.26	<.001
Others' approval × condition	1.20	−.17, 2.57	.10	.085	−2.15	[−4.38, 0.088]	−.11	.06
Competition (CSW)	−0.03	−1.21, 1.15	−.003	.96	3.32	[1.54, 5.09]	.22	<.001
Deservingness condition	−8.91	−18.49, .67	−.08	.068	45.44	[31.01, 59.87]	.25	<.001
Competition × Condition	0.89	−.67, 2.45	.07	.26	0.49	[−1.87, 2.85]	.03	.68
Academic competence (CSW)	1.11	−.18, 2.39	.10	.09	−0.69	[−2.67, 1.30]	−.04	.50
Deservingness condition	−10.75	−20.44, −1.07	−.09	.03	42.81	[27.98, 57.65]	.23	<.001
Academic Competence × Condition	0.24	−1.55, 2.03	.02	.79	2.85	[0.09, 5.61]	.12	.043

Note. NPI = Narcissistic Personality Inventory; SCS = Self-Construal Scale; CSW = Contingencies of Self-Worth; B = Unstandardized beta; β = Standardized beta; Condition dummy coded as 0 = success undeserved and 1 = success deserved.
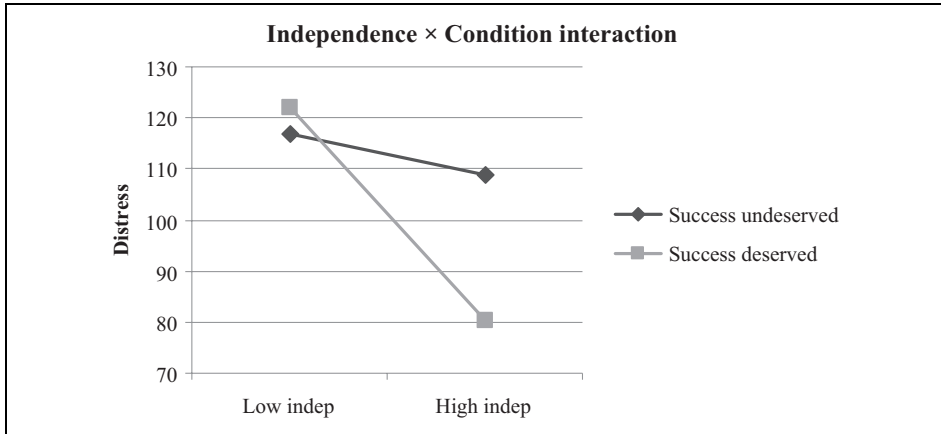
Figure 1. Interaction of independence of self-construal and deservingness condition predicting distress in Study 1.
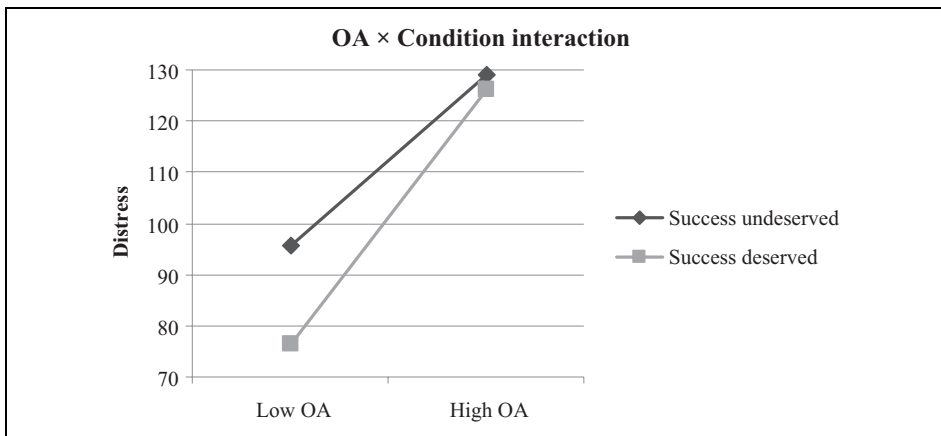

Figure 2. Interaction of others' approval contingency of self-worth and deservingness condition predicting distress in Study 1.

Contingencies of self-worth

Others' approval CSW. As presented in Table 2, others' approval CSW marginally significantly interacted with deservingness condition. As Figure 2 illustrates, in both the success-undeserved and success-deserved conditions, distress levels were highest among participants with self-esteem highly contingent on others' approval. Analyses of simple slopes revealed that both slopes significantly differed from 0, although the relationship between others' approval CSW and distress was significantly stronger in the success-deserved condition, $B = 3.71$, B 95% CI [2.80, 4.63], $p < .01$, than in the success-undeserved condition, $B = 2.51$, B 95% CI [1.50, 3.52], $p < .01$. Thus, overall, having
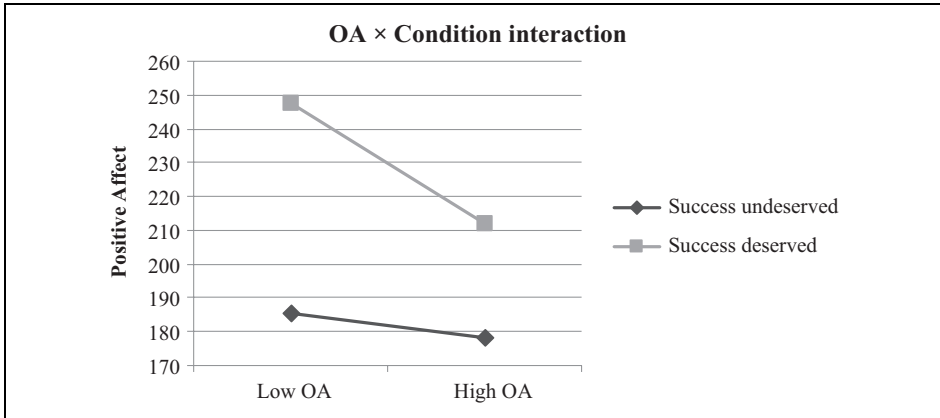
Figure 3. Interaction of others' approval contingency of self-worth and deservingness condition predicting positive affect in Study 1.

self-esteem highly contingent on others' approval corresponded with relatively high levels of distress, although the relationship between others' approval CSW and distress was relatively weaker under conditions of undeserved success.

Table 2 also reveals that deservingness condition marginally significantly interacted with others' approval CSW in predicting positive affect. As Figure 3 demonstrates, the simple slope in the success-undeserved condition was nonsignificant, $B = -.54$, B 95% CI $[-2.19, 1.11]$, $p = .52$, indicating that when participants considered situations in which they did not deserve their good fortune, positive affect levels were relatively low, regardless of whether their self-esteem was contingent on others' approval. In contrast, the simple slope in the success-deserved condition significantly differed from 0, $B = -2.69$, 95% CI $[-4.19, -1.19]$, $p = .0005$, indicating that when considering situations in which they deserved their good fortune, participants with self-esteem relatively less contingent on others' approval imagined relatively high levels of positive affect.

Competition CSW. As presented in Table 2, contrary to hypotheses, competition-contingent self-esteem did not significantly interact with deservingness condition.

Academic competence CSW. As indicated in Table 2, academic competence CSW significantly interacted with deservingness condition in predicting positive affect. As Figure 4 illustrates, the simple slope in the success-undeserved condition was non-significant, $B = -.69$, B 95% CI $[-2.67, 1.29]$, $p = .50$, indicating that when participants considered situations in which they did not deserve their good fortune, positive affect levels were relatively low, regardless of academic competence CSW. In contrast, the simple slope in the success-deserved condition significantly differed from 0, $B = 2.16$, 95% CI $[0.25, 4.07]$, $p = .03$, indicating that when considering situations in which they deserved their good fortune, participants with self-esteem highly contingent on performing well academically predicted relatively high levels of positive affect.
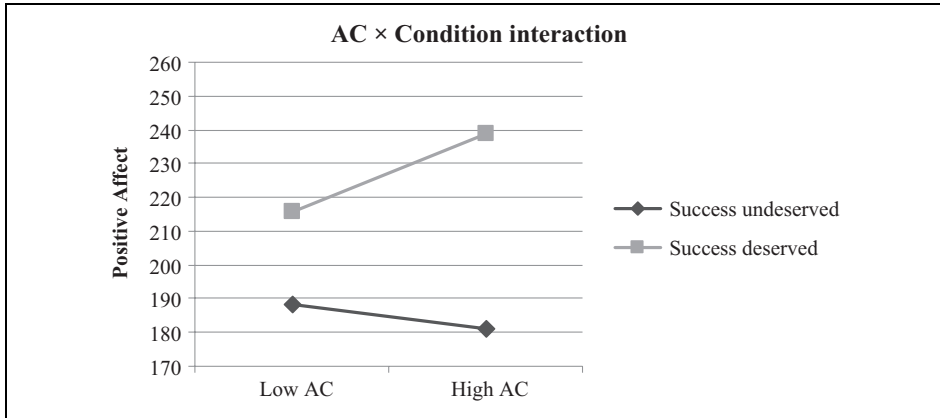
Figure 4. Interaction of academic competence contingency of self-worth and deservingness condition predicting positive affect in Study 1.

Discussion

Study 1 provided initial evidence that perceived deservingness influences how people respond to being the target of a threatening upward comparison. Results revealed that the deservingness manipulation was successful and that under conditions of undeserved (versus deserved) success, people predicted that they would experience higher levels of distress and lower levels of positive affect. Individual differences emerged primarily under conditions of deserved success.

Although the use of hypothetical vignettes offers some advantages, such as standardization of the information that participants are exposed to, people may not actually react in the way that they say they would react in a hypothetical situation. We conducted Study 2 to bring STTUC into the laboratory to test for possible effects of deservingness. A second purpose of Study 2 was to isolate the effect of deservingness of the *outperformed*. In contrast, the scenarios in Study 1 simultaneously manipulated deservingness of the outperformer and outperformed. A final purpose of Study 2 was to supplement self-report measures of reactions to STTUC with behavioral measures.

Study 2

Study 2 examined the influence of an outperformed person's deservingness on reactions to STTUC. Across conditions, we held feedback on the participant's and a confederate's performance constant; however, we varied the confederate's effort to experimentally manipulate perceived deservingness. Previous research employing hypothetical scenarios successfully established the utility of manipulating deservingness via effort (Feather et al., 2013). Study 2 tested several hypotheses:

> **Hypothesis 1:** Participants will rate confederates in the confederate-success-undeserved condition as more deserving of their low score on a social task than

in the other two conditions (i.e., confederate-success-deserved condition or the control condition.)

Hypotheses 2a and 2b: Participants will indicate greater perceived threat to the outperformed individual and more STTUC-related concerns in the confederate-success-deserved condition than in the other two conditions.

Hypothesis 3: Participants will report lower state self-esteem in the confederate-success-deserved condition than in the other two conditions.

Hypothesis 4: Participants will exhibit more appeasement and avoidance behaviors (indicative of STTUC) in the confederate-success-deserved condition than in the other two conditions.

Method

Participants

Participants were 57 female university students drawn from introductory psychology courses at an Atlantic Canadian university. We recruited only female students because the task used to generate bogus feedback has been used primarily with female participants. Participants signed up via an internal sign-up system for a study on "Personality and Relationships" and received extra credit in their psychology course for participating.

Materials

Relationship Closeness Induction Task (RCIT). The RCIT is a 9-min "get-acquainted" task that involves two people taking turns asking each other a series of questions from three lists, with the content of each list becoming progressively more personal (Sedikides, Campbell, Reeder, & Elliot, 1999). Each participant and a confederate took turns asking each other questions, while the experimenter waited in an adjoining room. Prior empirical evidence demonstrates that the RCIT fosters a temporary sense of closeness between individuals (Sedikides et al., 1999). Research suggests that outperformers are more likely to experience STTUC when they have a closer relationship with the outperformed person (Exline & Lobel, 2001). Presumably, then, the RCIT increased the likelihood that the participants would experience STTUC.

Social Cognitive Aptitude Test (SCAT). The SCAT consists of brief character descriptions of 10 couples (Crocker, Thompson, McGraw, & Ingerman, 1987). Participants judged whether each couple would remain together after a year. The SCAT is actually a bogus task, allowing participants to receive plausible false feedback. Making judgments based on character descriptions is something that people generally believe they are quite good at (Funder, 1995); thus, this task was likely highly-field relevant to participants. Because people are more likely to experience STTUC in domains they perceive as highly relevant to the outperformed (Exline & Lobel, 1999), this task seemed appropriate.

Success-Related Comparison measure. The Success-Related Comparison measure is a self-report instrument designed to tap the last two criteria for STTUC: perceived threat to the

outperformed and STTUC-related concerns (Exline & Lobel, 2001; Koch & Metcalfe, 2011). The first 5 items measure perceived threat with single words (sad, irritated, embarrassed, frustrated, and happy [reversed]; $\alpha = .72$) that participants used to rate the reactions of the outperformed (in this case, the confederate) on a 1 ("not at all") to 5 ("extremely") scale. Nine items measure STTUC-related concerns ($\alpha = .73$), which involve participants' concerns about the outperformed person (e.g., "I felt sorry for the other participant"), themselves (e.g., "I felt guilty") or the relationship (e.g., "I felt like the other participant would dislike me"). Four remaining items were fillers (e.g., "I was happy about myself") designed to disguise the emphasis on negative reactions. Higher levels on the measure indicate higher levels of perceived threat and STTUC-related concerns.

State Self-Esteem Scale (SSES). The SSES is a 20-item self-report measure designed to assess state self-esteem (Heatherton & Polivy, 1991). The present study excluded 4 items that focused on physical appearance that were irrelevant in this context; thus, we used a 16-item version of the scale. The scale comprises three subscales: performance (e.g., "I feel frustrated or rattled about my performance" [reversed]), social (e.g., "I feel self-conscious" [reversed]), and appearance (e.g., "I feel that others respect and admire me"). Due to the high internal consistency of the scale as a whole ($\alpha = .86$), we combined responses across the three subscales. Higher numbers indicate higher levels of state self-esteem.

Deservingness measure. An ad hoc 6-item measure tapped participants' perceptions of their own and of the confederate's deservingness. Three items on a 1 ("strongly disagree") to 5 ("strongly agree") scale assessed how much participants felt they deserved their SCAT score, whether they felt they should have received a higher score, and how much effort they put into the SCAT. Three similar items assessed how much participants felt that the confederate deserved her (low) score. Due to low internal consistency within each set of 3 items, we analyzed the deservingness items individually.

Manipulation check and suspicion probe. To assess whether participants understood that they had outperformed the confederate, they responded to 2 items assessing how well they performed on the SCAT and how well the "other participant" (i.e., the confederate) performed on the SCAT. Participants checked one of three responses: above average, average, and below average. Responses were later recoded so that higher numbers indicated better performance. Below the manipulation check was the suspicion probe: "What do you think we were looking at in this study?," followed by blank space for an open-ended response.

Appeasement and avoidance behavior checklist. The confederate and the experimenter completed an ad hoc checklist that described seven potential appeasing or avoidant behaviors (some of which were adapted from Henagan & Bedeian, 2009). One item ("Avoiding physical contact ... ") was removed during the course of the study, given the low number of participants who displayed this behavior. Thus, the checklist used in analyses contained 6 items: downplaying score, self-deprecation, changing the subject,

avoiding eye contact, expressing difficulty with the task, and other (in which the experimenter or confederate could describe behaviors not indicated on the checklist).

Procedure

A female experimenter (the second author) greeted participants and confederates upon their arrival at the lab. Five female confederates assisted in the study; each was randomly assigned to the three conditions throughout the course of the study. After participants provided informed consent, the experimenter moved them to an adjoining room and provided them with a copy of the RCIT. The experimenter left the room and closed the door, knocking on the door when the time came to move on to the next list of questions. Participants and confederates took turns asking and answering the questions.

After participants completed the RCIT, the experimenter reentered the room and provided the participant and the confederate each a copy of the SCAT to complete. While ostensibly completing the SCAT, the confederate enacted one of three scripts, according to randomly assigned experimental condition: confederate-success deserved, confederate-success undeserved, and control. In the confederate-success-deserved condition, the confederate appeared to think for a long time about each question, wrote detailed responses, and took notes on a piece of scrap paper that the researcher provided. In the confederate-success-undeserved condition, the confederate completed the SCAT quickly, with minimal responses, and frequently took time out from completing the task to text on a cell phone. In the control condition, the confederate simply completed the SCAT without taking notes or texting.

When the SCAT was complete, the experimenter read the responses and assigned the participant and confederate a (false) score out of 10. The scores remained the same across deservingness conditions. The researcher informed them that the average SCAT score is 5 of 10 and then asked the confederate whether she wanted to know her score. The confederate agreed, and the experimenter informed her that she scored poorly (4 of 10). The researcher then asked the participant whether she wanted to know her score; all agreed, and the experimenter informed the participant that she had done well (8 of 10). Just before beginning the follow-up measures, the confederate in all conditions leaned toward the participant and asked, ''How did you do so good?''

Participants completed the remaining measures on computers (using MediaLab software), with privacy screens preventing the participant and the confederate from viewing each other's responses. Participants completed the Success-Related Comparison measure and the State Self-Esteem measure, followed by the manipulation checks and suspicion probe. The experimenter then thoroughly debriefed, thanked, and dismissed the participants. Subsequently, the experimenter and confederate consulted with each other to complete the appeasement and avoidance checklist.

Results and Discussion

Preliminary analyses

Three participants expressed suspicion during the study, and in one experimental session, the confederate neglected to ask the participant how she had done so well on the

SCAT. Therefore, we discarded the data of these four participants. Suspicion probe responses of two additional participants suggested that they might have gauged the true purpose of the study; however, excluding the data from these two participants did not alter the pattern of results. We screened for outliers on all measures and found none. Thus, the results that follow are based on a sample of 53 participants. Descriptive statistics are as follows: STTUC-related threat ($M = 10.26$, $SD = 3.00$, range = 5–18, $N = 53$); STTUC-related concerns ($M = 14.11$, $SD = 3.90$, range = 9–26, $N = 53$); state self-esteem ($M = 61.79$, $SD = 8.91$, range = 36–80, $N = 52$).

The feedback manipulation was quite successful. A 2 (target score: participant or confederate) × 3 (condition: confederate-success-deserved, confederate-success-undeserved, or control) mixed analysis of variance (ANOVA) revealed a significant main effect of target score, $F(1, 50) = 571.92$, $p < .001$, partial $\eta^2 = .92$. Specifically, participants reported that they scored significantly higher ($M = 2.98$, with 3 indicating "above average") than the confederate ($M = 1.15$, with 1 indicating "below average") on the task. Importantly, both the condition main effect and the target score by condition interaction were nonsignificant, $Fs < 1.0$, indicating that perceptions of feedback did not vary across deservingness condition.

Primary analyses

According to Hypothesis 1, participants should have perceived higher levels of the confederate's deservingness in the confederate-success-deserved condition, as compared to the other two conditions. Results partially supported this hypothesis. Because the low reliability of the deservingness items necessitated three separate tests, we began with a multivariate ANOVA (MANOVA) to protect against Type I error. Results of the MANOVA (Pillai's trace) revealed an overall significant main effect of condition, $F(6, 98) = 2.31$, $p = .04$, partial $\eta^2 = .12$. Follow-up ANOVAs revealed a significant main effect of condition on the item tapping perceived effort ("I felt that the other participant put a lot of effort into completing the SCAT ... "), $F(2, 50) = 6.26$, $p = .004$, $d = 1.00$. Planned contrasts revealed that perceived deservingness was lower in the confederate-success-undeserved condition ($M = 3.00$, $SD = .97$), $ts(50) > 1.99$, $ps < .06$, than in the other two conditions, which did not significantly differ from each other, (confederate-success-deserved: $M = 4.00$, $SD = .76$, control: $M = 3.67$, $SD = .90$), $t = 1.18$, $p = .25$. Contrary to predictions, perceived deservingness of the confederate did not significantly differ across conditions on the other two items, $Fs < .14$, $ps > .20$, although, descriptively, the means indicated the lowest levels of perceived deservingness of success in the confederate-success-undeserved condition.[4] Thus, the results revealed that participants correctly recognized the confederates' differential levels of effort across conditions, but other items that did not explicitly mention "effort" did not significantly differ across conditions, perhaps due to insufficient statistical power.[5]

According to Hypotheses 2a, 2b, and 3, deservingness should influence perceived threat to the outperformed, STTUC-related concerns, and state self-esteem. Contrary to these hypotheses, threat, concerns, and state self-esteem did not significantly differ across deservingness conditions, $Fs < 1.0$.

According to Hypothesis 4, participants should show the highest level of appeasement and avoidance behaviors in the confederate-success-deserved condition. Results partially supported Hypothesis 4. We tallied the total number of appeasement and avoidance behaviors (of six possible) for each participant and then submitted these totals to a one-way ANOVA. Results revealed that the total number of appeasement and avoidance behaviors significantly varied as a function of deservingness condition, $F(2, 50) = 10.27$, $p < .001$, partial $\eta^2 = .29$. Specifically, planned contrasts revealed that participants displayed significantly more appeasement and avoidance behaviors in the confederate-success-deserved condition ($M = 2.73$, $SD = .98$) than in the other two conditions (confederate-success-undeserved: $M = 1.56$, $SD = .73$, control: $M = 1.73$, $SD = .80$, $|t|$s > 3.40, ps < .005), which did not significantly differ from each other ($t < 1.0$). To understand whether specific behaviors drove this effect, we conducted follow-up ANOVAs on the percentage of participants performing each individual behavior. Results revealed that 1 item—"downplaying score"—significantly differed across conditions, $F(2, 50) = 5.87$, $p = .005$, partial $\eta^2 = .19$. In the confederate-success-deserved condition, 81.81% of participants downplayed their score, whereas only 43.75% in the confederate-success-undeserved condition and 33.33% in the control condition downplayed their score. Again, contrasts revealed that the confederate-success-deserved condition significantly differed from the other two conditions, $|t|$s > 2.50, ps < .05), which did not significantly differ from each other ($t < 1.0$). These results suggest that people may be especially likely to appease an outperformed person by downplaying their own score when they feel that the outperformed worked diligently.

Although levels of the other behaviors did not significantly differ across conditions, an interesting finding emerged. In all conditions, at least 50% of participants exhibited nervous laughter (as indicated in comments regarding the "other" category) when confederates asked how they had succeeded. This result suggests that, regardless of perceived deservingness, people may not know how to react when confronted by an outperformed person. In the absence of a clear social script of how to respond, outperformers may respond to a STTUC situation with nervous laughter.

Summary

The results of Study 2 indicate that when outperforming another person who visibly put forth effort (i.e., deserved to do well), people tend to downplay their own performance. Although a similar pattern did not emerge on self-report measures, such measures may not be sensitive enough to detect differences in immediate reactions to being an upward comparison target.

General discussion

The results of two experiments support the broad hypothesis that deservingness influences how people respond to being the target of a threatening upward comparison. Study 1 simultaneously manipulated the deservingness of the outperformed and outperformer; results revealed that people anticipate more distress and less positive affect when they imagine that another person deserved success more (versus less) than they did. Several

individual difference variables (independent self-construal, self-esteem highly contingent on others' approval, or academic competence) moderated these effects and illustrated that perceptions of low deservingness on the part of the outperformer tend to override the influence of individual difference variables. Study 2 took place in the laboratory and manipulated the deservingness of an outperformed individual. Results revealed that people were especially likely to downplay their success (an appeasement behavior) when the outperformed obviously put forth effort and, consequently, deserved to do well.

Although the results of Study 2 demonstrated how deservingness affects behavioral responses to STTUC, self-report measures—namely, state self-esteem and STTUC-related threat and concerns—did not support the hypotheses. One possible explanation for these null results is that the strategies that participants used to appease the outperformer actually worked; that is, when they engaged in behaviors such as downplaying their scores, they reduced the level of threat that they perceived in the outperformed, while minimizing their own STTUC-related concerns and maintaining their self-esteem. Another possible explanation is that more subtle measures are required to detect changes in STTUC-related variables and state self-esteem. Implicit self-esteem, for example, may be more sensitive to STTUC than is explicit self-esteem (Pierce, Dahl, & Nielson, 2013). The present discrepancy between behavioral and self-reported variables is consistent with prior research demonstrating that people may be unaware of techniques that they use to avoid outperforming others (White et al., 2002). Future research may continue examining possible discrepancies between implicit and explicit measures of responses to STTUC.

Study 1 participants predicted that they would experience more distress and less positive affect when imagining situations in which their success was deserved (vs. undeserved), whereas Study 2 participants' levels of self-reported distress and state self-esteem did not significantly differ across conditions. One possible reason for this discrepancy is that Study 1 participants made an affective forecasting error (e.g., Wilson & Gilbert, 2005). Perhaps the awkwardness of each situation presented in Study 1 was more salient than were other aspects that might temper participants' emotional reaction, such as the possibility of using the sorts of behavioral strategies that participants employed in Study 2. Another possible reason for the discrepancy is that the "double-shot" of manipulated deservingness (i.e., the simultaneous manipulation of the participant's and the "other's" deservingness) in Study 1 was more potent than was the "single-shot" manipulation in Study 2 (which manipulated only the confederate's deservingness). A third, related possibility is that an outperformer's perceived deservingness may be more potent than is an outperformed person's perceived deservingness; such an effect may be a potential boundary condition of the effects of deservingness.

Strengths and limitations

The present studies add to the small extant literature on STTUC and possess several strengths. Study 1 had a fairly large and relatively diverse sample and employed a (modified) previously validated measure of STTUC. It used both an experimental manipulation and the measures of individual difference variables to test person-by-

situation interactions in STTUC responses. Study 2 occurred in a controlled laboratory setting and employed behavioral as well as self-report measures. However, each study also had some limitations. Study 1 examined hypothetical situations; actual responses may not necessarily align with people's predictions of their responses. Study 2 had a fairly small sample and included only female participants. Future research may examine whether the results of Study 2 replicate in more inclusive samples. Despite these limitations, both studies successfully manipulated aspects of deservingness, and the use of two different methodologies enhances confidence in the findings.

Implications and future directions

The present research suggests that deservingness plays an important role in explaining responses to being the target of a threatening upward comparison. This general finding supports the original theoretical framework of STTUC (Exline & Lobel, 1999), which proposed deservingness as one factor that influences how people respond to STTUC. In line with prior theory and research on deservingness, the present research suggests that negative responses to STTUC may be strongest when people perceive misalignment between effort and outcomes. The present research thus contributes to both the literature on STTUC and the literature on deservingness.

The present research also has applied implications. For example, educators and employers may be interested in how best to recognize the success of their students or employees, respectively. Previous research has found, for example, that students are uncomfortable being singled out for praise (Exline & Lobel, 2001) and that award-winning real estate agents may avoid interacting with colleagues who did not win awards (Henagan & Bedeian, 2009). The present research illustrates that people may be particularly uncomfortable about outperforming another when they feel that they did not fully deserve their success. Combining the results of these findings, then, suggests that those who want to recognize outperformers' achievements may alleviate STTUC-related distress by emphasizing *why* the outperformer deserves such recognition.

Conclusion

Across two experiments, results revealed that deservingness influences how people respond to being a threatening upward comparison target. When people imagine that another person deserves good fortune more than they do, they predict feeling relatively high distress and relatively low positive affect. Similarly, when people outperform another person, despite that person's obvious effort, they seem especially likely to downplay their own success. Thus, the taste of success may be less sweet when outperformers feel less than deserving of that success. As Jesse Owens illustrated, even an Olympic gold medal may be difficult to enjoy when one believes that one's success is less than fully deserved.

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Authors' Note

Selected results were presented at the annual meetings of the Society for Personality and Social Psychology in 2014 in Austin, TX (Study 1) and in 2015 in Long Beach, CA (Study 2). Study 2 formed the basis of Shawnee Totton's undergraduate honors thesis.

Declaration of Conflicting Interests

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Notes

1. Consistent with the original "sensitivity about being the target of a threatening upward comparison" (STTUC) article (Exline & Lobel, 1999), this article uses the term "STTUC" both as a noun and as an adjective. Someone may experience STTUC or *be* STTUC.
2. Consistent with prior research, and for exploratory purposes, we also examined anger separately from the other negative affect items. Given that we had no a priori hypotheses regarding anger and that only one significant result emerged, we do not discuss these results here.
3. Ns vary due to missing data.
4. The descriptive statistics are as follows. For the item "The other participant deserved her [low] score on the SCAT": confederate-success-undeserved condition, $M = 3.06$, $SD = .77$; confederate-success-deserved condition, $M = 2.77$, $SD = .53$; control condition, $M = 2.73$, $SD = .59$. For the item "The other participant should have received a higher score on the SCAT": confederate-success-undeserved condition, $M = 2.94$, $SD = 1.06$; confederate-success-deserved condition, $M = 3.27$, $SD = .63$; control condition, $M = 3.33$, $SD = .98$.
5. For exploratory purposes, we also analyzed responses to the "filler" questions regarding participants' perceptions of their own deservingness. These responses did not significantly differ across conditions, all ps > .14. Including self-deservingness items as covariates did not substantially alter the results of the self-report variables, all ps > .27. Each self-deservingness item significantly differed from the midpoint of 3, though. Specifically, mean responses to the items "I deserved my score on the SCAT" ($M = 3.85$, $SD = .69$) and "I put a lot of effort into completing the SCAT" ($M = 3.77$, $SD = .75$) were significantly greater than the midpoint, and mean response to the item "I should have received a higher score on the SCAT" ($M = 2.13$, $SD = .68$) was significantly lower than the midpoint, all ps < .001. Thus, results suggest that participants believed that they deserved to do well, regardless of the confederate's effort, at the same time that they did not believe that they should have received a *higher* score than they did.

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