

Deconstructing the Link between Self-Doubt and Self-Worth: Ideas to Reduce Maladaptive
Coping

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The need for competence has a well-established tradition (e.g., White, 1959) and features prominently across various theoretical frameworks. For instance, in cognitive evaluation theory (Deci & Ryan, 1985), competence need fulfillment is critical in determining intrinsic motivation. Other theorists cite competence needs as central to achievement motivation as well (e.g., Elliot & Dweck, 2005). Susan Fiske (2004), in her core motives approach to social psychology, emphasized control or competence needs as fundamental to understanding human behavior across the social psychological spectrum. Maslow (1971), too, emphasized the importance of developing strengths in the pursuit of self-actualization. Competence needs have been shown to be uniquely related to well-being, even above and beyond other candidate needs such as autonomy and relatedness (e.g., Reis et al., 2000).

Because competence is such an important need, self-doubt about one's competence can have strong motivational properties. A great deal of research examines the relationships between chronic doubt in one's competence and consequential coping strategies. Probably the best-known consequence of chronic self-doubt is *self-handicapping* (Arkin & Oleson, 1998). Self-handicapping involves creating before a performance an excuse that will allow the self-handicapper to attribute performance failure to something other than ability. Self-handicapping is not post-performance excuse making; it is a pre-emptive self-protective strategy that can take many forms, often marked by performance avoidance goals (Elliot & Church, 2003; see also Oleson & Steckler, this volume). Self-handicaps can be claimed (e.g., declaring that one does not feel well before a performance) or behavioral (e.g., alcohol use before an exam.) Self-handicappers do such things as reporting potentially performance-inhibiting symptoms before an important task (Mayerson & Rhodewalt, 1988; Smith, Snyder, & Perkins, 1983). These reports also can include claimed social anxiety (Snyder & Smith, 1986) or traumatic life events (DeGree

& Snyder, 1985) as potential non-ability causes for upcoming performance failure. Behaviorally, self-handicapping participants choose to perform under inhibiting circumstances, such as distracting music, rather than under more favorable ones (e.g., Shepperd & Arkin, 1989). People even will take drugs or alcohol before tasks if these provide an alternative non-ability attribution for potential failure (Berglas & Jones, 1978; Kolditz & Arkin, 1982; Tucker, Vuchinich, & Sobell, 1981). Self-handicapping research shows some of the lengths people go to in order to keep their competence from being impugned.

The *imposter phenomenon* is a lesser known, but powerful experience that is tied to self-doubt (Clance & Imes, 1978, Ferrari & Thompson, 2006). Imposters think that they are incompetent; that their success has been a function of successfully fooling others into thinking they are competent. Imposters believe that they do not deserve to belong in positions that demand competence. Although distally caused by doubt in one's competence, this phenomenon is thought proximally to result from the attribution of success to temporary, non-ability factors, with failures being likely to be attributed to ability (Clance & Imes, 1978). The imposter may experience temporary flushes of success, but because these are attributed to luck, no self-doubt reducing benefit accrues to the imposter. Due to the attributional dynamics of the imposter phenomenon, significant instability in self-worth may be experienced as this cycle repeats. Indeed, research has indicated that imposter phenomenon is associated with maladaptive coping strategies, low self-esteem, and neuroticism (Ross & Krukowski, 2003).

Procrastination (e.g., Birner, 1993; Van Eerde, 2000) is yet another phenomenon believed to stem from, at least in part, self-doubt. Indeed, individual differences in procrastination are negatively associated with general (Haycock, McCarthy, & Skay, 1998), and task-specific self-efficacy (Martin, et al., 1996; Sirois, 2004b). If one doubts one's competence,

putting a performance off can keep competence deficits from being definitively evaluated, either by oneself or by others. The procrastination process may represent for many an expression of experiential avoidance, due perhaps to fears of being unmasked as a fraud (Clance & Imes, 1978), or being proven (by oneself or others) to have low competence after task failure is attributed to ability. Consistent with this analysis, those high in procrastination are more likely to imagine how things could have been worse (engage in downward counterfactuals; see Roese & Oleson, 1995 for a review) in response to an anxiety-provoking scenario, suggesting that they are motivated to repair their mood more than they are motivated to directly address issues that could improve future outcomes (Sirois, 2004a). Unfortunately, as a coping strategy, procrastination does nothing to address the underlying problem of self-doubt.

Defensive pessimism (Norem & Cantor, 1986) may be another coping strategy related to doubt in one's competence. Defensive pessimism involves the deliberate setting of low expectancies to prepare for the possibility of failure. Expected failure may be less upsetting than unexpected failure, so that if an individual high in self-doubt becomes defensively pessimistic, failure-driven negative affect may be reduced. Conversely, if success is expected, it may be less satisfying than unexpected success (Feather, 1969). Success and failure expectancies may not only predict affect intensity, but also may predict affect duration. Work by Wilson and colleagues (Wilson, Centerbar, Kermer, & Gilbert, 2005) shows that experienced outcomes about which one is uncertain have a longer affective impact than those outcomes that are easier to make sense of. Applied to defensive pessimism, this work suggests that holding negative expectancies reduces negative affect duration for failure experiences. The unexpected nature of positive experiences then should render them harder to make sense of, and result in longer-lasting positive affect. For the defensive pessimist, then, portraying negative outcomes as

relatively more certain may curb some of the negative effects of doubts in one's competence on both affect intensity and duration.

Although the role of expectancies on affective responses to success and failure appears to be a positive one for defensive pessimists, other research indicates that the attributional implications of these expectancies may amplify self-doubt. For instance, Feather and Simon (1971) have shown that expected outcomes are more likely to be attributed to ability than unexpected outcomes. Unexpected outcomes are likely to be attributed to temporary factors not under the actor's control, such as luck. In Feather and Simon's (1971) work, this attributional pattern held both for positive and negative outcomes. It follows that defensive pessimists are likely to attribute failure outcomes to their ability, and success outcomes to factors such as luck. This attributional dynamic would seem to all but guarantee the perpetuation (and even the development) of self-doubt.

Defensive pessimists' expectancies then potentially impact both affect and competence judgments. In addition to affecting one's emotional experience and the self-concept, though, it is interesting to consider that defensive pessimists' low expectations are integral to their performance. Spencer and Norem (1996) have shown that mastery imagery, as opposed to imagining task failure followed by a coping response, actually hurts the performance of defensive pessimists. This type of effect likely reinforces defensive pessimists' maladaptive cognitions. Due to the attributional dynamics of defensive pessimism and due to these effects of expectancies on performance, no matter what the performance outcome, self-doubt is likely to be maintained.

Subjective overachievement (Jones & Berglas, 1978; Oleson et al., 2000) is another coping strategy stemming from self-doubt that further undermines straightforward attributions

about one's competence. Subjective overachievement is marked by a high level of concern with performance combined with a high level of self-doubt (Oleson et al.). Where the self-handicapper creates obstacles that obscure the any link between performance failure and lack of ability, the overachiever exerts heroic effort to ensure success. In fact, the degree to which one is concerned with one's performance appears to serve as a splitting factor that determines whether self-doubt will lead to self-handicapping or overachievement strategies as the means used to assuage individuals' competence concerns. If an individual is experiencing self-doubt, but is focused on evaluating his or her ability, the person is more likely to engage in self-handicapping strategies (e.g., practice less). If an individual is experiencing self-doubt, but is focused on performing well, the person is more likely to engage in overachievement strategies (e.g., excessive practice; Lynch, 1999). Unfortunately, the lengths the overachiever goes to achieve success obscures the link between performance and ability just as self-handicapping does. Although overachievement nearly guarantees a positive outcome, the overachiever never can know whether ability, effort, or both of these, with a pinch of luck added, resulted in success. The consequence is that overachiever's ability is not truly tested in a diagnostic performance setting, and self-doubt persists.

Strategies such as self-handicapping, overachievement, and procrastination can all be part of normal self-regulation. However, when used repeatedly, the doubter may suffer, as attempts to avoid implicating one's ability consume ever more energy, and as they interfere with achieving of other goals. We next lay out what we believe are the essential psychological elements of such maladaptive self-doubt coping attempts. An understanding of these elements is critical for reducing the negative effects of self-doubt.

The Relationship Between Self-Doubt, Perceptions of Ability and Self-Esteem

The maladaptive and sometimes extreme nature of the above coping strategies suggests that failure may have a particularly strong impact on the self-regard of individuals high in self-doubt, and that these individuals may possess a particularly strong link between perceptions of competence and self-esteem. These ideas are rooted in Jones and Berglas' (1978) seminal discussion of the motivations behind self-handicapping. Jones and Berglas (1978) note that the idea of self-protection, and that of self-doubt itself, implies an ambiguous and perhaps ambivalent self-evaluation; the possibility of easily seeing oneself as a success or a failure. They additionally point out that the self-handicapper seems to have "an abnormal investment in the question of self-worth" and is, as such, motivated to avoid an honest test of his or her competence in order to protect this investment (p. 205). Subsequent research has, indeed, confirmed that engaging in self-handicapping, for example, serves to protect self-esteem (McCrea & Hirt, 2001).

Hermann, Leonardelli, and Arkin (2002) have provided more direct evidence of this link, showing that the self-esteem of those high in self-doubt can be affected by simply considering one's level of confidence in past experiences. In one study, participants high and low in self-doubt were instructed to recall examples of events when they felt confident about their ability to perform in some important area of their life. Self-esteem was measured after this recall task. Half of the participants recalled an easy number of events (i.e., two), while the other half recalled a difficult number (i.e., eight). Participants high and low in self-doubt produced examples of equal quality in both conditions (indicated by both their own and blind observers' ratings of the confidence they expressed). Yet, the effect on their self-esteem was distinct; high self-doubt participants had lower self-esteem after recalling 8 examples of self-confidence while the self-

esteem of those low in self-doubt was unaffected by the experience of recall. These results suggest that the self-worth of high self-doubt individuals may be contingent on their perceptions of confidence in their ability.

Jennifer Crocker and her colleagues (e.g., Crocker et al., 2003) have demonstrated that people can report such self-worth contingencies and that they can result in fluctuating self-worth as a result of external events. For instance, Crocker, Sommers, and Luhtanen (2002) showed that academic competence contingencies of self-esteem predicted change in self-esteem and positive affect as a function of graduate school acceptance or rejection. Applied to the concept of self-doubt, high self-doubt individuals may especially value general competence contingencies of self-esteem. If high self-doubt individuals do indeed stake their self-worth on their (doubtful) competence, their competence doubts may lead to excessive emphasis on particular types of goal achievement, which may work to the detriment of their optimal function (see Kasser, Ryan, Couchman, & Sheldon, 2004 for similar ideas). Kasser et al. note that a preoccupation with one particular kind of goal can interfere with the achievement of other important psychological goals—for instance, when competence concerns interfere with relatedness or autonomy needs.

In addition to interfering with other important psychological needs, an emphasis on competence concerns might limit the flexibility with which people can preserve and pursue self-worth. Normally, people use many strategies to improve self worth. These include BIRGing (Cialdini et. al, 1976), outgroup derogation (Fein & Spencer, 1997), or as suggested by the sociometer hypothesis, social inclusion (Leary & Baumeister, 2000). Self-regulatory success is in part a matter of flexibly shifting between situationally appropriate self-esteem preservation strategies. A preoccupation with competence as the key to self-worth may hinder this needed

flexibility. Any such flexibility limitation, however, would be predicated on the idea that self-doubt and competency concerns go hand-in-hand.

To provide a preliminary test of the notion that chronic self-doubt is linked to a contingency of self-worth focused on competence, we conducted a pilot study ($N = 37$) in which we measured individual differences in self-doubt, self-esteem and competence-oriented self-worth contingencies. We developed 8 items based closely on Crocker's (2003) items, and found that they showed acceptable Cronbach's alpha reliability ($\alpha = .74$). To measure SD, we used the Oleson et al. (2000) scale. We anticipated that higher levels of self-doubt should be associated with greater competency contingencies of self-worth. Such a result would be consistent with results obtained by Oleson et. al (2002), who found significant correlations between self-doubt and Crocker, Luhtanen, Wolfe, and Bouvrette 's (2003) contingencies of self-esteem subscales: school competence and reflected appraisals. As we expected, in our data, self-doubt showed a moderate correlation ($r(35) = .41, p = .011$) with our general measure of competence contingencies of self-worth. Furthermore, when we regressed Rosenberg self-esteem on self-doubt, competence contingencies, and their interaction (all variables were first standardized), we found that self-doubt interacted with competence contingencies ($B = -3.95, SE = 0.17, t(33) = -2.38, p = .024$) to predict self-esteem. This interaction is graphed below, where high and low refer to one standard deviation above and below the respective variables' means. When we decomposed this interaction using simple slopes tests (Aiken & West, 1991), we found that at low contingencies, self-doubt was unrelated to self-esteem ($p = .69$), whereas at high competence contingencies of self-worth, self-doubt was significantly negatively related to self-esteem ($B = -0.88, SE = 0.20, t(33) = -4.35, p = .000$). For people who base their self-worth on perceptions of competence, self-doubt has negative consequences for self-esteem.

--Insert Figure 1 about here--

It appears, then, that competence-contingencies of self-worth do indeed play at least some of the roles that Berglas and Jones (1978) suggested for those high in self-doubt. Such contingencies presumably develop in large part through social learning (e.g., Bandura, 1986). Children's interactions with their parents (e.g., Moretti & Higgins, 1990) are critical in forming the self-system, and reinforcement histories that emphasize competence, either through praise or punishment following competence-related behaviors, logically also could push self-worth/competence-contingencies to a central position in the self-system (e.g., Leary & Baumeister, 2000). Jones and Berglas (1978) implicated in the development of self-doubt a parenting style in which love is contingent on the child's ability to meet parental standards, however they are defined. Crocker's contingencies of self-worth (e.g., Crocker et al., 2000) approach would suggest that linking beliefs about ability to meet parental standards with self-esteem would create externally contingent self-worth (see also Lynch, 1996). That is, self-doubters may come to rely on external self-validation via perceived competence-relevant outcomes to maintain their self-esteem. In the absence of stable feelings of self-worth (c.f. Mirels, Greblo, & Dean, 2002), self-doubters may be especially susceptible to external, or outcome, contingencies influencing their perceptions of worth. Consistent with this notion, Reich and Arkin (2006) found that individuals high in self-doubt were more likely to believe that their significant other held an entity theory of ability (i.e., that abilities are relatively fixed) and thus believe that their partners would make dispositional attributions about their failures. This suggests that high self-doubt individuals believe that each personal success or failure experience

will be evaluated by important others as diagnostic of their ability. Such beliefs have predictable consequences for self-worth contingencies.

The idea that self-doubt implies a sensitivity to the implications of outcomes for the self is consistent with the self-protective coping strategies that high self-doubters engage in, such as self-handicapping, procrastination, or overachievement. This noted, the types of self-worth outcome contingencies held by high self-doubt individuals surely vary. For some, self-worth may be contingent on outcomes because their sense of competence is tied to the outcome. Others may be affected by outcomes because of their sensitivity to public evaluation (e.g., Kolditz & Arkin, 1982). Regardless of the precise mediating cognitions linking self-worth to outcomes for high self-doubt individuals, repeated exposure to outcomes with perceived strong self-worth consequences should lead to expectancies about the implications of failure or success outcomes for self-worth. This idea gains even more credence when one considers the classic coping strategies associated with self-doubt. These all are (avoidance type) strategies that a person who is highly sensitive to the valence of expected outcomes might use. Following this line of thinking, we expected that the high (as compared to low) self-doubter's sense of self would be more strongly affected by the valence of expected events.

Of course, there are a number of ways to assess expectancies. In addition to measures of specific expectancies, there also are measures of more general expectancies, such as optimism and pessimism, and measures of constructs associated with expectancies, such as depression. For instance, depression is associated with a negative view of past and present experience, with a negative view of the self, and critically, with a negative view of the future (Beck, 2002). We conducted 3 correlational studies using measures either associated with or explicitly assessing expectancies. In each of the studies, to test the notion of a link between expected outcomes and

self-worth, we included a measure of self-doubt (SD; Oleson et al., 2000), as well as the Rosenberg Self-Esteem inventory (RSE; Rosenberg, 1965). Depending on the sample, we then additionally included further measures intended to tap into participants' expectancies. All measures were standardized prior to analysis. Our hypothesis was that if SD were a sensitization factor for outcomes, that SD would magnify the relationship between expectancy valence and self-esteem. For people high in SD as compared to people low in SD, we expected that expectancies and expectancy-like constructs would be more strongly associated with self-worth. Specifically, for high SD individuals, more positive expectancies should be more strongly associated with high self-esteem than for low SD individuals. Considering negative expectancies, the reverse should be true: high SD individuals should show a stronger, more negative, relationship between negative expectancies and self-esteem than low SD individuals. Statistically, we expected SD to interact with our different measures of expected outcomes to predict self-esteem. We used simultaneous multiple regression analyses to investigate these ideas. These analyses control for SD-related differences in expectancies, precluding any pre-existing expectancy differences as alternative explanations for our findings.

In the first study, we included the Beck Depression Inventory (BDI; Beck, 1967) as an outcome expectancy measure ($n = 618$). Although the BDI is not an explicit measure of expectancies, it has been shown to be associated with expectancies of negative events (Andersen, 1990). When RSE was regressed on BDI, SD, and BDI \times SD, we found that BDI interacted with SD to predict RSE ($B = -0.08$, $SE = 0.02$, $t(614) = -3.59$, $p = .000$). As would be expected given the idea that SD sensitizes people to anticipated outcomes, high self-doubt individuals who were high in BDI-assessed depression also showed the lowest self-esteem scores. Those high in self-doubt also showed the strongest relationship between expectancies and self-esteem. Those high

in self-doubt (compared to low in self-doubt) appear to have been more strongly affected by their expectancies as related to their self-esteem. To provide better evidence that self-doubt is associated with stronger reactions to anticipated events, we examined measures more explicitly tapping expectancies in two additional studies. In the first additional study ($n = 114$) we included the Life Orientation Test (LOT; Scheier & Carver, 1985), the best-known measure of general chronic expectancies and a measure widely used to index optimism. We then repeated with the LOT the analyses previously conducted with BDI. Again, we found that SD interacted with LOT to predict RSE ($B = -0.11$, $SE = 0.05$, $t(110) = -2.03$, $p = .045$). The relationship between LOT and RSE was stronger for participants high in SD, consistent with the idea that high SD could render self-esteem more sensitive to expected outcomes. These results suggest that the greater expected outcome sensitivity of high SD individuals could hold for positive, as well as negative, expected events.

Finally, with another measure more explicitly tapping into expectancies, we examined the relationship between SD, positive and negative expectancies, and the RSE. To do this, we used the Future Event Expectancies Scale (FES; Wichman, Reich, & Weary, 2006). The FES is a measure of expectations about positive and negative self-relevant events. It has two subscales, one for each event type, and by including both subscales in a regression equation, one can obtain estimates of the effects of negative expectancies while controlling for positive expectancies, and vice-versa. We administered the FES with SD and RSE scales ($n = 425$) to test this idea. We regressed RSE on SD, the two FES subscales, and all their interactions, and found the expected effects. Both positive and negative FES separately interacted with SD to predict RSE ($B = 0.29$, $SE = 0.11$, $t(417) = 2.71$, $p = .007$ and $B = -0.20$, $SE = 0.10$, $t(417) = -2.02$, $p = .044$, respectively). There was no three-way interaction between SD and positive and negative FES (p

= .49). The results showed that although self-doubt was negatively associated with self-esteem, it further interacted with the expected valence of events to strengthen the self-esteem implications of whatever these events were. For high SD individuals, the slopes relating positive and negative event expectancies to self-esteem were steeper than the corresponding slopes relating expectancies to self-esteem for those low in SD. Based on these findings, it appears that possible outcome sensitivity associated with SD applies to future, as well as currently experienced events. Figure 2, below, depicts all of the effects from these correlational studies, plotted at ± 1 SD from the respective predictors' means (Akin & West, 1991).

--Insert Figure 2 about here--

Although these data showing evidence for competence contingencies of worth and outcome sensitivity for high self-doubt individuals are vital if one is to construct empirically-derived self-doubt reduction interventions, it is important to consider also how the behaviors motivated by these beliefs may feed back and reinforce them. In the next section, we examine how behaviors associated with self-doubt not only follow from self-doubt, but actually may serve to maintain it.

Possible Self-Doubt Maintenance Processes

Logically, in the presence of self-doubt, doubt reduction should follow by seeking to determine the probability of a desired competence or outcome. High self-doubt should lead to information seeking and attempts to determine one's ability level. In the face of this reasoning, the two outcomes perhaps best-associated with self-doubt, self-handicapping and overachievement, are antithetical to doubt reduction. They obscure the relationship between ability and performance and maintain the ambiguity that generates the self-doubt to begin with.

The question then becomes: “Why do people do these things at all, if they don’t reduce their self-doubt?”

The answer is that they do these things to protect perceptions of their competence. On the one hand, activities such as overachievement obscure for the actor the link between performance and competence. Because $\text{success} = \text{ability} * \text{effort}$ (e.g., Heider, 1958), high amounts of effort can compensate for even very low amounts of ability. Thus, successful performance does not validate personal competence for the overachiever. On the other hand, self-handicapping deflects the attributional consequences of failure away from the self. Instead of failure being due to lack of competence, failure can be attributed to some competence-irrelevant factor, such as drinking too much or being sick. Thus, unsuccessful performance does not invalidate personal competence for the self-handicapper.

Coping strategies such as overachievement or self-handicapping do not yield much information about one’s true level of competence; they obscure the performance-competence link. These strategies are therefore incapable of providing definitive information about ability and thus do nothing to reduce self-doubt. Given that self-doubt is supposedly the problem, one might ask why people care so little about self-doubt that they don’t try to reduce it by methodically testing disconfirmable hypotheses about their ability. For example, the overachiever could try studying very little before an exam, and the self-handicapper could try studying before an exam.

The answer to the question of why high self-doubters do not do more to explicitly test their competence probably lies in the role of competence contingencies of self-worth. Instead of reducing their uncertainty about their competence, high self-doubt individuals may focus on protecting competence-contingent self worth (e.g., McCrea & Hirt, 2001). We suggest that

coping strategies such as self-handicapping or overachievement have to be understood in terms of how they serve to protect this contingent self-worth. Maladaptive responses to self-doubt may stem more from self-esteem preservation concerns than from misguided attempts to reduce self-doubt. This approach, if correct, offers the potential to address the needs that self-doubt activates, freeing people from the grip of their competence contingencies and making them less reactive to undesirable events in everyday life.

Paradoxically, far from reducing self-doubt, self-handicapping or overachievement may actually reinforce initial doubts. Clinical work on obsessive-compulsive disorder and on safety-seeking in agoraphobia shows that either behavioral or cognitive attempts to neutralize or otherwise avoid disorder-relevant negative expected outcomes can have counter-intuitive consequences. In one study, Salkovskis et al. (1997) showed that randomly assigning participants to attempt to cognitively neutralize their intrusive thoughts, using techniques such as self-reassurance of the thought's harmlessness, or suppression, led to greater discomfort when exposed to those thoughts at a later time. It also led to increased desires to neutralize the intrusive thoughts. Later work (e.g., Salkovskis et al., 1999) has shown that safety-seeking behaviors in agoraphobia aimed at avoiding feared consequences, such as fainting or heart attack, play a causal role in *maintaining* agoraphobic anxiety. In this study, preventing participants from engaging in safety-seeking behaviors reduced subsequent agoraphobic anxiety.

These ideas are based on a cognitive approach to anxiety disorders (e.g., Beck, 1976; Salkovskis, 1996) that holds that anxiety results when outcomes or situations are interpreted as more dangerous than they actually are, and that safety-seeking behaviors prevent disconfirmation of inflated threat perceptions. A cognitive approach to anxiety disorders predicts that

exaggerated threat expectations can lead to such effects as selective attention to relevant threat stimuli, negative arousal, and safety-seeking behavior (see Salkovskis, 1996).

We propose that self-doubt shares some similar characteristics with anxiety disorders, as specified by cognitive approaches (Beck, 1976). For instance, regarding selective attention, self-doubt is associated with attention to doubt-relevant constructs. Govorun et al. (2006; and this volume) have shown that high self-doubters are schematic on intellectual competence. Their results are broadly consistent with the idea that high self-doubters, whose self-worth is contingent on competence, attend selectively to (theoretically potentially threatening) intellectual competence information. We know of no research directly showing negative arousal for high self-doubters when competence concerns are activated, although the literature on such coping strategies as self-handicapping is suggestive. Self-doubt's positive association with depression (for instance, as shown in our data in this chapter) and social anxiety is established (e.g., Oleson et al., 2000), and Cramer (this volume) suggests that defense mechanisms can help manage self-doubt related anxiety. Presumably, the genesis of any such anxiety involves the repeated activation of exaggerated threat cognitions, which, according to the clinical literature, may become associated with safety-seeking behaviors (Salkovskis et al., 1999). Indeed, phenomena such as self-handicapping and overachievement could be classified as safety-seeking or avoidance behaviors, in that they should help protect self-doubters from the negative consequences of their maladaptive cognitions that link competence and outcomes to self-worth. Unfortunately, cognitive approaches to anxiety suggest that such avoidance-type behaviors maintain and exacerbate self-doubt, as avoidance does nothing to challenge the fundamental misconceptions so strongly linking perceived competence to self-worth.

Based on our above evidence for links between competence and self-worth, as well as for increased outcome sensitivity for those high in self-doubt, we can make a number of suggestions to reduce self-doubt. These suggestions hinge on cognitively and behaviorally deconstructing the maladaptive beliefs linking outcomes and competence to self-worth, and also the beliefs underlying doubt-maintaining safety behaviors such as self-handicapping. By deconstructing these beliefs, anxiety about self-worth damaging results can be reduced.

Opportunities for Intervention

We propose that if doubt frequently interferes with successful function, that it be treated as other psychopathology. Following from this perspective, we can suggest a number of techniques to reduce the impact of self-doubt on effective living. We next consider factors that should moderate the impact of ability attributions on the self, as well as the application of general cognitive therapy principles to the contingencies and outcome sensitivity problems. Finally, we consider an approach based on recent advances in clinical psychology that uses mindfulness-based principles to partially uncouple self-worth from competence. We conclude with a few suggestions on how these approaches might be combined in practice to enable effective, nondamaging self-doubt coping strategies. The approach we propose is different from, although complementary to, the approaches of others in this volume, these approaches suggest either bolstering the self (c.f. Cramer, this volume) or substituting alternative sources of self-worth for the competence contingencies that self-doubt threatens (c.f. Landau et. al, this volume).

Changing Beliefs about the Implications of Outcomes for the Self

The relationship between competence contingencies, self-doubt, and self-esteem suggests that anything that limits the negative implications of feedback for competence might attenuate the negative, self-worth damaging effects of self-doubt. Dweck's implicit theories of personality

and intelligence approach (e.g., Erdley & Dweck, 1993) offers one means to test this idea.

Dweck has shown that people differ in the degree to which they believe that their intelligence is fixed or malleable. Those who believe that intelligence is fixed, or entity theorists, are more likely to make trait attributions for behavior (e.g., Hong, 1994; Levy & Dweck, 1998), to believe that dispositional qualities are fixed across time and context (e.g., Chiu, Hong, & Dweck, 1997), and even to think that members of social groups share traits (e.g., Levy & Dweck, 1998). Those who believe that intelligence is malleable, known as incremental theorists, in many ways believe the opposite of entity theorists. Where entity theorists believe that intelligence does not change from one situation or from one day to the next, incremental theorists believe that different situations can lead to differences in intelligence. For instance, an incremental theorist would more easily accept a new co-worker's fluctuating (hopefully, monotonically upwards) competence level than an entity theorist. An incremental theorist also would more easily accept variations in attitudes and traits within social groups—believing that people will change as a result of their motivations and the situations they find themselves in.

These beliefs offer a way to test whether differences in perceptions of the implications of ability might be related to how self-doubt is associated with self-esteem. Based on our work with competence contingencies, we know that linking ability to self-worth is problematic when combined with self-doubt. Dweck's work indicates, however, that this linkage may vary according to the kind of implicit theory an individual holds. While entity theorists may be more likely to make ability attributions for behavioral outcomes and to believe that their abilities are fixed, incremental theorists are more likely to take into account situational factors when making performance attributions, and believe that their ability is malleable. It follows that entity theorists are more likely to believe that outcomes reflect their (relatively immutable) competence. We

know, for instance, that this is the case for failure outcomes (Henderson & Dweck, 1990). One implication is that failure outcomes are likely to have stronger implications for self-worth among entity than among incremental theorists.

Some evidence suggests that the above-described relationships have implications for those high in self-doubt. Rhodewalt (1994) has shown that self-handicapping is correlated with implicit theories of intelligence, such that those high in self-handicapping are likely to hold more entity-like theories, and Oleson et al. (2000) have noted the positive correlation between self-handicapping and self-doubt. Furthermore, Reich and Arkin (2006) have found that individuals who perceive that an evaluator has an entity theory of ability are more likely to experience self-doubt (see Reich & Arkin, this volume). If the effects of self-doubt on self-worth preserving strategies are mediated in part by implicit theories, it might be possible to modify implicit theories to lessen any negative impact of self-doubt. Incremental theories should result in fewer ability attributions, and if ability attributions are made, they should not as strongly depress self-worth. This follows from the incremental theorist's perspective, in which ability is malleable.

We conducted analyses to test whether targeting implicit theories of intelligence potentially could ameliorate some of the negative consequences of self-doubt. Specifically, in a large sample ($N = 1130$) we tested whether implicit theories would mediate some portion of the relationship between self-doubt and self-handicapping, using the Oleson et al. (2000) scale and Dweck, Chiu, & Hong's (1995) three-item measure of implicit theories. As expected, implicit theories significantly mediated (see Baron & Kenny, 1986; MacKinnon, Warsi, & Dwyer, 1995) the relationship between SD and SH. We caution that the absolute effect size was not large; the adjusted R-square for the entire equation, including implicit theories, predicting self-handicapping was .31. However, under certain conditions, modifying implicit theories of

intelligence or ability may be an important part of attenuating the consequences of self-doubt. It is conceivable that the mediating effects of implicit theories on other outcomes related to self-doubt, such as overachievement or procrastination, may be larger. Given existing research showing that implicit theories can be manipulated (e.g., Chiu, Hong, & Dweck, 1997; Niiya, Crocker, & Bartmess, 2004), shifting high self-doubt individuals toward more incremental theories may be beneficial. In a therapeutic context, incremental theories of ability might be induced by targeting those self-efficacy beliefs most specifically linked to a client's particular competence contingencies of self-worth. Indeed, rather than targeting implicit theories in general, emphasizing the malleability of specific competencies linked to self-worth may yield the best results (i.e. practically significant effects). Behavioral exercises to show clients that they objectively can improve their ability conceivably also could weaken the link between self-doubt and maladaptive coping strategies.

Application of Standard Therapeutic Techniques to Self-Doubt:

Cognitive Behavioral Therapy (CBT) offers another approach to reducing self-doubt. There are various forms of CBT. For purpose of illustration, we present a conceptually straightforward, early example from this family of therapeutic approaches. This approach is known as Rational Emotive Behavior Therapy (REBT; e.g., Ellis, 1958). REBT follows a model known as the ABC model. In the model, Adversities (A) lead to Consequences (C), that are mediated by Beliefs (B).

Consequences can take the form of affect, behavior, or cognition. Dysfunctional living is viewed as a consequence of irrational beliefs, which are defined as beliefs that keep people from achieving their basic goals and purposes (Dryden, 1984). Irrational beliefs lead to strong, unreasonable, undesirable reactions. The goal of REBT is to transform irrational beliefs into

rational ones that lead to healthy consequences. In the affective domain, such outcomes involve turning unhealthy negative emotions such as panic, self-pity, or depression into healthy ones, such as frustration, regret, or sorrow. Analogs of these different types of consequences exist in cognitive and behavioral domains as well.

According to REBT, there are three major types of irrational beliefs. The first type, most relevant to self-doubters, pins self-worth to good performance and approval by others. Although it is normal to attach importance to one's performance and to social approval, REBT points out that believing these things *must* be achieved is at the root of much anxiety and depression. Other classes of irrational beliefs have to do with believing that other people *must* treat one well, and that one's environment *must* be as one wishes it to be. Not surprisingly, when these "musts" are not fulfilled, people become disturbed.

REBT focuses on changing these absolute demands from *musts* to *preferences*. By changing absolute musts to desired preferences, outcome sensitivity should diminish, and the impact of competence contingencies on self-worth should be lessened. These goals could be achieved with standard REBT techniques, with the caveat that cognitive restructuring is difficult, and may be especially difficult for those high in self-doubt. High self-doubt is associated with a negative response to lack of structure (Oleson et. al, 2000), and substituting one type of cognitive structure for another via CBT may be especially difficult for the high self-doubt demographic.

To show how such CBT approaches might work in practice, we describe specific REBT techniques and show how they can be applied to self-doubt. There are four major standard techniques used in REBT to change, irrational beliefs. These are Functional Disputing, Empirical Disputing, Logical Disputing, and Philosophical Disputing.

Functional Disputing seeks to bring to the self-doubter's awareness the incompatibility of irrational beliefs with goals of feeling good about oneself. Beliefs such as "I must do well on my exam, or otherwise I'm a worthless person." Are questioned until the person realizes that such absolute musts lead to counterproductive tension.

In Empirical Disputing, the self-doubter is asked to take an evidence based approach to evaluating self-doubt related cognitions. For instance: "What is the concrete evidence that self-worth is determined by task success?" The goal with Empirical Disputing is to show the person that his or her beliefs do not hold up when subjected to reality-based testing, in the absence of overachievement or self-handicapping as masking strategies.

The third main disputing technique used in REBT appeals to logic. For instance "Does it follow that just because you would like to do well on your exam, and because you would feel good if you did, that you *must* without exception do well, and that you absolutely will be worthless if you fail?" The inferential leap between desires and preferences on the one hand, and absolute musts on the other, is highlighted.

Finally, Philosophical Disputing aims to illustrate for the self-doubter the limiting effect self-doubt has on his or her experience. If competence concerns are driving behavior, it is not immediately evident that pleasure and meaning can be found in other areas of life, such as in relationships. The goal of this technique is to show that even if one area of life does not go as desired, that there are many other ways to lead a satisfactory life. Together, it is hoped that these disputing techniques would work to break down the beliefs that lead to ineffective doubt-reducing behaviors such as self-handicapping and overachievement.

In addition to changing troublesome cognitions through argument and reframing exercises, another strategy in CBT is the use of behavioral experiments (e.g., Bennett-Levy et al.,

2004). These experiments can provide empirical evidence to refute maladaptive beliefs. This technique might be applied to reduce safety-seeking behaviors, with the ultimate consequence of reducing self-doubt through greater diagnostic information availability. For instance, a self-doubter with overachievement tendencies might be asked about the amount of preparatory reading she was doing for a term paper. Such questions might uncover the self-doubter's prediction that unless she read everything on the reading list, her paper would be inadequate, and she would fail. The experiment would test this prediction. After asking this person to prepare for the experiment by finding out from peers the amount of reading they did, this overachiever might experiment by reading the same number of references from the reading list as her peers did on average, and, to help reduce procrastination, she might write her term paper as if it were a rough draft. The consequence of such an experiment would likely be that the term paper would take less time than normal, and that the grade received would be acceptable, if not stellar. Such an outcome not only would demonstrate the lack of reality basis for the self-doubter's prediction, but also would provide an empirical disconfirmation of self-doubt related expectancies. A different type of experiment might be used for a self-handicapper. The self-handicapper typically acts in such a way so that task failure cannot be attributed to competence. Underlying beliefs presumably link low competence to low self-worth, and associated predictions might include expected social rejection if it became known that the self-handicapper had failed a task he had in fact tried very hard on. Again, the experiment would be designed to test this prediction. To prepare for the experiment, the self-handicapper might keep track of others' ability-relevant task failures, and record whether peers seemed to reject those whose ability was imperfect. For the experiment itself, the self-handicapper might include in an email to his instructor or supervisor a description of the considerable effort he had invested in the task. This way, task success would

be more likely to be attributed to ability. The likely outcome of such an experiment would not be social rejection, but rather a more productive discussion of corrective action in the face of failure, and ability-diagnostic praise in the case of success. Such behavioral experiments may offer the opportunity to short-circuit the doubt-maintaining effects of high self-doubter's safety behaviors.

Mindfulness Interventions:

In addition to these CBT-derived self-doubt reduction strategies, mindfulness exercises may have promise for self-doubt treatment (e.g., Baer, 2006). There are a variety of definitions of mindfulness (e.g., Kabat-Zinn, 1990; Langer, 2002). For the present purpose, mindfulness can be thought of as a way of directing attention to the present moment in a nonjudgmental, accepting way. Mindfulness practice is associated with openness to present experience, regardless of its perceived valence. A mindfulness-based approach might be especially useful to reduce any negative effects stemming from heightened expected outcome sensitivity.

There are an increasing number of mindfulness-based interventions that are being applied to treat psychological disturbance. These include mindfulness-based stress reduction (Kabat-Zinn, 1990), acceptance and commitment therapy (Hayes, Strosahl, & Wilson, 1999), and dialectical behavior therapy (Linehan, 1993). In the context of self-doubt reduction, mindfulness may work to draw awareness to the content of self-doubting thoughts, as well as increase awareness of beliefs linking self-worth to competence. One benefit of mindfulness is the openness with which even negatively-valenced thoughts can be engaged. That is, when a person is not being mindful, situational reminders of performance tasks might trigger over-learned self-handicapping or overachievement as an (ultimately unsuccessful) attempt to reduce anxiety. However, when the same person is mindful, not only is there greater awareness of the nature of

these thoughts and feelings, especially as they relate to irrational beliefs, but there should be opportunities to respond mindfully, as opposed to reacting mindlessly. A mindful response takes into consideration the nature of the situation, unprejudiced by one's own ego-involvement. Such effects should further work to reduce the association between self-doubt and ineffective safety-behaviors, such as self-handicapping. We currently are conducting research on this idea, and preliminary evidence, using a measure of trait mindfulness, indicates that participants higher in mindfulness, especially those who act with awareness and who are nonjudgmental of their experience, evidence less self-handicapping. Further, mindfulness partially mediates the relationship between self-doubt and self-handicapping. We now are attempting to extend this finding to an experimental context.

Conclusion

We have suggested characteristics of self-doubt that provide opportunities for self-doubt reduction. The existence of these characteristics was supported by data showing that competence contingencies are critical to understanding relationships between self-doubt and self-esteem, by data suggesting that self-doubt may be associated with heightened outcome sensitivity, and with relevant clinical research on the role of safety- or avoidance-behaviors in maintaining and creating maladaptive responses. We then suggested a number of different clinically-derived techniques to target these various characteristics of self-doubt. Specifically, to target the linkage of self-worth to competence concerns, we suggest modifying implicit theories in those areas where undesirable self-doubt related behaviors are occurring. We also suggest applying CBT techniques to attack faulty beliefs linking worth to competence. CBT might also be used to help high self-doubt clients deal with their heightened outcome sensitivities. To break the cycle of

safety behaviors maintaining self-doubt, we suggest behavioral experiments that selectively target these safety behaviors.

Topics such as procrastination, self-handicapping, and overachievement resonate widely among those who personally value their competence. When competence becomes too closely tied to perceptions of worth, self-doubt can become very damaging. In this chapter we suggest ways to deconstruct this link. By focusing on the dynamic interplay between self-doubt and self-worth, new opportunities for both treatment and research become clear.

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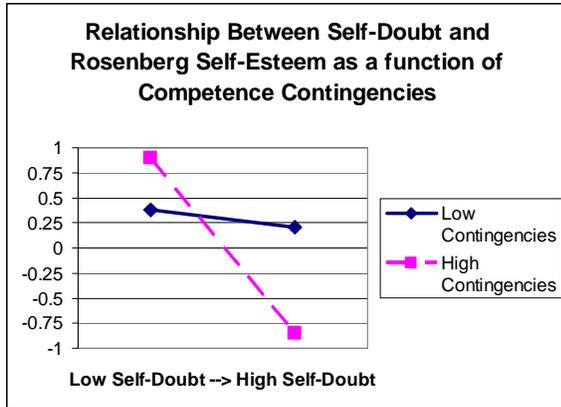
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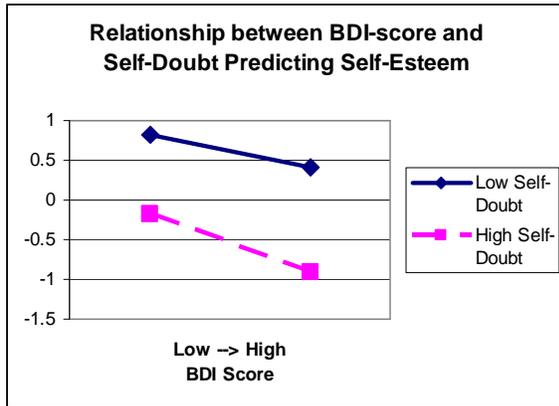
Figures

Figure 1. Relationship between self-doubt and self-esteem as a function of competence contingencies.

Figure 2. Relationships in 3 studies between expectancies and self-esteem as a function of self-doubt



Study 1



Study 2



Study 3

