



## FlashReport

## Abstract construal levels attenuate state self-esteem reactivity

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## ABSTRACT

The reactivity of state self-esteem has been linked to a number of important psychological outcomes, ranging from general well-being to psychological dysfunction. The present research aimed to identify a cognitive factor underlying state self-esteem reactivity by exploring how construal levels influence the extent to which state self-esteem reacts to positive and negative experiences. It was hypothesized that abstract construals would mitigate the effects of evaluative information on state self-esteem. The results of two studies supported this hypothesis. Participants in an abstract mindset did not differ in state self-esteem after receiving positive, negative, or no evaluative information. Participants in a concrete mindset, in contrast, experienced lower levels of state self-esteem following negative evaluative information. The significance of these findings for understanding the link between abstraction and psychological vulnerability is discussed.

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How much state self-esteem fluctuates across time and in response to life events is a critical factor associated with an array of significant outcomes, ranging from general well-being to vulnerabilities for mental illness (e.g., Butler, Hokanson, & Flynn, 1994; Kernis et al., 1998; see Kernis, 2005 for a review). Yet, despite the significance of these fluctuations, few experimental studies have endeavored to elucidate factors that underlie them. The present research aimed to address this gap by examining whether differences in cognitive abstraction influence the reactivity of state self-esteem. Both action-identification theory (Vallacher & Wegner, 1987) and construal-level theory (Trope & Liberman, 2010) posit that people can construe information in terms of its general, core features (abstract construal), or in terms of its specific, incidental features (concrete construal). Mindsets that promote either a concrete or abstract construal level have divergent implications for myriad psychological processes, including some with direct relevance to the reactivity of the self (for a review, see Trope & Liberman, 2010). Indeed, studies have shown that two “symptoms” of a more reactive sense of self – preference for downward social-comparison information and greater aversion to negative feedback – are less likely to emerge when in an abstract (vs. concrete) mindset (Freitas, Salovey, & Liberman, 2001). Drawing from these perspectives, we propose that abstract mindsets will attenuate the reactivity of self-esteem to contextual evaluations.

The reactivity of state self-esteem reflects the degree to which self-esteem fluctuates in response to specific evaluative events. The more people use these specific events to form general evaluative judgments about the self, the more self-esteem should fluctuate in response to them.

Because construal levels differentially direct attention towards general or incidental features of objects and information (Trope & Liberman, 2010), they may play a role in shaping the reactivity of self-worth. That is, construal levels might alter self-esteem reactivity by impacting the extent to which contextual information is used as a basis for self-evaluations. Consistent with this reasoning, participants in an abstract mindset are less likely to change self-conceptions based on situational personality feedback (Vallacher & Wegner, 1989), and are less likely to represent the self in a contextualized fashion (Wakslak, Nussbaum, Liberman, & Trope, 2008). Such de-contextualized self-representations are notably associated with lower self-esteem reactivity (Zeigler-Hill & Showers, 2007). Furthermore, research has also shown that evaluations of attitude objects are more resilient to contextual information when in an abstract, relative to concrete, mindset (Ledgerwood, Trope, & Chaiken, 2010). For example, attitudes towards social issues were impacted less by another person’s opinion on that issue when participants had adopted an abstract (vs. concrete) construal level. Thus, by altering the use of contextual information for evaluative judgments, we propose that construal levels will influence the reactivity of state self-esteem.

## Present research

Two experiments tested the influence of construal levels on state self-esteem reactivity. Participants completed an abstract or concrete mindset induction, received evaluative performance feedback, and subsequently reported on their current feelings of self-worth. General trait self-esteem was also measured prior to each experimental session, allowing us to assess how much state self-esteem fluctuated around its typical level. It was predicted that self-esteem would be unaffected by evaluative feedback among those in an abstract

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mindset, but would fluctuate in response to evaluative feedback among those in a concrete mindset.

## Study 1

### Methods

#### Participants

Introductory psychology students ( $N=66$ ; 35 females) participated for course credit ( $M_{\text{age}}=19.05$ ,  $SD_{\text{age}}=.99$ ). One participant was excluded for not following directions.<sup>1</sup>

#### Procedure

Participants completed the Rosenberg Self-Esteem Scale (Rosenberg, 1965) during a preliminary survey conducted weeks prior to the experimental session to provide an index of trait self-esteem. Responses were made on a 1 (*not at all true of me*) to 7 (*very true of me*) scale (RSE-trait;  $M=5.16$ ,  $SD=1.12$ ,  $\alpha=.93$ ). At the lab, participants completed all materials on computers. After filler measures, they were exposed to a construal level manipulation used in previous research (Fujita, Trope, Liberman, & Levin-Sagi, 2006). The task featured 40 innocuous words (e.g., pasta) and instructed participants to generate an example of each word or to indicate what each word was an example of. Participants in the abstract construal condition generated higher level categories for each word by answering the question “\_\_\_\_\_ is an example of what?” Concrete construal participants, in contrast, generated lower level identifications for each word by answering the question “an example of \_\_\_\_\_ is what?” This manipulation has been shown to induce abstract and concrete mindsets that persist into unrelated tasks.

Participants were then given one of the two versions of the Remote Associates Test (RAT; Mednick, 1962), introduced as a measure of intelligence used to predict future success. The RAT presented sets of three words that were linked by a fourth word. For example, the words “athletes,” “web,” and “rabbit” were linked together by the word “foot”. Standardized difficulty ratings were used to create difficult and easy versions of the RAT (McFarlin & Blascovich, 1984). When finished, correct answers and feedback ostensibly regarding how participants performed relative to other students were presented. Participants in the easy (difficult) RAT conditions read: “Your performance on the RAT is above (below) average relative to other University students. Overall, you scored in the 87th (13th) percentile”.

Participants next completed the Rosenberg (1965) Self-Esteem Scale with instructions to respond based on how they feel right now, at this moment on a 1 (*not at all true of me*) to 7 (*very true of me*) scale (RSE-state;  $M=5.43$ ,  $SD=.95$ ,  $\alpha=.87$ ). These instructions are utilized in self-esteem instability research to capture contextual feelings of self-worth (e.g., Kernis, 2005). Finally, participants responded to 6 items included to assess current positive (happy, interested, amused;  $M=4.57$ ,  $SD=1.20$ ,  $\alpha=.60$ ) and negative (nervous, sad, scared;  $M=2.31$ ,  $SD=1.31$ ,  $\alpha=.88$ ) affect on the same 7 point scale.

### Results

#### State self-esteem

The standardized residuals of a regression that regressed RSE-state on RSE-trait were computed and subjected to a 2 (construal level)  $\times$  2 (RAT) analysis of variance (ANOVA). This allowed us to assess how much self-esteem deviated from its typical level as a function of construal level and feedback. There was no effect of construal level ( $p=.375$ ), a main effect of RAT [ $F(1,59)=4.19$ ,  $p=.045$ ,  $\eta_p^2=.07$ ;  $M_{\text{difficult}}=-.242$ ,  $SD_{\text{difficult}}=1.00$  vs.  $M_{\text{easy}}=.246$ ,  $SD_{\text{easy}}=.93$ ], and the predicted construal level  $\times$  RAT interaction [ $F(1, 59)=4.44$ ,  $p=.039$ ,

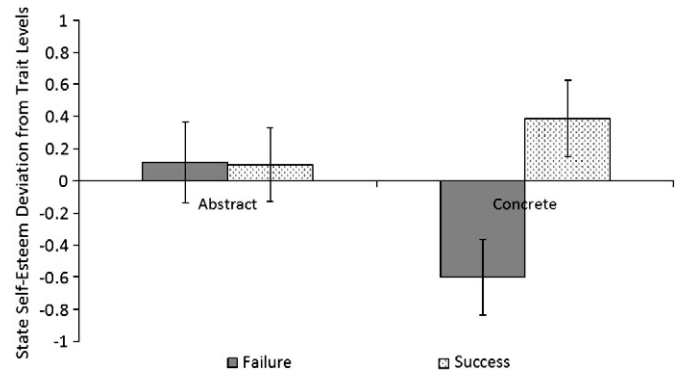


Fig. 1. Construal level  $\times$  RAT condition interaction on standardized state self-esteem deviations from trait levels in Study 1. Error bars represent standard errors.

$\eta_p^2=.07$ ; see Fig. 1).<sup>2</sup> RAT condition had no impact on state self-esteem among abstract mindset participants ( $p=.966$ ). In contrast, concrete mindset participants evidenced a greater negative shift in state self-esteem after taking the difficult (a failure experience), relative to easy (a success experience), RAT [ $F(1, 59)=8.80$ ,  $p=.004$ ,  $\eta_p^2=.13$ ]. Looked at differently, concrete mindset participants showed a greater negative shift in self-esteem than abstract mindset participants in the difficult RAT condition [ $F(1, 59)=4.29$ ,  $p=.043$ ,  $\eta_p^2=.07$ ], but did not differ from abstract mindset participants in the easy condition ( $p=.383$ ).

#### Affect

An ANCOVA controlling for RSE-trait was conducted on negative affect and revealed no significant effects ( $ps>.18$ ). A parallel ANCOVA on positive affect returned only a significant effect of RAT [ $M_{\text{easy}}=5.07$ ,  $SD=1.08$  vs.  $M_{\text{difficult}}=4.04$ ,  $SD=1.11$ ,  $F(1, 60)=14.11$ ,  $p<.001$ ,  $\eta_p^2=.19$ ; all other  $ps>.28$ ].

## Study 2

Study 2 was guided by two specific aims. First, it aimed to replicate the effects of Study 1 using an alternative construal level manipulation. Secondly, it included a neutral evaluation condition to assess whether abstract mindsets attenuate the contextual sensitivity of self-esteem to positive or negative information. We again predicted that state self-esteem would be relatively uninfluenced by evaluative information among abstract mindset participants. The state self-esteem of concrete mindset participants was, in contrast, expected to shift in response to the evaluative feedback.

### Methods

#### Participants

Introductory psychology students ( $N=110$ ; 67 females) participated for course credit ( $M_{\text{age}}=18.68$ ,  $SD_{\text{age}}=1.10$ ). One participant was excluded because of suspicion.

#### Procedure

Participants completed the RSE-trait measure (Rosenberg, 1965) during a preliminary online survey administered weeks prior to the experimental sessions ( $M=5.43$ ,  $SD=1.07$ ,  $\alpha=.87$ ). They were ushered into private cubicles at the lab and given a questionnaire packet containing a construal level manipulation. The manipulation was modeled after CLT research (e.g., Freitas, Gollwitzer, & Trope, 2004) and was different from that used in Study 1. Abstract construal participants were asked “Why might someone want to clean their

<sup>2</sup> Residuals were inspected to detect outliers in all analyses. Two outliers were removed from the RSE-state analyses in Study 1 and two outliers were excluded from the RSE-state analyses in Study 2.

<sup>1</sup> No significant effects involving gender were observed across studies.

apartment?” and were presented with 4 blank boxes stacked vertically with the phrase “clean apartment” underneath them. The question “why is this important?” appeared between each box, prompting participants to explain each response at increasing levels of abstraction. In contrast, concrete construal participants were asked “How might someone go about cleaning their apartment?” They were presented with 4 blank boxes stacked vertically, but the phrase “clean apartment” was located above them. The question “how is this performed?” appeared between each box, prompting participants to explain each response at decreasing levels of abstraction.

As in Study 1, the RATs, evaluative feedback, and RSE-state measure ( $M = 4.89, SD = .87, \alpha = .90$ ) followed the construal level manipulation. Participants then indicated the extent to which they were currently feeling 8 positive (e.g., happy) and 5 negative (e.g., frustrated) emotions (King, Hicks, Krull, & Del Gaiso, 2006). Responses were made on 1 (*not at all*) to 5 (*extremely*) scales and were averaged into positive ( $M = 3.07, SD = .89, \alpha = .89$ ) and negative ( $M = 1.84, SD = .73, \alpha = .80$ ) composites.

## Results

### State self-esteem

The standardized residuals of a regression (RSE-trait predicting RSE-state) were subjected to a 2 (construal level)  $\times$  3 (RAT) ANOVA. There was no effect of construal level ( $p = .961$ ), but the RAT effect was significant [ $F(2, 101) = 11.12, p < .001, \eta_p^2 = .18$ ]. While the easy condition engendered a slightly greater positive shift in state self-esteem relative to the neutral condition ( $p = .075$ ), the difficult condition engendered a stronger negative shift relative to both the positive ( $p < .01$ ) and neutral ( $p = .005$ ) conditions. This main effect was qualified by the predicted construal level  $\times$  RAT interaction [ $F(2, 101) = 2.30, p = .054, \eta_p^2 = .06$ ; see Fig. 2].

State self-esteem did not respond to the evaluative feedback among abstract mindset participants ( $p = .276$ ; all comparisons,  $ps > .110$ ), but did among concrete mindset participants [ $F(2, 101) = 13.33, p < .001, \eta_p^2 = .21$ ]. When in a concrete mindset, the difficult RAT (failure experience) led to greater negative shifts in state self-esteem relative to both the easy RAT (success experience;  $p < .001$ ) and neutral RAT (no feedback;  $p = .001$ ). No differences emerged between concrete construal participants in the easy and neutral conditions, though there was a trend for participants in the easy condition to show a greater positive shift in state self-esteem ( $p = .091$ ). Looking at differently, concrete (vs. abstract) construal participants had greater negative self-esteem shifts in the difficult RAT condition [ $F(1, 101) = 3.78, p = .055, \eta_p^2 = .04$ ], but did not differ in the positive ( $p = .165$ ) and neutral conditions ( $p = .615$ ).

### Affect

An ANCOVA controlling for RSE-trait on negative affect returned only a significant RAT condition effect [ $F(2, 102) = 5.21, p = .007, \eta_p^2 = .09$ ; all other  $ps > .518$ ]. The easy RAT engendered less negative affect than the

neutral ( $p = .006$ ) and difficult ( $p = .008$ ) RATs, but no differences emerged between the difficult and neutral conditions ( $p = .918$ ). No significant effects on positive affect were present ( $ps > .132$ ).

## General discussion

Two experiments demonstrated that construal level may be an important factor underlying the reactivity of state self-esteem by showing that abstract mindsets attenuate the sensitivity of state self-esteem to contextual evaluations. As such, these findings can be positioned alongside emerging literatures focused on the link between abstraction and psychological vulnerabilities. Indeed, they are consistent with research showing that self-distanced (vs. immersed) perspectives reduce the affective consequences of recalling negative self-relevant information (Kross, Ayduk, & Mischel, 2005) and that abstract mindsets promote self-concept integration (Wakslak et al., 2008). It is important to note, however, that the present effects should not be considered unequivocally beneficial. A core feature of depression is a lack of responsiveness to positive events and abstract overgeneralizations of negative events (e.g., Pyszczynski & Greenberg, 1987), suggesting that abstract mindsets could exacerbate problems for people who are already depressed — particularly when these mindsets promote a reliance on generally negative self-views for contextual self-esteem evaluations.

This possibility is consistent with Watkins and colleagues' (for a review, see Watkins, 2008) work demonstrating that the negative consequences of depressive rumination are fueled by an abstract-evaluative mode of processing. Studies indicate that abstract ruminative processing modes (e.g., thinking about why an event occurred and analyzing its causes, meanings, and implications), relative to concrete processing modes (e.g., focusing on how an event unfolded and imagining it concretely as a “movie”), give rise to a number of maladaptive outcomes, including greater emotional reactivity to failure (Watkins, Moberly, & Moulds, 2008) and amplified problem solving deficiencies (Watkins & Baracaia, 2002). While the present research is the first to examine the consequences of construal level for self-esteem reactivity, these previous findings indicate that abstract mindsets can at times exacerbate, rather than attenuate, reactivity.

The nature of the manipulations discussed in Watkins' and colleagues work (e.g., Watkins et al., 2008) may shed light on why these seemingly divergent effects emerge. These studies tend to promote abstract mindsets in conjunction with repetitive, negative self-relevant information processing, whereas the present research induced an abstract mindset in the absence of any repetitive self-focused thought. Indeed, our manipulations were innocuous tasks that were unlikely to promote rumination. This suggests that abstract mindsets may buffer reactivity when they are not directly applied to repetitive self-relevant information processing, perhaps especially that which unfolds into the negative implications of the experience. Although future research is needed to better understand when, why, and how abstract mindsets influence reactivity, the present research indicates that basic abstract mindsets can desensitize state self-esteem to specific contextual evaluations.

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## Appendix A. Supplementary data

Supplementary data to this article can be found online at doi:10.1016/j.jesp.2011.02.014.

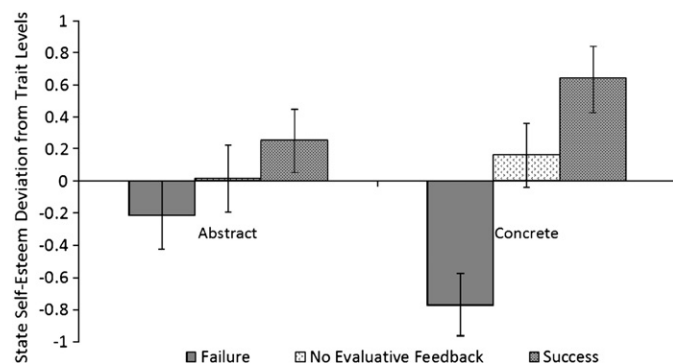


Fig. 2. Construal level  $\times$  RAT condition interaction on standardized state self-esteem deviations from trait levels in Study 2. Error bars represent standard errors.

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