

## THE INTERACTIVE EFFECT OF INDIVIDUAL DIFFERENCES IN GOAL STRENGTH AND SELF-DISCREPANCIES: EXAMINING NEGATIVE AFFECTIVE OUTCOMES

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Self-discrepancy theory postulates that negative affective states (e.g., depression and anxiety) may be a consequence of discrepancies between individuals' goals and their self-perceptions. One theoretical construct that has been hypothesized to influence the magnitude of the association between self-discrepancies and negative affect is goal strength, or how cognitively accessible individuals' goals are. The current study employed a computerized lexical decision task to measure goal strength. We hypothesized that goal strength would moderate the discrepancy-negative affect association, even after controlling for general mental processing speed. Over the course of two assessment sessions, participants ( $N = 162$ ) completed self-report measures assessing self-discrepancies, depression, and anxiety symptoms, and were administered a lexical decision task which assessed the strength, or accessibility, of their self-identified goals. Consistent with hypotheses, results suggest that goal strength is a moderator of the discrepancy-depression relationship, above and beyond what can be accounted for by general reaction times and mental processing speed. The implications of these results for the conceptualization of self-discrepancies and the emergence of depressive symptoms are discussed.

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Self-discrepancy theory (SDT; Higgins, 1987) provides a prominent and influential framework for examining individual differences in self-evaluative and self-regulative processes and their associations with negative affect. SDT describes two types of goals (i.e., ideal- and ought-self goals) which, if discrepant from individuals' self-perceptions (i.e., actual-self), are purported to be differentially related to specific negative affective states. Discrepancies between individuals' ideal-self goals—which describe how they wish to be—and their self-perceptions represent the absence of positive outcomes; these actual:ideal discrepancies are hypothesized to produce dejection-related emotions, such as depression (Higgins, 1987). On the other hand, discrepancies between individuals' ought-self goals—which describe how they believe they should be—and their self-perceptions represent the presence of negative outcomes; these actual:ought discrepancies are hypothesized to produce agitation-related emotions, such as fear or anxiety (Higgins, 1987). While findings from earlier studies provide support for these affect-specific relations (e.g., Strauman & Higgins, 1988), some have called into question the discriminant validity of actual:ideal and actual:ought discrepancies, and suggest that all self-discrepancies may be related to general distress (e.g., Phillips & Silvia, 2010). However, associations between self-discrepancies and negative affect may be moderated by various factors (Boldero, Moretti, Bell, & Francis, 2005). This may be particularly important to explore given that the affect-specific predictions are not always supported in the literature.

One theoretical construct that may influence the magnitude of the association between self-discrepancies and negative affect is goal strength (Higgins, Shah, & Friedman, 1997). The term goal strength emerged from regulatory focus theory (RFT; Higgins, 1997), a social-cognitive model of self-regulation which posits that all goal-directed behavior is regulated by two distinct motivational systems—one for maximizing positive outcomes and one for minimizing negative outcomes—known as the promotion and prevention systems, respectively. RFT suggests that individuals differ in the predominant motivation system that directs their attention, cognition, affect, and/or behavior (Higgins et al., 2001). Some individuals' behavior is primarily regulated by the promotion, or approach system, and importance is placed on attaining accomplishments or making good things happen. Other individuals' behavior is primarily regulated by the prevention, or avoidance system, and importance is placed on being responsible or preventing bad things from happen-

ing (Higgins, 1997; Manian, Papadakis, Strauman, & Essex, 2006). Although both systems operate to some degree in all individuals, it is hypothesized that factors such as temperament and/or socialization history may determine the predominance of one system over the other for use in self-regulatory processes (Manian et al., 2006).

When individuals are sensitive to positive desired outcomes, they are said to have a strong promotion system. Conversely, when individuals are sensitive to negative, undesired outcomes, they are said to have a strong prevention system. Thus, a strong promotion system is characterized by highly accessible ideal-self goals, and a strong prevention system is characterized by highly accessible ought-self goals (Higgins, 1997). Central to the present study, the term goal strength is indicative of how important and accessible the goals are within each system (i.e., promotion or prevention system). If a particular type of self-discrepancy (e.g., actual:ideal or actual:ought) is relatively strong (i.e., highly accessible and easily retrievable), it is hypothesized that it will have a greater influence on affective outcomes than the relatively weaker (i.e., less accessible) type of self-discrepancy (e.g., Higgins et al., 1997).

Researchers have hypothesized that one possible moderator in the discrepancy-depression relationship is rumination (e.g., Ciesla & Roberts, 2007; Jones, Papadakis, Hogan, & Strauman, 2009), which is defined by Martin & Tesser (1996) as "... conscious thoughts that revolve around a common instrumental theme and that recur in the absence of immediate environmental demands requiring the thoughts" (p. 7). The specific outcomes associated with rumination (e.g., adaptive versus maladaptive) are contingent upon whether the ruminative thoughts facilitate progress toward an individual's goals (see Watkins, 2008). In the context of SDT, maladaptive ruminative thoughts related to perceived failure to make good things happen can actually result in continued activation of the discrepancy and magnify the impact of goal failure (Jones et al., 2009; Strauman, Costanzo, Jones, McLean, & Merrill, 2007); in fact, researchers have demonstrated that priming goal failure leads to increases in ruminative thought, which in turn, exacerbates negative affect (Jones, Papadakis, Orr, & Strauman, 2013). In contrast, if individuals perceive themselves to have made progress towards their goals, cognition may instead take the shape of concrete problem-solving (e.g., Roberts, Watkins, & Wills, 2013) which will likely lead to more adaptive outcomes.

While goal strength has been theorized to influence the magnitude of the associations between self-discrepancies and negative affective outcomes, very few studies to date have examined whether behavioral measures of goal strength moderate the relationship between self-discrepancies and negative affect. In an earlier study, Higgins et al. (1997) examined whether a behavioral measure of goal strength functioned as a moderator of the relationship between self-discrepancy type (i.e., actual:ideal versus actual:ought) and negative affective states; goal strength was assessed by summing the time it took participants to first generate their goals, rate their actual-self, and rate their ideal-/ought-self (Higgins et al., 1997). One inherent drawback of this method is that the latency response measures which were used (i.e., time elapsed to begin writing and/or make a rating) do not account for potential confounding factors, such as processing speed or working memory capacity. In fact, data suggests that reaction time (RT) tasks are significantly associated with additional factors that reflect processing speed, working memory capacity, and reasoning ability (e.g., Neubauer & Bucik, 1996; Wilhelm & Oberauer, 2006), and researchers have suggested that these significant associations may be largely driven by baseline responding (Lohman, 1994). As such, it is difficult to determine whether the significant moderating effect Higgins et al. (1997) observed was specifically due to chronic goal strength (i.e., the chronic accessibility of the individuals' goals) or perhaps a related third-variable, such as general processing speed.

Accounting for processing speed—and associated factors which are reflected in the baseline responding—is particularly important because specific cognitive processes have, in fact, been shown to moderate the self-discrepancy-affect relationship (Stevens, Holmberg, Lovejoy, & Pittman, 2014). Specifically, Stevens et al.'s (2014) findings suggested that the relationship between discrepancies and depression is moderated by level of formal operational thought and verbal abstract reasoning. This relationship was such that discrepancies were positively associated with depression, though only for individuals with relatively higher levels of formal operational thought and abstract reasoning; in contrast, there was no association between discrepancies and depression for individuals with relatively lower level abstraction abilities. Given extant research which suggests that (a) specific cognitive processes do, in fact, moderate the relationship between discrepancies and negative affect, and (b) performance on speeded RT tasks has been shown to be sig-

nificantly associated with cognitive abilities due to shared baseline responding, a more comprehensive examination of the moderating effect of goal strength in the discrepancy-affect relationship is warranted in order to determine whether Higgins et al.'s (1997) original findings were reflective of actual chronic goal strength or, rather, a more general cognitive ability such as processing speed.

A more sensitive measure to assess goal strength was developed by Shah, Brazy, and Higgins (2004). Specifically, they utilized a lexical decision task in which participants were instructed to identify letter strings as words or non-words as quickly and accurately as possible. Among the words, Shah et al. (2004) included the participants' own ideal- and ought-goals, as well as ideal- and ought-goals that the participants identified as belonging to various professionals (i.e., fireman, doctor, teacher, and athlete). RTs were calculated for the participants' ideal-goals, their ought-goals, and then the other goals. This particular method allows researchers to control for general response times, which accounts for additional factors such as processing speed. While this particular method of assessing goal strength can aid researchers in disentangling goal strength from other cognitive processes (e.g., processing speed, working memory capacity), it has not been employed by researchers in the clinical psychology domain (i.e., examining negative affective outcomes). For example, Shah et al. (2004) utilized their lexical decision task to examine associations between regulatory focus and intergroup bias. However, to our knowledge, the task has never been used to examine goal strength with regards to self-discrepancies and their respective negative affective outcomes.

Thus, in the present study, we used a computerized lexical decision task similar to that of Shah et al. (2004) to measure goal strength, which allowed us to assess participants' RTs to their own goals, as well as RTs to positively-valenced English words. This method allowed for a more fine-grained analysis of goal strength as a moderator of the relationship between self-discrepancies and negative emotions, while controlling for general processing speed. There were two specific predictions related to regulatory strength as a moderator: (a) the relationship between actual:ideal discrepancies and depressive symptoms would be moderated by the strength (i.e., accessibility) of ideal-self goals, even after accounting for processing speed, actual:ought discrepancies, and anxiety symptoms, and (b) the relationship between actual:ought discrepancies and anxiety symptoms would be moderated by the strength (i.e., acces-

sibility) of ought-self goals, after controlling for processing speed, actual:ideal discrepancies, and depressive symptoms. In other words, we hypothesized that participants who exhibit faster RTs to their self-identified goals would exhibit a stronger relation between discrepancies and the respective affective outcome (i.e., depressive symptoms or anxiety symptoms) than those with slower RTs.

## METHOD

### PARTICIPANTS AND PROCEDURE

Some data collected from the present sample has been published (see Bardeen, Stevens, Murdock, & Lovejoy, 2013; Stevens et al., 2014). As described, these two published manuscripts examined the higher-order cognitive correlates of (a) emotion regulation difficulties (Bardeen et al., 2013), and (b) self-discrepancies and internalizing symptoms (Stevens et al., 2014). However, unlike the present manuscript, these publications did not account for goal strength as a moderator of the relation between self-discrepancies and negative affective outcomes, which is the central aim of the present study. Introductory psychology students were recruited from a participant pool at a mid-sized university in the Midwest to participate in a two-session, IRB-approved study. The only prerequisite for participation was that participants be over the age of 18. Participants ( $N = 225$ ) provided informed consent and completed a battery of computer-administered self-report measures. The measures included a demographic information questionnaire and a measure of self-discrepancies. All participants were eligible for the follow-up session which occurred between 2–10 days after the first session. At the second session, returning participants ( $N = 169$ ) completed computer-administered self-report measures assessing symptoms of anxiety and depression. Next, participants completed a lexical decision task to assess goal strength. Following the task, participants were debriefed, thanked for their participation, and given partial course credit. Attrition analyses were conducted to assess whether there were group differences in study variables for the participants who completed both study sessions and those who did not. *T*-tests revealed that there were no differences between groups in participant demographics (i.e., age, gender, race). However, participants who completed both sessions had significantly larger actual:ideal

discrepancy scores than those who did not,  $t(207) = -2.16, p < .05$  ( $M = 1.80, SD = 1.08$ , and  $M = 1.43, SD = 0.91$ , respectively). In the final sample ( $n = 162$ ; 52% female), participants ranged in age from 18 to 31 years ( $M = 19.67, SD = 2.06$ ). Fifty-nine percent of the participants were White, 20% Black/African-American, 12% Hispanic/Latino(a), 6% Asian, 2% biracial, and 1% belonged to another category.

## MEASURES

*Self-Discrepancies.* Discrepancies were assessed by a methodologically-revised version of the Selves Questionnaire (Higgins, 1987). The Selves Questionnaire instructs individuals to provide a list of adjectives that describe themselves as they are, as they ideally want to be, or as they think they ought to be. Traditionally, the discrepancy scores were calculated based on the number of synonymous matches, synonymous mismatches, and antonymous mismatches that the participant listed for the two selves being compared (e.g., actual-self and ideal-self, or actual-self and ought-self). However, any attributes that were listed for the actual-self, with no synonymous or antonymous counterpart listed for their ideal- or ought-selves, were excluded from further calculation. As researchers have pointed out, this method is potentially problematic as it ignores information important to the individual (Hardin & Lakin, 2009), and also may be too difficult for both participants and researchers alike (Tangney, Niedenthal, Covert, & Barlow, 1998). In order to address the aforementioned limitations, various modifications of the measure have been used by others (e.g., Carver et al., 1999; Hardin & Lakin, 2009; Shah, Higgins, & Friedman, 1998).

Using instructions similar to Hardin and Lakin (2009), our revised version first instructed participants to generate five ideal attributes to assess their ideal-self—"Write down 5 words that describe the kind of person you would be right now if you could be perfect. These should be traits that you would ideally like to possess; the type of person you wish, desire, or hope to be." Then participants rated the degree (1 = not at all, 7 = extremely) to which they ideally would like to possess each attribute. Next, participants generated five 'ought' attributes to assess their ought-self—"Write down 5 words that describe the kind of person you believe you should be right now. These should be traits that you think you ought to

possess; the type of person you have a duty, obligation, or responsibility to be"—and rated the degree (1 = not at all, 7 = extremely) to which they believe they should possess each attribute. Next, in order to assess their actual-self perceptions, participants rated the degree (1 = not at all, 7 = extremely) to which they currently possess each ideal-self and ought-self attribute. Discrepancies were determined by calculating the difference between each actual attribute from the corresponding ideal- or ought-attribute. An actual:ideal discrepancy score was derived by averaging the five individual ideal-self attribute discrepancies, and an actual:ought discrepancy score was derived by averaging the five individual ought-self attribute discrepancies.

*Depression and Anxiety Symptoms.* Depressive symptoms were assessed with the Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996), a 21-item self-report measure which assesses depression symptom severity within the previous two weeks. For the present study, the item assessing suicidality was excluded, yielding a 20-item measure with total scores ranging from 0 to 60. The BDI-II demonstrated good internal consistency in the present study ( $\alpha = .88$ ). Anxiety symptoms were assessed with the Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988), a 21-item self-report measure which assesses anxiety symptom severity within the past week. The scores on the BAI range from 0 to 63, with higher scores indicating increasing anxiety severity. The BAI demonstrated good internal consistency in the present study ( $\alpha = .91$ ).

*Goal Strength.* The participants' goal strength (i.e., goal accessibility) was assessed using a lexical decision task. Stimuli were presented, and RTs recorded, using DirectRT software (version 2004.1; Jarvis, 2004). Prior to beginning the task, participants were instructed that the task investigated word comprehension and determined how quickly they could accurately identify whether letter strings were English words or non-words. Participants were instructed to press one of two keys on the computer keyboard to indicate whether the target letter string was a word or non-word. They were instructed to keep their fingers over the response keys and to respond as quickly and accurately as possible. Participants completed 10 practice trials to become familiar with the task, and then completed one continuous block of 140 trials. Of the 140 letter strings, 70 strings

were non-words and 70 strings were words. All letter strings were presented in random order.

Of particular relevance to the current study, 10 of the 70 English words presented to each participant were the ideal-self and ought-self attributes that they had identified on the self-discrepancy measure. The other 60 English words were selected from the Affective Norms for English Words word list (ANEW; Bradley & Lang, 1999), a word database that provides a set of normative information for over 1,000 words. The database includes information regarding mean levels of emotional valence (i.e., how positive or negative the valence of the word is) and frequency ratings (i.e., how frequently the word is used or encountered in the English language) for each word. When selecting the 60 English words to be included in the lexical decision task, the frequency ratings of the words were split into three groups: low frequency, medium frequency, and high frequency. Within each frequency group, 20 words were selected with varying degrees of emotional valence, from neutral to positive (i.e., valence ratings of 5–9 in the ANEW database). We chose not to include negatively-valenced words in the task, as participants' self-identified goals are almost always positive and we wanted the 60 control words to be comparable on valence and frequency. The words and non-words were matched for letter string length.

The length of time (in ms) that it took for participants to determine whether each letter string was a word or non-word was recorded by the DirectRT software. The RT for any trials that the participants made an error (e.g., identified a letter string as a non-word when in fact it was a word), were excluded from subsequent score calculations. Additionally, RTs greater than three standard deviations above a participant's mean were considered outliers, and these RTs were replaced with a number three standard deviations above the mean RT (Ratcliff, 1993). The average RT to the 60 control words was calculated in order to provide an assessment of general processing speed. RTs for the five ideal-self words were averaged to determine the ideal-self strength; RTs for the five ought-self words were averaged to determine the ought-self strength. For both scores, smaller values (i.e., faster RTs) are presumed to reflect stronger goal strength and more readily accessible goals.

## RESULTS

### PRELIMINARY ANALYSES

Prior to data analysis, univariate outliers with a *z*-score above 3.29 standard deviations from the mean were corrected to the next highest value plus one (Tabachnick & Fidell, 2007), and multivariate outliers were examined for extreme Mahalanobis distances. Missing values for variables were imputed using estimated maximization (EM) imputation. Data from participants who were not fluent in English ( $n = 5$ ), or for whom multivariate outlier analysis revealed extreme scores ( $n = 2$ ), were removed from reported analyses.

Means, standard deviations, and bivariate correlations for variables were calculated (see Table 1). Based on the cut scores for the BDI-II, approximately 17% of the sample endorsed mild depression symptoms, 9% endorsed moderate depression symptoms, and 2% endorsed severe depression symptoms. It is important to note, however, that only 20 items (out of 21) were included in the total BDI-II score; therefore, the percentage of participants reported within each range may be slightly underestimated. Based on the cut scores for the BAI, approximately 20% of the sample endorsed mild anxiety symptoms, 12% endorsed moderate anxiety symptoms, and 3% endorsed severe anxiety symptoms.

While anxiety symptoms were not significantly associated with either actual:ideal or actual:ought discrepancies, depressive symptoms were significantly positively associated with both,  $r_s = .20$  and  $.17$ , respectively,  $p_s < .05$ . *T*-tests were conducted to determine whether there were significant differences in RTs for control words versus ideal-self and ought-self goals, respectively. Results revealed that it took participants significantly less time (in ms) to identify their ideal-self goals as a word or nonword than it did for the control words,  $t(161) = 2.19$ ,  $p = .030$ ; there was not a significant difference in RTs for their ought-self goals and control words,  $t(161) = 1.16$ ,  $p = .247$ .

Next, two regression analyses were conducted to examine goal strength as a moderator of the relationship between self-discrepancies and depression and anxiety. The moderation analyses were performed separately for depression and anxiety, with ideal-self goal strength and ought-self goal strength serving as moderators, respectively. For each analysis, baseline RTs were entered as a control variable in order to partial out the variance in the negative affect-

TABLE 1. Descriptive Statistics and Correlations for Study Variables

Variable	1	2	3	4	5	6	7
1. A:I Discrepancy	—						
2. A:O Discrepancy	.71***	—					
3. Control Word RTs	.03	.07	—				
4. Ideal Goal Strength	.02	.02	.83***	—			
5. Ought Goal Strength	.01	.07	.86***	.76***	—		
6. Depression	.20*	.17*	-.02	.00	.05	—	
7. Anxiety	.04	.06	-.12	-.14 <sup>^</sup>	-.06	.60***	—
<i>M</i>	1.77	1.44	555.90	542.72	549.38	9.67	8.62
<i>SD</i>	1.05	1.08	131.19	127.03	138.04	7.01	8.54

Note. *N* = 162. A:I = Actual:Ideal; A:O = Actual:Ought; RTs = Reaction Times.  
<sup>^</sup>*p* < .10; \**p* < .05; \*\**p* < .01; \*\*\**p* < .001.

tive outcomes accounted for by processing speed. Additionally, because of significant interrelations that are typically found between actual:ideal and actual:ought discrepancies, as well as between depression and anxiety, the alternative self-discrepancy, alternative negative affective symptom level, and alternative goal strength were entered as covariates. In other words, when examining actual:ideal discrepancies and depression, the control variables included average baseline RT, actual:ought discrepancies, anxiety symptoms, and ought-self goal strength. When examining actual:ought discrepancies and anxiety, control variables included average baseline RT, actual:ideal discrepancies, depression symptoms, and ideal-self goal strength. This conservative method of controlling for the alternative discrepancy and negative affective symptom in order to get at the affect-specific predictions has been used in a number of other SDT studies (e.g., Hardin & Lakin, 2009; Papadakis, Prince, Jones, & Strauman, 2006; Strauman, 1992).

The first regression model examined the moderating effect of ideal-self goal strength in the relationship between actual:ideal discrepancies and depressive symptoms (see Table 2). As predicted, the interaction between ideal-self goal strength and actual:ideal discrepancies was significant ( $b = -0.01$ ,  $SE = 0.00$ ,  $\beta = -.16$ ,  $p = .015$ ). The second regression model examined the moderating effect of ought-self goal strength in the relationship between actual:ought discrepancies and anxiety symptoms. Contrary to our hypothesis, the interaction between ought-self goal strength and actual:ought discrepancies was not significant ( $b = 0.01$ ,  $SE = 0.00$ ,  $\beta = .10$ ,  $p = .130$ ). The significant interaction between ideal-self goal strength

**TABLE 2. Summary of Regression Analyses Examining the Moderating Effect of Goal Strength**

Variable	Outcome Variable			
	Depression		Anxiety	
	<i>b</i> ( <i>SE</i> )	$\beta$	<i>b</i> ( <i>SE</i> )	$\beta$
Alternative Affective Dimension	0.48 (0.05)	.59***	0.75 (0.08)	.62***
Actual:Ideal Discrepancy	1.15 (0.58)	.17 <sup>^</sup>	-0.93 (0.74)	-.12
Actual:Ought Discrepancy	0.11 (0.57)	.02	0.31 (0.72)	.04
Control Word Reaction Times	-0.01 (0.01)	-.11	-0.00 (0.01)	-.05
Ideal-Self Goal Strength	0.01 (0.01)	.13	-0.01 (0.01)	-.14
Ought-Self Goal Strength	0.01 (0.01)	.12	0.00 (0.01)	.03
Discrepancy $\times$ Goal Strength	-0.01 (0.00)	-.16*	0.01 (0.00)	.10
<i>R</i> <sup>2</sup>		.42***		.39***
<i>F</i>		15.60***		13.76***

Note. *N* = 162. When examining depressive symptoms as the outcome: alternative affective dimension = anxiety symptoms, interaction term = actual: ideal discrepancy  $\times$  ideal-self goal strength. When examining anxiety symptoms as the outcome: alternative affective dimension = depressive symptoms, interaction term = actual:ought discrepancy  $\times$  ought-self goal strength.

<sup>^</sup>*p* < .10; \**p* < .05; \*\**p* < .01; \*\*\**p* < .001

and actual:ideal discrepancies was probed using simple slopes analysis (Aiken & West, 1991), which revealed a significant positive association between actual:ideal discrepancies and depressive symptoms for individuals with stronger ideal-self goals ( $b = 2.19$ ,  $SE = 0.75$ ,  $\beta = .33$ ,  $p = .004$ ), but not for those with weaker ideal-self goals ( $b = 0.11$ ,  $SE = 0.69$ ,  $\beta = .02$ ,  $p = .874$ ; see Figure 1).

## DISCUSSION

The findings from the current study have important implications for the role of goal strength in the self-discrepancy—negative affect relationship, and address important measurement considerations. In the current study, the mean RTs for ideal-self goals were significantly less than the mean RTs for the control words, which indicates that participants had faster response times to their ideographic ideal-self goals compared to control words. This suggests that individuals' self-identified goals—particularly those associated with the ideal-self—are indeed more chronically activated, as individuals were better (i.e., more quickly) able to identify whether their goals were words compared to all other word strings. Using a conservative analytic approach (i.e., controlling for alternative self-discrepancy,

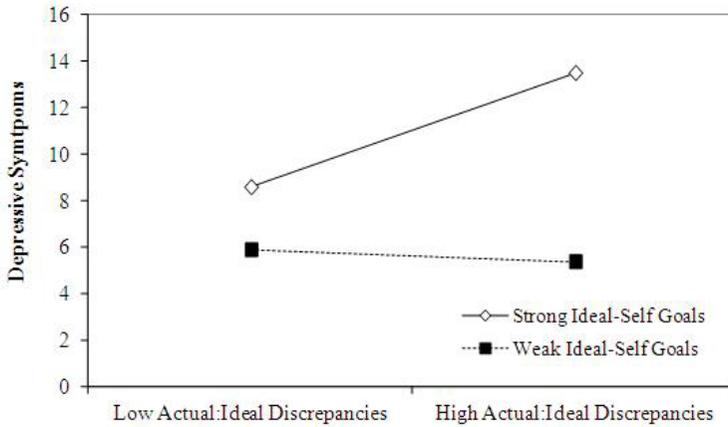


FIGURE 1. The moderating effect of ideal-self goal strength in the relationship between actual: ideal discrepancies and depressive symptoms. For individuals with relatively stronger ideal-self goals (i.e., faster RTs), there was a significant positive association between actual: ideal discrepancies and depressive symptoms ( $b = 2.19$ ,  $SE = 0.47$ ,  $\beta = .33$ ,  $p = .004$ ). For individuals with relatively weaker ideal-self goals (i.e., slower RTs), there was not a significant association between actual:ideal discrepancies and depressive symptoms ( $b = 0.11$ ,  $SE = 0.69$ ,  $\beta = .02$ ,  $p = .874$ ).

symptom level, and goal strength), as predicted, our results demonstrated a significant interaction between actual:ideal discrepancies and ideal-self goal strength. In other words, actual:ideal discrepancies were positively related to depressive symptoms, though only for individuals with relatively stronger goal strength (i.e., faster RTs for ideal-self goals) as measured by our computerized lexical decision task. Individuals with a relatively weaker goal strength (i.e., slower RTs for ideal-self goals) did not evidence a significant relationship between actual:ideal discrepancies and depressive symptoms.

Bolstering previous research, we were able to replicate earlier findings that suggest goal strength is a moderator of the discrepancy-depression relationship (Higgins et al., 1997). Importantly, though, we extended previous work by demonstrating that the relationship holds true even after controlling for general processing speed. This is particularly important given that (a) RTs are significantly associated with a number of additional cognitive processes (e.g., Neubauer & Bucik, 1996; Wilhelm & Oberauer, 2006) largely due to baseline

responding (Lohman, 1994), and (b) emerging research which suggests higher order cognitive abilities as important individual difference factors to consider with regards to SDT (Stevens et al., 2014). Furthermore, by assessing regulatory strength 2–10 days after participants generated their goals, we were able to ensure that the RTs were not inadvertently influenced by recent priming of the participants' goal systems (i.e., filling out the self-discrepancy measure). Rather, we were able to assess the chronic, long-term activation of their goals, and found that the RTs were faster for participants' self-identified ideal-self goals compared to control words, even 2–10 days after they identified their goals.

These findings provide support for the role of chronic goal strength/accessibility in the emergence of psychopathology, and are consistent with the work of Strauman (2002), who has proposed a self-regulation theory of depression in which, for some individuals, depression is the consequence of a chronic inability to pursue ideal-self goals. Specifically, the promotion system functions such that the more progress an individual makes, the more likely that person is to continue goal pursuit. Failure to make progress, however, will result in negative affect that typically serves the purpose of either altering goal-pursuit strategies or initiating pursuit of another goal (Klenk et al., 2011). In this instance, short-term negative affect serves an adaptive function. However, chronic and repeated failure can lead to a weakened engagement of goal pursuit, lowered motivation, and a higher likelihood of experiencing negative affect and negative self-evaluation (Klenk et al., 2011; Miller & Markman, 2007; Strauman, 1992).

Self-system therapy (Vieth et al., 2003), which was developed to target goal pursuit based on the self-regulation theory of depression (Strauman, 2002), has been found to be more effective than cognitive therapy using a randomized trial, specifically for those individuals who are at greatest risk (based on socialization histories) for inability to pursue promotion goals (Strauman et al., 2006). Thus, self-system therapy may be particularly beneficial for a subset of individuals; namely, those that evidence more chronically activated ideal-self goals and who are unable to effectively pursue those goals (as indicated by larger actual:ideal discrepancies). By targeting self-regulation, specifically, this type of intervention may be particularly advantageous in (a) changing which goals individuals strive to attain (i.e., focus on more attainable goals), (b) finding more effective

means of making progress towards goals, and (c) reducing the dysphoria that results from discrepancy activation.

Contrary to our findings regarding depressive symptoms, there was not a significant interaction between actual:ought discrepancies and ought-self goal strength in predicting anxiety. In fact, actual:ought discrepancies were not associated with anxiety at all, even at the bivariate level, but instead were associated with depressive symptoms. While a goal of SDT has been to test affect-specific relationships of actual:ideal discrepancies and dejection-related emotions (e.g., feeling sad and/or disappointed), and actual:ought discrepancies and agitation-related emotions (e.g., feeling nervous and/or tense; Strauman & Higgins, 1988), many researchers have called into question the discriminant validity of actual:ideal and actual:ought discrepancies, suggesting that all self-discrepancies (e.g., actual:ideal, actual:ought) may be moderately related to general distress (e.g., Phillips & Silvia, 2010; Tangney et al., 1998). For example, Scott and O'Hara (1993) found that, consistent with the predicted relationship, participants who met criteria for major depression, dysthymia, or both a depressive and an anxiety disorder evidenced higher levels of actual:ideal discrepancies than did non-depressed participants. However, participants with an anxiety disorder, or comorbid mood and anxiety disorder, did not have higher levels of actual:ought discrepancies than non-anxious participants. Hardin and Leong (2005) also found that actual:ought discrepancies were not predictive of anxiety when all types of discrepancies were accounted for simultaneously (e.g., actual:ideal, actual:ought, and actual:undesired). Given the multitude of other studies that have provided support for the relationship between self-discrepancies (of many types) and general depressive symptoms, as well as the relative lack of published studies examining anxiety compared to those examining depression as an outcome, it may be that the SDT model is more appropriate for understanding depressive symptoms rather than anxiety; findings from the current study support this hypothesis.

Another alternative explanation for the lack of findings between actual:ought discrepancies and anxiety symptoms may be that SDT is more relevant to anxiety pathology in which cognitive symptoms (e.g., fear of negative evaluation, rumination, worry) is a major component. Specifically, because self-discrepancies are cognitive structures, the cognitive symptoms of anxiety (versus physiological

symptoms) may be most relevant to examining the specific affect-specific predictions of SDT. In the current study, the BAI was used as the dependent variable. The BAI is not specific to cognitive symptoms, as it also includes items which are related to physiological symptoms, affective experience, and behaviors. As such, researchers have failed to identify a clear factor structure for the BAI (e.g., Creamer, Foran, & Bell, 1995), making it difficult to parse out a specific cognitive symptom dimension. Therefore, future work should consider the use of measures that tap into cognitive components related to anxiety pathology (e.g., worry, rumination, fear of negative evaluation), in lieu of broad-based measures of state or trait anxiety.

While our study provides important information regarding the role of goal strength, or chronic goal accessibility, in the relationship between self-discrepancies and depressive symptoms, in particular, it is not without limitations. Our sample consisted solely of college students, and thus, findings may not generalize to the general adult population. Individuals in a college student sample may function at a higher level than individuals from a treatment-seeking population, and thus firm conclusions cannot be drawn regarding associations among self-discrepancies and negative emotions in clinical samples (i.e., clinical depression and/or anxiety). While neither the BDI-II nor the BAI are meant to serve as diagnostic instruments, and thus are not indicators of clinical diagnoses, they are useful indices of the presence and severity of depression and anxiety symptoms, respectively. Although the idiographic assessment of self-relevant goals that were included in the lexical decision task should be considered a strength of the study, as an idiographic approach is pertinent to SDT, it also limited the number of trials from which were available to calculate ideal- and ought-self goal strength. Additionally, due to the idiographic nature of the task, we could not ensure that the individually-identified goals and control words were matched for letter length. Thus, it may be worthwhile to consider a bank of control words that are available for this task, which are matched on emotional valence and frequency, but which differ with respect to word string length.

Regulatory focus (i.e., promotion or prevention focus) provides researchers with a method of studying how and why individuals differentially respond towards goals or motivators in their environment. Considered a strength of the current study, we chose to use

a behavioral measure of regulatory focus (versus self-report) to examine whether the chronic accessibility of individuals' goals functions as a moderator in the discrepancy-negative affect relationship. While behavioral measures, such as the lexical decision task used in the current study, have been used by others to assess the strength of individuals' ideal- and ought-goals (e.g., Shah et al., 2004), it is important to note that there are varied conceptualizations of regulatory focus. Specifically, while some may conceptualize goal strength as how cognitively accessible individual's goal structures are, others conceptualize goal strength as a dispositional world view in which individuals place more importance on either making good things happen or preventing bad things from happening. While the former emphasizes social-cognitive goal structures and operationalizes goal strength as a more automatic cognitive processes, the latter emphasizes goal-directed behavior and operationalizes goal strength as a dispositional trait that can be measured via self-report measures (e.g., Regulatory Focus Questionnaire; Higgins et al., 2001).

The current study underscores the importance of examining traditional models of self-regulation within a cognitive-process framework, as there are important individual differences in automatic cognitive processes that may explain when and for whom perceived goal failure leads to the onset and maintenance of depressive syndromes. Furthermore, by studying more complex, individual difference-driven, integrative models for depression (i.e., those that examine individual differences in cognitive, social, and behavioral factors), we may be able to develop better intervention targets for the treatment of depression. In sum, our findings support SDT as a model that may be particularly relevant for studying the relationship between self-discrepancies and depression in individuals who have chronic promotion (i.e., ideal-self) goal activation. Individuals' goals and their strategies for pursuing these goals may be a particularly important clinical intervention target for a subset of individuals who present with mood disorders (e.g., Strauman et al., 2006). For example, clinicians may want to teach patients strategies to disengage from promotion goals, particularly those which they are failing to achieve. Additionally, further research is warranted to determine when and for whom self-regulatory interventions are most effective.

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