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On the Confluence of Self-Esteem Maintenance Mechanisms

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A case is made for the substitutability of self-esteem regulation mechanisms such as cognitive dissonance reduction, self-affirmation, and social comparison. For example, a threat to self via cognitive dissonance might be reduced by a favorable social comparison outcome. To explain substitution, it is suggested that self-esteem regulation mechanisms inevitably produce affect and that affect mediates the completion of various self-esteem regulation processes. Substitution can be understood in terms of the transfer of affect from the initial mechanism to the substitute mechanism. To be effective, this transfer must take place without awareness. Also discussed is the substitution of self-esteem regulation mechanisms across different self-domains versus within a single self-domain. Current theory suggests that substitution might be more effective within domain; that is, it is better to bolster the aspect of self that has been threatened. It is suggested here, however, that substitution across self-domain might be relatively resilient and easier to accomplish.

This article is about mechanisms assumed to protect, augment, or maintain self-esteem. Much of the work on self-esteem regulation mechanisms is programmatic, but research programs seem to be developing independently around separate mechanisms. Herein I attempt to integrate some of the research on such mechanisms.

Background

Psychology has seen an explosion of research on the self in the last few decades. That explosion is easy to track objectively. Entering the word *self* into the PsychInfo search engine generated the data for Figure 1. I recorded the number of hits for every 5th year starting with 1970 and divided these numbers by the total number of publications for each year to correct for the growth in research in general. At least a couple of things are worth noting in this figure. First, research on the self is a growth industry. Compared to research in general, there has been a threefold increase in research

on the self in the last 30 years. Second, the absolute level of the research on the self is surprisingly high. In 1970, 1 out of 20 publications was relevant; now fully 1 out of 7 is relevant!

A big part of this explosive growth in self-related research has been the documentation of phenomena and the development of theories and models related to maintaining (i.e., augmenting, protecting, or repairing) self-esteem. Table 1 presents a “top of the head” listing of some of these entities. The list is not intended to be exhaustive. The table is intended to convey that (a) there are a lot of entries; (b) these entries are quite diverse in scope; and (c) these entries are all presumed, at

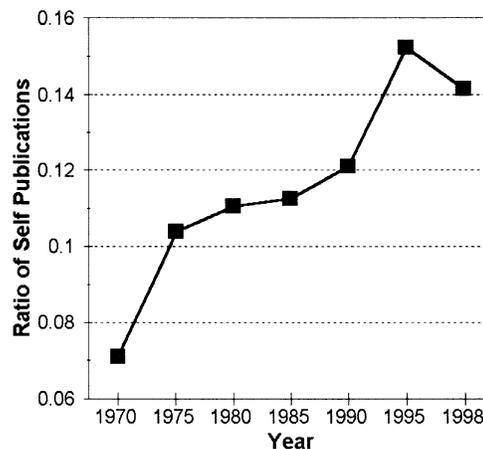


Figure 1. Proportion of “self”-related articles to total number of articles in PsychInfo for the years 1970–1998.

This article is based on an address given by Abraham Tesser at the Society for Experimental Social Psychology, Saint Louis, Missouri, October 1999.

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Work on this article was completed while Abraham Tesser was a visiting professor at The Ohio State University.

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Table 1. *A Small Sample of Theories, Hypotheses, and Phenomena Related to Maintaining (Augmenting or Repairing) Self-Esteem*

Sample
Cognitive Complexity
Denial
Dissonance Reduction
False Uniqueness Effect
Group Identity Theory
Other Derogation
Other Enhancement
Overachievement
Projection
Repression
Rationalization
“Revisionist Historian”
Self-Affirmation
Self-Deception
Self-Discrepancy Theory
Self-Doubt
Self-Expansion
Self-Handicapping
Self-Presentation
Self-Serving Attributions
Social Comparison
Sociometer Theory
Stereotyping
Symbolic Self-Completion Theory
Terror Management Theory

least by some experts, to be related to the maintenance of self-esteem. The entries in Table 1 are so numerous and so diverse that elsewhere I have referred to them as the “self-zoo” (Tesser, Martin, & Cornell, 1996). Some of these mechanisms are so different from one another that it is difficult to see how they possibly can be regulating the same, unitary thing. The differences and commonalities among such mechanisms are the subject of this article.

Theoretical Overview

Research reviewed and reported here suggests that many qualitatively different-looking self-esteem regulation mechanisms are substitutable for one another. For example, a threat to self-esteem via social comparison may be addressed by increased self-affirmation; bolstering self-esteem via favorable social comparison may decrease subsequent dissonance reduction. Despite the qualitative differences in these mechanisms, all have one crucial commonality: affect or arousal. Threats to self-esteem generate negative affect, and bolstering self-esteem generates positive affect. These changes in affect or arousal might be the key to substitutability.

Previous research has shown that arousal mediates many self-regulation processes such as cognitive dis-

sonance and social comparison. Previous research also shows that misattributed or transferred affect can impact these regulation mechanisms. I propose that substitution is driven by the affect generated by one self-regulation mechanism being transferred to the second self-regulation mechanism. Taking a cue from the misattribution work and recent work on automatic processes, it is also proposed that the transfer of affect must take place outside of awareness to be effective.

The affect transfer mechanism is indifferent to the specific self-domain content of the self-esteem regulation mechanisms that may substitute for one another. Current theory and common wisdom suggest, however, that bolstering an aspect of self that has been threatened may be better for maintaining self-esteem than bolstering an aspect of self that has not been threatened. This implies that substitution within a self-domain may be preferred and easier to accomplish than substitutions across self-domains. Although there is some evidence for this proposition, there is also evidence that substitutions within a single domain may be quite difficult. In this article I review research showing that substitution across different domains often is easier to accomplish than substitution within the same domain.

Three Self-Esteem Regulation Processes

The first column of Table 2 presents three generic self-esteem maintenance mechanisms. Many experts recognize social comparison as a mechanism by which self-esteem is affected. The social comparison perspective is quite broad and encompasses a number of viewpoints. The specific variant of this perspective that I focus on here is the self-evaluation maintenance (SEM) model. According to this model (e.g., Tesser, 1988), changes in self-evaluation are instigated by the outstanding performance of a close other. If that performance is on a dimension that is important to the self, then evaluation is threatened via comparison; if the performance is on an unimportant dimension, then evaluation may be augmented via “basking in reflected glory.” To augment self-esteem or to reduce a threat to self-esteem, individuals can change the importance of the comparison domain, reduce or increase their closeness to the comparison person, or attempt to alter the performance difference.

The process described by cognitive dissonance theory is also presumed to affect self-esteem, at least by some (e.g., E. Aronson, 1969; Greenwald & Ronis, 1978). The relevance of this mechanism to self-esteem is not without controversy (cf. Harmon-Jones & Mills, 1999). For the sake of argument, however, let us assume that the experience of cognitive dissonance is a threat to self-esteem. What instigates this threat? Often, it is

Table 2. *Some of the Diversity in Self-Esteem Maintenance Mechanisms*

Mechanism	Instigating Conditions	Resolution
Social Comparison (e.g., Self-Evaluation Maintenance Model)	A close other's better performance	Change importance of domain; reduce closeness; change relative performance
Cognitive Dissonance	Behavior follows from the obverse of belief	Usually, attitude change
Value Expression (e.g., Self-Affirmation)	Opportunity to express importance of value	Declare importance of value to self

“freely chosen” behavior that is inconsistent with one’s beliefs. Note how different this is from the SEM instigator. The SEM instigator is interpersonal, has little to do with inconsistency, and may not even be initiated by the actor. The dissonance instigator is intrapersonal, focuses on inconsistency, and is self-initiated.

One of the most frequently studied behaviors that will resolve a dissonance threat is attitude change in the direction of the behavior. This resolution is also quite different from the SEM resolution. Although change in importance is one mode of resolving SEM threats, the other modes are clearly interpersonal and have little if anything to do with attitude change.

A third mechanism for regulating self-esteem, value expression, has important roots in attitude change with the functional theorists (e.g., Katz, 1960; Smith, Bruner, & White, 1956), but here the focus is on Steele’s (e.g., 1988) notion of self-affirmation. This mechanism is also quite different from SEM and from dissonance: The locus of dissonance is the choice to behave inconsistently; value threat need not be self-initiated. The resolution of dissonance is usually attitude change; the resolution of self-affirmation is the declaration and maintenance of an important value.

Are These Sovereign, Independent Processes?

I have dwelled on the apparent differences among three well-known mechanisms by which self-esteem may be affected. Despite their diversity, however, the discipline’s collective wisdom in classifying each as a self-esteem maintenance mechanism implies that these mechanisms have something fundamental in common. They may indeed have something in common, but how do we know? Kurt Lewin (e.g., 1935) and his students, particularly Ovsiankina (1928), provided some guidance. Let us assume that people are motivated to maintain self-esteem; that is, there is a goal to maintain self-esteem. Lewin and Ovsiankina suggested that the substitutability of one activity for another provides information about the extent to which each activity serves the same goal.

If two behaviors serve the same goal, then these behaviors should be substitutable for one another. For example, suppose I have chosen to behave inconsistently. Now, I take the opportunity to affirm an important

value. If the dissonance associated with the inconsistent behavior “depletes” some resource related to Goal X and self-affirmation increases that same resource, the need to reduce dissonance (i.e., to change one’s attitude) should be reduced. If, however, self-affirmation produces resources related to Goal Y, then one would expect no impact on subsequent dissonance reduction. In general, then, it can be concluded that if instigating or resolving one mechanism affects the extent to which persons attempt to resolve a second mechanism, then both mechanisms must be linked to the same goal.

In 1983, Steele and Liu completed the study just described. They found that persons who experienced cognitive dissonance and affirmed themselves showed less dissonance reduction in the form of attitude change than did persons who experienced dissonance and did not affirm themselves. Self-affirmation seemed to substitute for dissonance reduction. This seminal demonstration, as important as it is, leaves a variety of questions unanswered. First, there is the question of generality. Will self-affirmation also substitute for the resolution of unfavorable social comparisons? Will favorable social comparisons substitute for dissonance reduction? There is also a question of symmetry: A demonstration that self-affirmation affects dissonance reduction does not necessarily imply that instigating dissonance will affect the tendency to self-affirm. If these questions of generality are resolved positively, there is the more interesting question of how these qualitatively different mechanisms communicate with one another. What precisely is the medium of exchange in the economics of self-esteem?

The Question of Generality

There is now a critical mass of studies showing that various self-esteem regulation mechanisms substitute for one another. Our first study (Tesser & Cornell, 1991) attempted to show that self-affirmation can substitute for social comparison. Participants reported to the experiment with a friend, and two pairs of friends participated in each session. Participants were told that each of them would have an opportunity to identify words from clues. Half of the participants were led to believe that performance on this task was related to important abilities, and half were led to believe that performance was unrelated to important abilities. Before

proceeding with the word task, participants in an affirmation condition responded to questions about an important value, and participants in a no-affirmation condition responded to questions about an unimportant value. Each participant then had an opportunity to identify a word from clues provided by the other participants. The SEM model suggests that being outperformed on a relevant (or important) task, particularly by a friend, would be threatening. Therefore, participants were expected to give harder clues to their friends than to strangers. On the other hand, being outperformed on a low-relevance task, particularly by a friend, would provide an opportunity to bask in reflected glory. Here participants would be expected to give easier clues to their friends than to strangers.

The results of this experiment are shown in Figure 2. As shown in the no-affirmation panel, the SEM prediction held quite well. When the word task was described as personally relevant, participants were kinder to strangers than they were to friends. When the word task was described as low in relevance, participants were kinder to friends than to strangers. The SEM effect is indexed by this interaction pattern. Clearly, self-affirmation reduces the SEM effect. The SEM signature interaction pattern disappears among self-affirming participants. It is particularly interesting that the pattern is destroyed by the change in one mean. With self-affirmation, high-relevance participants became kinder to their friends!

Steele and Liu (1983) showed that self-affirmation can substitute for dissonance reduction; the Tesser and Cornell (1991) study shows that self-affirmation also can reduce attempts to resolve threatening social comparisons. These demonstrations, however, do not nec-

essarily imply that it goes the other way as well. Whether dissonance or SEM processes impact the propensity to self-affirm is an empirical question. Several studies that address this question indicate that instigating dissonance or unfavorable social comparison does affect self-affirmation. One recently completed study (Tesser, Crepaz, Collins, Cornell, & Beach, 2000) shows that the instigation of cognitive dissonance impacts self-affirmation.

When participants reported to a "writing style" study, they were asked to rank order the personal importance of 18 values before writing about them. To manipulate dissonance, the experimenter then "remembered" another study. The administration of the university was thinking about initiating a senior thesis requirement, and they wanted written student input. In general, our student participants were against the idea of a senior thesis. High-dissonance participants had a "choice" to write either pro or con arguments. To get them to "choose" the dissonant option, they were told that the experimenter already had many arguments against the idea and that it would be "a really big favor" if they would write arguments in favor of the senior thesis. Low-dissonance participants were assigned to write in favor of a senior thesis. Participants were told that they would write the arguments after the value study.

Following the dissonance manipulation, participants were given an opportunity to affirm themselves by writing an essay about values. Affirmation can be thought of as becoming clearer about the self—that is, not only who we are but also who we are not. Therefore, half of the participants wrote about a value that they ranked as important, and half wrote about a value they had ranked as quite unimportant. After completing the value essays, participants were asked several questions intended to get at the extent to which the value reflected the self. For example, how important was the subject of the essay? Did the topic concern a central or peripheral part of the self? How good or bad did the student feel after writing the essay? Responses to these questions were combined into a single index.

If dissonance increases the propensity to self-affirm, one would expect to see a sharpening of self-values in the high-dissonance condition. Compared to the low-dissonance condition, the difference between one's important values and one's unimportant values should be greater. This interaction was significant. As shown in Figure 3, there was a clear sharpening in the value aspects of the self in the high-dissonance condition. In short, instigating cognitive dissonance impacts self-affirmation.

Self-affirmation has figured in all the studies discussed thus far. Perhaps self-affirmation is so important to defending the self that substitution is unlikely unless self-affirmation is somehow involved. This is not the

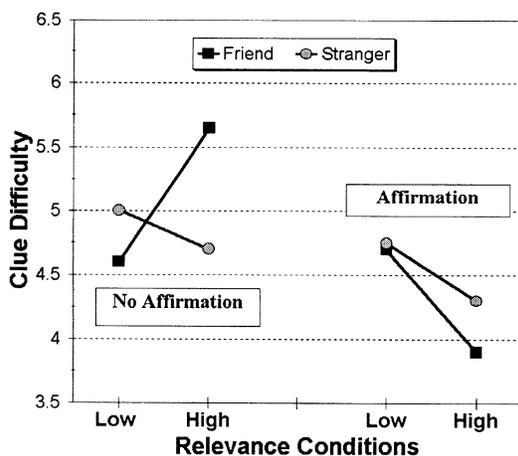


Figure 2. Difficulty of clues given to friends and strangers as a function of opportunity to self-affirm and relevance or personal importance of task to self-definition. Note. From "On the Confluence of Self-Processes," by A. Tesser and D. P. Cornell, 1991, *Journal of Experimental Social Psychology*, 27. Copyright 1991 by Academic Press. Reprinted with permission.

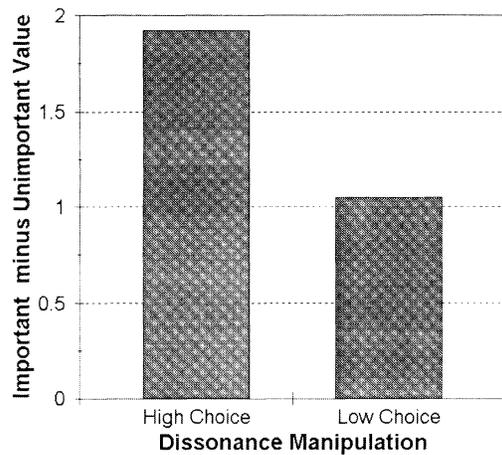


Figure 3. Specificity of value definition of self (defined as self-descriptiveness of important value minus self-descriptiveness of unimportant value) as a function of cognitive dissonance arousal. *Note.* From “Confluence of Self-Esteem Regulation Mechanisms: On Integrating the Self-Zoo,” by A. Tesser, N. Crepez, J. Collins, D. Cornell, and S. Beach, 2000, *Personality and Social Psychology Bulletin*. Copyright 2000 by Sage Publications. Adapted with permission.

case. The substitution of one mechanism for another works even when affirmation is not one of the mechanisms. A recent study (Tesser et al., 2000) explored the possibility that the instigation of dissonance will impact the engagement of social comparison processes.

The paradigm was similar to the study just described. When participants reported for a “writing study,” they learned that the university wanted to see student essays in favor of and opposed to initiating a senior thesis policy. In the high-dissonance condition, participants were induced to “choose” to write a dissonant essay; in the low-dissonance condition, they were assigned to write a dissonant essay. Before getting to the senior thesis essays, however, there was a self-evaluation maintenance manipulation. Participants were asked to write a story about a recent time when they engaged in a task with another person and the other person outperformed them. Participants assigned to the SEM reflection condition were instructed, “In this case, it was not important for you personally to do well at the task.” Participants in the SEM comparison condition were instructed, “In this case, it was very important for you personally to do well at the task.” All participants were instructed to recall the situation as vividly as possible and describe what they were thinking and feeling. After writing the SEM essay, participants filled out a questionnaire. Our major dependent variable was how closely they rated the person who had outperformed them.

The SEM prediction is straightforward. Being outperformed on an important or relevant task, particularly by a close other, is threatening. Therefore, participants in the comparison condition should reduce closeness to

the other. On the other hand, being outperformed on a low-relevance task, particularly by a close other, provides the potential for basking in reflected glory. Therefore, participants in the reflection condition should tend to increase closeness. Now, if cognitive dissonance impacts social comparison, one would expect the SEM predictions to be more strongly confirmed under high dissonance than under low dissonance.

The results are quite consistent with the idea that the instigation of cognitive dissonance can affect social comparison processes. As shown in Figure 4, the SEM prediction is supported more strongly among participants who are experiencing dissonance than among participants who are not experiencing dissonance. Dissonance increased closeness in the reflection condition and decreased closeness in the comparison condition. These are precisely the changes anticipated by the SEM model if the arousal of dissonance motivated individuals to increase self-evaluation. In short, the results provide additional evidence for substitution, and they do so even when self-affirmation is not involved.

These studies are not intended to cover comprehensively the domain of substitution studies but merely to give the reader a sample of what they are like. Our own studies were intended to follow up on Steele’s (1988) groundbreaking work. There is now at least some evidence that all of our exemplar self-regulation mechanisms reciprocally affect one another (Tesser et al., 2000). Self-affirmation affects social comparison and cognitive dissonance; instigating favorable and unfavorable social comparison situations affects self-affir-

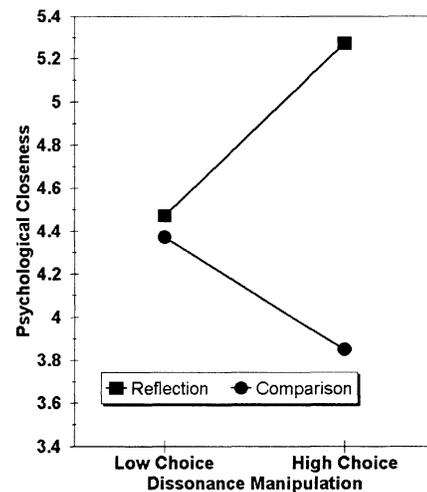


Figure 4. The effect of cognitive dissonance on the rated psychological closeness of another under conditions expected to increase closeness (reflection) and decrease closeness (comparison). *Note.* From “Confluence of Self-Esteem Regulation Mechanisms: On Integrating the Self-Zoo,” by A. Tesser, N. Crepez, J. Collins, D. Cornell, and S. Beach, 2000, *Personality and Social Psychology Bulletin*. Copyright 2000 by Sage Publications. Reprinted with permission.

mation and dissonance reduction, and instigating dissonance affects self-affirmation and social comparison. The strategy in carrying out this set of studies was to select a set of familiar mechanisms that were very different from one another and to explore systematically their substitutability for one another. Clearly, this work does not exhaust self-esteem regulation mechanisms (e.g., see Table 1), and there are many other examples of substitution in the literature (e.g., Beaugregard & Dunning, 1998; Fein & Spencer, 1997; Greenberg & Pyszczynski, 1985; Josephs, Markus, & Tafarodi, 1992; Ybarra, 1999). To be sure, substitutability is not always observed (e.g., Tesser & Moore, 1990). Indeed, some of those instances of nonsubstitutability are examined next. Nevertheless, the point here is that despite their substantial surface differences, at least under some circumstances, each of these processes seems to affect or regulate the same, unitary goal (i.e., self-esteem maintenance).

The Affect Hypothesis¹

How is substitution possible? How do these qualitatively different mechanisms communicate with one another? Despite their surface differences, there is an abstract sense in which all of these mechanisms are similar. All three of them can be construed as attempts to match behavior to a standard. In social comparison, the standard for our behavior is another person; in dissonance, the standard for behavior is our own beliefs. In self-affirmation, the standard is our values. A well-developed literature now exists concerning the antecedents and consequences of self-regulation (e.g., Carver & Scheier, 1999; Duval & Wicklund, 1972; Martin & Tesser, 1996; Vallacher & Wegner, 1987). Part of that story is affect. An inevitable consequence of attempts to regulate self-esteem is affect (Carver & Scheier, 1990; Hsee & Abelson, 1991). Successful attempts are associated with positive affect, and failed attempts are associated with negative affect. Indeed, recent research (Chartrand, 1999) suggests that even when behavior is relevant to a goal that is primed outside of conscious awareness, success and failure elicit positive and negative affect, respectively.

This theory posits that affect or arousal also mediates attempts to regulate self-esteem. It suggests that the common unit of exchange among various self-esteem mechanisms is affect. Here are some things that are known: All three mechanisms—dissonance (e.g., Fazio & Cooper, 1983), SEM (e.g., Tesser, Millar, & Moore, 1988), and self-affirmation (Koole, Smeets, van Knippenberg, & Dijksterhuis, 1999)—are associ-

ated with affect. Both the dissonance mechanism (e.g., Cooper & Fazio, 1984) and the SEM processes (e.g., Achee, Tesser, & Pilkington, 1994; Tesser, Pilkington, & McIntosh, 1989) are mediated by affect; that is, dissonance reduction and SEM behaviors do not manifest themselves in the absence of affect. Much of this research depends on a misattribution paradigm (e.g., Schachter, 1964; Zillman, 1983); that is, when arousal associated with dissonance or SEM is attributed to an irrelevant source, there is little in the way of dissonance reduction or SEM resolutions. Indeed, Arndt (1999) drafted a comprehensive review of studies of self-esteem regulation mechanisms that included physiological measures of affect. He concluded that self-esteem threats increase arousal and that physiological arousal plays a role in the unfolding of self-defense.

Another line of work is related to this argument. Several research programs have shown that positive affect may serve as a resource in a variety of contexts (e.g., Aspinwall, 1998). For example, persons in good moods may be able to confront or deal more openly with threats to the self (Trope & Pomerantz, 1998) or threats to health (Aspinwall & Taylor, 1997; Hobfall, 1989), or even to control subsequent negative emotion (Frederickson, 1998; Frederickson & Levenson, in press). Positive affect is a resource that can be used (“spent”) in self-regulation to deal with adversity. Indeed, in a partial replication of some of this substitution work, Simon, Greenberg, and Brehm (1995, Study 2) showed that positive mood appears to reduce dissonance reduction.

What about negative affect? Negative affect appears to mediate dissonance reduction (Higgins, Rhodewalt, & Zanna, 1979; Losch & Cacioppo, 1990). Such negative arousal may be misattributed or transferred from the original mechanism to the substitution mechanism (Zillman, 1983). At the same time, several theorists suggest that negative affect can signal danger to the individual (Schwarz, 1990) and can lead to vigilance (Gray, 1987; Mandler, 1984). Increased vigilance may make opportunities for substitution more salient. The affect associated with the original mechanism may be transferred to and serve as the mediator of the unfolding of the substitute mechanism.

Not everyone agrees that affect is the medium of communication among various self-regulation processes. Some investigators (Greenberg et al., 1990, 1992) have shown substitutability in qualitatively different systems. Questionnaire ratings of mood did not correlate with substitutability. In a study specifically designed to examine the mood mediational hypothesis, Steele, Spencer, and Lynch (1993, Study 3) manipulated mood before putting participants in a dissonant situation. Although the moods were quite different in the two conditions, there were no differences in dissonance reduction.

¹This section draws heavily on the discussion of affect in Tesser et al. (2000).

Awareness. The argument that affect is the currency underlying substitution depends on the transfer of affect from one mechanism to another. Such transfer depends, in turn, on individuals being unaware of their affective responses or unaware of the source of their affective responses. Thus, awareness (or lack of awareness) is crucial to the argument. The studies that fail to confirm the role of affect may use blatant affect manipulations (e.g., Steele et al., 1993, Study 3) or self-report questionnaires that call conscious attention to affect (e.g., Greenberg et al., 1990). It very well may be that for affect to play its role in substitution, the individual must be unaware of the affect or the source of the affect.

Several lines of work make this reconciliation plausible. Murphy and Zajonc (1993; Murphy, Monahan, & Zajonc, 1995) used subliminal primes to manipulate affect. Although participants were unaware of the primes, the manipulation had observable effects on the evaluation of other stimuli. Moreover, these effects disappeared under conditions where the participants were aware of the affective primes. Second, the demonstration of the mediating role of arousal in self-esteem mechanisms generally relies on a misattribution paradigm (Arndt, 1999). For misattribution to work, participants must be unaware of their arousal, or they must be unaware of the source of the arousal. Finally, the effect of priming moods on judgments shows that priming is most effective when the individual is unaware of the prime. It also shows that the impact of “irrelevant” feelings on a particular judgment is greatest when the individual is unaware of the locus of the feelings (see Schwarz & Clore, 1983, for a nice demonstration; see Bargh, 1992; Bless, *in press*; Clore, 1992; Martin & Achee, 1992, for reviews).

What is needed is a substitution study in which affect is measured indirectly or implicitly so as not to focus the participant's attention on his or her affective state. Studies by Koole et al. (1999) meet this need. These researchers had participants fail a so-called IQ test and observed the extent to which they ruminated about the test. To demonstrate substitutability, some participants were and some were not given an opportunity to self-affirm. Substitution was observed. Participants who self-affirmed ruminated about the IQ test less than did those who did not self-affirm. More crucial for present purposes was their measure of mood. Rather than using a self-report measure that would focus participants' attention on their mood, the researchers measured mood indirectly. Participants were asked to guess the meaning of a word that was exposed too briefly for them to consciously read. The target words actually were nonsense words, and the measure of affect was the number of positive mood words participants selected in guessing the meaning of the target words. As expected, more positive affect was associated with the self-affirmation condition. Moreover, a

correlation analysis confirmed the mediational role of positive affect. When the implicit positive mood associated with self-affirmation was controlled, the substitution of self-affirmation for rumination disappeared.

In sum, if affect is an active agent in the substitution of self-esteem regulation processes, then for it to be effective it must be a secret agent. Affect that is clearly identified with an original source may be difficult to transfer or to associate with a substitute mechanism.

The Domain Question

Substitution has been observed not only across processes, such as social comparison and cognitive dissonance, but across self-domains as well. For example, the dissonance issue in two studies concerned a senior thesis, whereas the self-affirmation value or the social comparison performance domain had little or nothing to do with a senior thesis. In some ways, this makes the observed substitution even more impressive; that is, there is substitution not only across different processes but across different domains as well. Happily, this double substitution, across mechanism and domain, is consistent with the affect hypothesis; the domain should not matter as long as affect is produced.

However, domain does matter. Defense is associated not only with affect but also with meaning. Defense mechanisms are about something, some issue or some aspect of the self. To better understand substitutions within the same domain and across different domains, it is useful to think of the self as an organized, hierarchical structure. The structure might have “good person” at the top, “competent” and “compassionate” in the middle, and a myriad of individual competent or compassionate behaviors at the bottom. A discrepancy in any of these identities is consequential to self-esteem, and the consequences become more severe at higher levels of identity. As Cooper (1999) argued, a discrepancy in one domain remains even if one has a positive self-regulation experience in another domain. This suggests that substitution will be facilitated if it reduces the original identity discrepancy or renders that identity less important. This also is the message inherent in some of our most powerful and comprehensive theories of self-regulation (Carver & Scheier, 1998; Hull, 1999; Vallacher & Wegner, 1987).

Indeed, there is evidence that people prefer to resolve threats within the same domain rather than across domains. For example, Stone, Wiegand, Cooper, and Aronson (1997) threatened the self-esteem of participants by making salient their hypocritical behavior in not using condoms. Such participants were more likely to contribute to an unrelated charity than controls. This is simply another demonstration of substitution. However, these substitutions took place only if participants

could not purchase condoms and directly rectify the original threat. In this study, participants preferred to rectify their discrepant behavior within the same domain rather than substitute across domains.

Despite its theoretical primacy, at least under some conditions, substitution within the same domain is actually less effective than substitution across domains. Substitution within the same domain may be difficult for at least two reasons. Substitute mechanisms in the same self-domain tend to make one another salient and thus reduce the potential of nonconscious transfer of affect. Also, the “fix” mechanism, by showing the self’s positive potential in that domain, might provide a contrast for the threat mechanism in the same domain, thus exacerbating the threat. These difficulties may be part of the reason that psychotherapy cannot proceed by simply and directly confronting the client with positive information about threatened aspects of self. Obviously, these concerns are less of an issue in substitution across domains.

Some experimental studies demonstrate the difficulties associated with substituting defense mechanisms within the same self-domain. For example, Blanton, Cooper, Skurnick, and Aronson (1997) manipulated choice in getting participants to agree to write an essay against increased funding for disabled students. After writing this dissonant essay, some participants received feedback that was self-affirming. In the “domain-different” condition, the feedback affirmed their creativity. As expected, there was substitution. Affirmed participants reduced dissonance less than controls. In the “domain-same” affirmation condition, participants who had just agreed to write an essay against funding for disabled students received feedback that affirmed their compassion. What would one expect? In general, an affirmation should reduce dissonance because, according to the affect hypothesis, it transfers positive affect. In this case, however, telling people about their compassion after they agreed to write an essay reducing funding for disabled students might have increased the discrepancy or the salience of the discrepancy, thereby increasing the negative affect associated with the dissonance. In this case, affirmation actually should increase rather than decrease dissonance reduction. This is what Blanton et al. (1997) observed. There is also evidence that persons tend to avoid information about their compassion under these circumstances (J. Aronson, Blanton, & Cooper, 1995).

A recent study by Arndt and Greenberg (1999) showed how bolstering in a particular domain can be undermined when the individual is threatened in the same domain. Participants either did or did not have their self-esteem bolstered. Bolstering consisted of positive feedback regarding the individual’s suitability for their college major or positive feedback regarding interpersonal relationships. Half of the participants

were then threatened by making thoughts of death salient. A typical response to mortality salience is derogation of persons who attack one’s cultural worldview. Participants were then given essays attacking an aspect of their cultural worldview, their school major.² Participants whose self-esteem was bolstered in a different domain (i.e., interpersonal relations) showed substitution. They derogated the essay writer no more than did nonthreatened control participants. On the other hand, participants whose self-esteem was bolstered in the same area as the threat, school major, were defensive. They derogated the essay writer more than did their interpersonal counterparts and more than did no-threat controls. In short, threat in the same domain seemed to undermine the bolstering effect or substitutability of the positive feedback.

Substitution of self-esteem regulation mechanisms within the same domain is sometimes more difficult than substitution across different domains. Theory is clear in pointing to the importance of repairing aspects of the self that are subjected to threat. Recognizing the importance of reducing the original discrepancy, however, does not imply that cross-domain substitution is merely a temporary fix. Although cross-domain substitution may not reduce the original discrepancy “objectively,” a variety of psychological mechanisms converge to increase the viability of cross-domain substitution. For example, direct and indirect evidence shows that substitution reduces the importance of the original discrepancy. For example, Hull (1999) reviewed evidence suggesting that the positive affect associated with substitution can reduce the perceived discrepancy in the original domain. The work on compensatory self-esteem (Baumeister & Jones, 1978; Boney-McCoy, Gibbons, & Gerrard, 1999; Brown & Smart, 1991; Greenberg & Pyszczynski, 1985; Wood, Giordano-Beech, & Ducharme, 1999) suggests that threat in one domain leads people to emphasize the importance of other, more positive self-domains. Indeed, Simon et al. (1995) found that self-affirmation in one domain tended to trivialize an unresolved dissonant act in another domain. Finally, the salience of the original discrepancy should be reduced relative to the substitute domain. With time and relatively little attention, memory for the original discrepancy might be expected to decay (Hull, 1999).

In sum, self-domain similarity seems to make a difference in facilitating substitutability. There are some theo-

²There was also a set of conditions in which the essays attacked the United States. In this case, both the school major bolstering and the interpersonal bolstering are in different self-domains from the United States. In both conditions, substitution was observed. Persons threatened by mortality salience who had their self-esteem bolstered showed less defensiveness than persons threatened by mortality salience who did not have their self-esteem bolstered.

retical reasons for expecting substitution of one mechanism for another to be easier and more effective within the same domain. However, such substitutions are sometimes difficult to accomplish. Substitutions across domains are often easier to accomplish and may produce more resiliency in self-esteem than initially thought.

Conclusions

Research on the self has been a growth industry over the last 30 years. This research has spawned a multitude of self-esteem regulation mechanisms, which tend to be studied in isolation. In an attempt to integrate some of this work, I have presented evidence indicating that at least some of these mechanisms are substitutable for one another. An accumulation of studies in the self-domain suggests that affect is a plausible candidate for understanding some aspects of substitution. Recent work points to the issue of domain similarity in facilitating substitution. It is suggested that substitution across different self-domains often may be resilient and easier to accomplish than substitution within the same self-domain. There is still much to be done to validate this line of theorizing. However, an integrated theory of self-esteem regulation seems worth the effort.

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