

CHAPTER 3

Behavioral Discrepancies and the Role of Construal Processes in Cognitive Dissonance

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Over 40 years ago, Leon Festinger (1957) introduced the theory of Cognitive Dissonance, a rich and fascinating theoretical framework about the interplay between behavior, cognition and motivation. Festinger's original views and initial research on cognitive dissonance predate what many seem to recognize as the formal introduction of social cognition into the field during the 1970s (e.g., Markus & Zajonc, 1985; Wyer & Srull, 1989; Fiske & Taylor, 1991). Nevertheless, Festinger made several assumptions about the cognitive processes that underlie dissonance phenomena. For example, in his discussion of dissonance arousal, he made assumptions concerning the cognitive representation of information in memory, the accessibility of cognitions about behavior and belief, the perceived "fit" between these cognitions, the computation of a ratio of consistent to inconsistent cognitions, and the assessment of the relevance (i.e., applicability) and importance of the cognitions in the ratio. Festinger (1957) predicted that when these processes led to the perception of more dissonant than consonant cognitions, a negative drive state would be aroused, and people would become motivated to reduce the arousal. Dissonance reduction, in turn, could be accomplished by altering the cognitions in the dissonance ratio so that there were more consonant than dissonant relations among the elements. Thus, Festinger relied heavily on assumptions about representation and process to help dissonance theory's novel and important predictions about social behavior.

Contemporary researchers continue to investigate dissonance phenomena, in part because many of the original assumptions about the process of dissonance arousal and reduction are the focus of considerable theoretical and empirical controversy in the field. The decades of research have produced a number of revisions to Festinger's (1957) emphasis on psychological consistency, each of which makes specific assumptions about the cognitive mechanisms that arouse and reduce cognitive dissonance (e.g., see Harmon-Jones & Mills, 1999). The various perspectives disagree over several theoretical issues, including whether aversive behavioral consequences are necessary for dissonance to be aroused (see Scher & Cooper, 1989; Thibodeau

& Aronson, 1992; Harmon-Jones, Brehm, Greenberg, Simon, & Nelson, 1996) and how individual differences such as self-esteem moderate dissonance motivation (Thibodeau & Aronson, 1992; Spencer, Josephs, & Steele, 1993). The debate among the various perspectives has inspired new research (e.g., Hypocrisy, see Stone, Aronson, Crain, Winslow, & Fried, 1994; Trivialization, see Simon, Greenberg, & Brehm, 1995), but there currently is very little agreement about the cognitive processes that underlie dissonance motivation.

This chapter will review the historical debate over the proper interpretation of dissonance phenomena with an eye toward how the various theoretical perspectives have treated the role of social cognition in dissonance arousal and reduction. It will then present a new process model of dissonance that was designed to synthesize the various perspectives. The goal of the new model is to highlight a cognitive process that plays an important role in how dissonance is aroused and subsequently reduced. Specifically, it will be argued that dissonance begins when people commit a behavior and then interpret and evaluate the meaning of what they have done. The key to understanding which motivational state follows from the assessment of behavior lies in the type of attributes and standards people rely on to evaluate the "quality" or "appropriateness" of their behavior. By focusing on the way in which people construe action, it becomes possible to predict the conditions under which behavioral discrepancies create the different motivational states specified by the various perspectives on cognitive dissonance.

Looking Back: The Early History of Social Cognition in Cognitive Dissonance Theory

Few ideas in social psychology have generated as much theoretical and empirical interest as the theory of cognitive dissonance (Festinger, 1957). The premise of the original theory was elegantly simple: inconsistency between two cognitions causes an aversive drive state similar to hunger or thirst. Festinger (1957) theorized that, like other drive states, people are motivated to reduce the discomfort associated with

dissonance. However, in the case of dissonance, Festinger posited that people are motivated to restore consistency among the discrepant cognitions in order to reduce their discomfort.

At the time dissonance theory was published, psychological consistency was a ubiquitous theme in social psychology (Heider, 1946; Osgood and Tannenbaum, 1955). Festinger conceptualized the motivation for psychological consistency as stemming from the need for accurate knowledge about what he called "reality." In a previously unpublished early draft of dissonance theory (in Harmon-Jones & Mills, 1999), Festinger proposed that people form cognitions in two ways: directly from their own experience and indirectly from communication with others. The impact of direct and indirect experience would exert pressure on the cognitions to conform to the experience:

In other words, there will be forces acting on the person to have his cognition correspond to reality as he experiences it. The result of this will be that, in general, persons will have a correct picture of the world around them in which they live. This is, of course, not surprising since the organism would have a hard time surviving if this were not the case. (Festinger, 1999, p. 356)

Festinger (1957; 1999) proposed that elements of cognition, such as attitudes, beliefs, values, and feelings typically reflect what a person actually does or feels, or they reflect what actually exists in the environment. In some situations, a person's reality may be what other people think or do; in other circumstances, reality may be what is experientially encountered or it may be what a person is told by others. Thus, Festinger appeared to assume that the motive for consistency among cognitions stemmed from a basic desire for a coherent and meaningful set of connections between oneself, other people, and the events in one's experience.

Of course, Festinger was not interested in the "equilibrium" (as he called it) that people experience when in a state of "consonance" or consistency among cognitions. He was more interested in what happens when there is inconsistency between cognitions. He argued that people often have cognitive elements that deviate "markedly" from reality, such as when people conduct a novel behavior, learn new information, or are misled by others. When this

is the case, he proposed that "the reality which impinges on a person will exert pressures in the direction of bringing the appropriate cognitive elements into correspondence with that reality." (1957, p. 11). This pressure he called "Cognitive Dissonance."

In discussing the reduction of cognitive dissonance, Festinger (1957) talked in depth about the process of cognitive or behavior change that was necessary to restore psychological consistency. A complete discussion of his views on dissonance reduction is beyond the scope of this chapter; nevertheless, according to Festinger, the first and foremost determinant of how people chose to reduce dissonance is the responsiveness of these elements to reality. Whereas Festinger believed that people were capable of self-serving distortions of reality δ take the smoker, for example δ he stressed that cognitive or behavior change had to mirror social and physical reality for either to reduce dissonance effectively. The overall picture painted by Festinger of the dissonance-plagued individual was that of a vigilant information processor, one who must seek a careful balance between physical and social reality on the one hand, and the need to reduce an unpleasant state of arousal on the other.

The original theory of cognitive dissonance was broad in scope, encompassing just about any type of cognitive inconsistency, but history suggests that Festinger was very interested in inconsistency between behavior and cognition. He noted in his early draft (1999) that whereas cognition certainly dictates behavior, because there is a "general tendency to make one's cognition and one's behavior consonant," behavior often "steers" cognition (1999, p. 358). His interest in how behavior might influence cognition is reflected in the fact that most of the original experimental research on cognitive dissonance examined an inconsistency between behavior and a specific attitude or belief (e.g., Festinger & Carlsmith, 1959; Aronson & Mills, 1959).

Take for example one of the original experimental tests of dissonance theory δ the Festinger and Carlsmith (1959) forced compliance experiment. In that experiment, participants first completed a very boring experimental task. Then, through an ingenious ruse, the experimenter asked participants if they would be willing to tell a waiting accomplice that the task

was actually fun and interesting. It presented those who agreed with an inconsistency between their perception of reality (that the task was very boring) and their behavior (telling someone that the task was fun and interesting). The key manipulation in this study, however, was the amount of external incentive participants were offered for telling the lie about the task. Festinger and Carlsmith predicted that when participants were offered \$20 to tell the waiting accomplice that the task was enjoyable, no dissonance would be aroused, because saying something that was not true would be consistent with being paid handsomely for it. In contrast, when participants were offered only \$1 to stretch the truth about the task, Festinger and Carlsmith predicted that dissonance would be aroused because in this case, there is no clear external justification or explanation for their distortion of reality. As a result, participants would be motivated to restore consistency between their behavior and beliefs. The data showed that, when the incentive for being untruthful to the waiting confederate was low, participants changed their attitudes about the task to bring them into line with their behavior. Consistent with what they had told the person who was waiting, participants came to believe that the task was fun and enjoyable. Also as predicted, those paid \$20 did not alter their perception of how boring the task had been; high incentive or reward did not produce liking for the task. Thus, as predicted by dissonance theory, people would restore cognitive consistency when they acted in a way that was discrepant from their perceptions of reality.

The Festinger and Carlsmith (1959) experiment proved to be more than just an intriguing finding; it inspired hundreds of experiments that helped to distinguish social psychology from previous schools of thought about human behavior. At the time dissonance theory was published, the most dominant view of human behavior in psychology derived from learning theory, and psychologists were attempting to explain most human actions in terms of reinforcement contingencies. Dissonance theory made an impact because it was able to account for human behavior in situations where the relevant contingencies were supposedly not capable of eliciting behavior. Other early research designed to investigate the unique predictions made by dissonance theory revealed that

people can bolster their religious beliefs in the face of disconfirming evidence (Festinger, Schacter & Rieken, 1956), increase the value of items because they were difficult to select (Brehm, 1956), dislike others more after causing them harm (Davis & Jones, 1960), and enhance their attraction to other people for whom they have suffered (Aronson & Mills, 1959). The framework provided by dissonance theory was able to pull together a number of seemingly unrelated and perplexing social phenomena, and at the same time, it showed that human beings are thinking, active participants in their environments, and not simply the passive recipients of contingencies from the social context.

However, at the same time dissonance theory was carving out new territory for the field of social psychology, researchers began to raise important questions about the basic assumptions of the original theory. One serious ambiguity in the theory concerned the precise nature of the cognitions underlying cognitive dissonance effects. Festinger (1957) focused primarily on inconsistencies that involved behavior without making a specific statement about the types of attitudes or beliefs that are relevant or important in a given situation. Aronson (1992) mused that this was an important problem with the theory from the outset, as even Festinger's students often had to ask Leon which cognitions would be inconsistent when applying the theory's predictions to a novel phenomena.

It was not long before the ambiguity about the cognitions responsible for dissonance led to several attempts to revise the original theory. One of the first revisions was offered by Aronson (1968; Aronson & Carlsmith, 1962) who argued that dissonance invariably involves a discrepancy between behavior and cognitions about the self. Specifically, Aronson argued that dissonance is a function of discrepancies between behavior and self-expectancies for competent and moral behavior. He predicted that people who hold positive expectancies for competent and moral behavior (e.g., people with high self-esteem) are likely to experience dissonance following behavior such as lying or poor decision making. However, people who do not expect to behave in a competent or moral fashion (e.g., people with low self-esteem) would not experience dissonance following an incompetent or immoral behavior (e.g., Aronson & Carlsmith, 1962). Aronson's focus on cognitions

about the self redefined dissonance motivation as stemming from a specific need for "self-consistency." Following this and other revisions (e.g., Brehm & Cohen, 1962), much of the research on dissonance in the 1960s focused on uncovering the situational antecedents that were necessary for dissonance to motivate attitude change (e.g., perceptions of choice, Linder, Cooper, & Jones, 1967), as well as expanding the theory into new domains (e.g., attraction, Darley & Berscheid, 1967) and wrestling with alternative accounts of the motivational basis of dissonance (e.g., self-perception theory, Bem, 1965).

When social psychology began to turn toward questions about cognitive representation and process in the early 1970s, cognitive dissonance researchers followed suit. One important advance was the introduction of attribution principles into the process of dissonance arousal and reduction. The discovery that people could misattribute dissonance arousal to another source (Zanna & Cooper, 1974) and that attributions about personal responsibility for behavior moderate attitude change (Cooper, 1971; Wicklund & Brehm, 1976) represent two such applications. Another major advance made during the 1970s was the demonstration of the affective component of cognitive dissonance, including evidence that dissonance operates like an arousal state (Pallak & Pittman, 1972) which is necessary for dissonance-induced attitude change to occur (Cooper, Zanna, & Taves, 1978). As with other areas of theory and research in social psychology, the rise of social cognition had an important impact on the evolution of cognitive dissonance theory.

According to some in the field, interest in cognitive dissonance theory lost its steam by the early 1980s (e.g., Ableson, 1983). Explanations range from the hypothesis that the "cold," information processing emphasis of social cognition had so dominated the field that few young researchers were interested in "hot" motivational theories (Markus & Zajonc, 1985; Berkowitz & Devine, 1989), to the problems associated with the use of deception and high-impact experimentation common in dissonance experiments (Aronson, 1992). But the idea that dissonance theory lost favor in the field overlooks some very important advances made during the 1980s, two of which involved the application of social cognition to understand the

processes underlying dissonance arousal and reduction. If interest in dissonance had waned, Cooper and Fazio's (1984) "New Look" at dissonance and Steele's (1988) theory of self-affirmation certainly revitalized theoretical and empirical intrigue in dissonance phenomena.

Cognitive Processes in Dissonance Arousal: The Aversive Consequences Model

In their review of the literature, Cooper and Fazio (1984) concluded that dissonance did not appear to have anything to do with psychological consistency, as the evidence gathered over the previous 20 years indicated that attitude change did not always occur when behavior and belief were inconsistent. They also proposed that the evidence supporting a role for cognitions about the self was equivocal; Cooper and Fazio argued that whereas the findings concerning self-consistency (Aronson & Carlsmith, 1962) and self-esteem effects were provocative, "... each (perspective) probably has not addressed sufficient data to be a complete theory of the causes of cognitive dissonance" (1984, p. 232). From their perspective, Cooper and Fazio (1984) concluded that the relevant data, based mostly on research in the force compliance (or counter-attitudinal) paradigm, indicated that dissonance occurs when people take personal responsibility for having committed a behavior that produced an aversive outcome. The motivation to justify behavior through attitude change only operates when people perceive that their behavior has created an unwanted or aversive outcome or product.

In detailing the cognitive processes that underlie dissonance, Cooper and Fazio (1984) proposed a sequential model by which dissonance is aroused and subsequently reduced. In the model, dissonance arousal begins when people engage in a behavior and then immediately assess the consequences of their behavior. The information used to assess the consequences of behavior includes where the outcome falls in relation to latitudes of acceptance, and whether the consequences are revocable. Only when the behavioral consequences are perceived to fall outside of the latitudes of acceptance and are perceived to be irrevocable do people conclude that the behavioral outcome is aversive or unwanted. At this point people proceed to the

next step which involves the attributional search for responsibility.

Responsibility for the aversive behavioral outcome is determined by evaluating two pieces of information: choice and foreseeability. Responsibility for the aversive consequence is high if people perceive that they acted under their own volition; if volition is perceived to be low, then they conclude that they had no responsibility for the act despite having committed it. In addition, people determine whether or not they could have foreseen the outcome, either at the time they conducted the act or when they reflect back on what they have done. If they conclude that they could not have foreseen the negative consequences of their behavior, then they do not perceive responsibility for the outcome. If both choice and foreseeability for the behavioral outcome are perceived to be high, then people accept responsibility for the behavioral outcome. According to the model, the acceptance of responsibility causes dissonance arousal.

How people interpret the arousal, however, is a critical determinant of the nature of dissonance motivation. Cooper and Fazio (1984) suggested that the initial arousal that arises from acceptance of responsibility for an aversive outcome is general and undifferentiated. Consistent with the two factor theory of emotion (Schacter & Singer, 1962), interpretation of the arousal is dependent upon cues in the context. For dissonance arousal to motivate cognitive or behavior change, it must be interpreted as a negative psychological state (e.g., psychological discomfort, Elliot & Devine, 1994). Otherwise, if people label the arousal as positive, or label it as negative but attribute it to another source, the arousal will not cause the motivation that precipitates cognitive or behavior change. Evidence for these suppositions come from several lines of research, including the use of the misattribution paradigm, which has demonstrated that people are capable of misattributing the arousal caused by their behavior to other internal sources, such as to a pill they believe is arousing (Zanna & Cooper, 1974), or to external sources, such as a booth said to create feelings of claustrophobia (Fazio, Zanna, & Cooper, 1977). It has also been shown that people can interpret the arousal state as positive when humor or other cues associated with pleasant states are present (e.g., Cooper, Fazio, & Rhodewalt, 1978; Rhodewalt & Comer, 1979).

dewalt, 1978; Rhodewalt & Comer, 1979).

According to the Cooper and Fazio (1984) model, once labeled negatively and attributed to the actor, dissonance arousal becomes dissonance motivation δ the pressure to alter one's perception of the behavioral outcome. If the consequences of a counter-attitudinal behavior are irrevocable, Cooper and Fazio proposed that people are motivated to change their attitude about the outcome to convince themselves that it was not as aversive as initially perceived. The motivation to reduce dissonance, then, lies squarely in the service of rendering the consequences of behavior as nonaversive.

Limitations to the Processes Specified by the Aversive Consequences Model

Several researchers criticized the aversive consequences attributional model for presenting an overly narrow picture of cognitive dissonance phenomena (e.g., Berkowitz & Devine, 1989; Thibodeau & Aronson, 1992; see Aronson, 1992). The model also inspired new empirical work on dissonance, some of which was designed specifically to test the necessity of aversive consequences for arousing cognitive dissonance. Two findings, in particular, raise questions about the aversive consequences process model: there is evidence suggesting that cognitions about the self play an important role in dissonance processes, and there is evidence that aversive consequences may not be necessary for dissonance arousal to occur.

First, a number of studies show that cognitions about the self can moderate dissonance processes. For example, Aronson and Carlsmith (1962) showed that people with negative self-expectancies would not experience dissonance following an unwanted test performance, which was later shown to be moderated by how certain people are of a negative self-view (Maracek & Mettee, 1972). More recently, Steele, Spencer, and Lynch (1993) reported that when primed to think about self-attributes before making a difficult decision, people with high self-esteem did not change their attitudes to justify their decision, while those with low self-esteem showed significant post-decision justification. Similarly, Prislun and Poole (1996) showed that people with high and moderate self-esteem reacted differently to the negative consequences of making a counter-attitudinal advocacy. Although self-concept effects have been difficult

to replicate (e.g., Ward & Sandvold, 1963; Cooper & Duncan, 1971), there is enough past (e.g., Glass, 1964) and present (e.g., Stone, 1999) evidence to suggest that there may be conditions under which idiosyncratic cognitions about the self operate in dissonance processes.

Secondly, two contemporary lines of research suggest an aversive negative product for behavior is not necessary for dissonance to be aroused. One challenge comes from the work on hypocrisy (e.g., Aronson, Fried, & Stone, 1991; see Aronson, 1992). Hypocrisy was operationalized as a situation in which people make a pro-attitudinal statement about the importance of performing a specific pro-social behavior, such as the use of condoms to prevent AIDS (Stone et al., 1994), conserving water during a drought (Dickerson et al., 1992) or recycling (Fried & Aronson, 1995). By itself, the pro-attitudinal statement does not arouse dissonance because it is neither inconsistent with one's beliefs nor capable of producing an aversive outcome. However, dissonance can occur when participants are then made mindful of the fact that they, themselves, do not perform the behavior they have advocated to others. The discrepancy between behavior and belief, as in the classic dissonance paradigms, is predicted to arouse dissonance, and as a result, participants become motivated to "practice what they preached" (e.g., take shorter showers, Dickerson et al., 1992; purchase condoms, Stone et al., 1994), even when other strategies for dissonance reduction are available (e.g., Stone et al., 1997). The hypocrisy paradigm raises questions about the necessity of aversive consequences for dissonance arousal because participants persuade someone else to perform a positive, prosocial behavior, only to be made aware later that they themselves do not take their own good advice. It suggests that it is not necessary to produce a negative outcome to another individual for dissonance to be aroused.

A more direct challenge to the necessity of aversive consequences was introduced in a paper by Harmon-Jones et al. (1996) in which aversive outcomes were manipulated independently of attitude-discrepant behavior. For example, in one representative study, participants wrote an essay, under conditions of high or low choice, in which they proposed that a foul tasting beverage ♂ Kool-Aid mixed with vinegar ♂ was enjoyable and refreshing. They were then told to discard

their essay in the trash, eliminating any consequence for having written the essay. The results showed that despite the absence of an aversive consequence for having written the essay (i.e., there was no "product" for their behavior), participants in the high choice condition showed significantly more favorable attitudes toward the foul-tasting beverage compared to those who wrote the essay under conditions of low choice. Harmon-Jones et al (1996) concluded that while aversive consequences are sufficient to arouse dissonance, they are not necessary; the only necessary condition for the arousal of cognitive dissonance is psychological inconsistency (Festinger, 1957).

Together, the evidence for self-concept differences, and that dissonance may be present in the absence of a negative behavioral outcome, suggest that the aversive consequences model does not provide a comprehensive understanding of the dissonance arousal process. It does not help us understand how dissonance can be aroused in the absence of an aversive outcome for behavior or for how dissonance can be aroused for some people but not others when all have performed the same discrepant act.

Cognitive Processes in Dissonance Reduction: Self-Affirmation Effects

One important advance in theory about dissonance reduction processes emerged from research on the theory of self-affirmation (Steele, 1988). Steele (1988) proposed that dissonance experiments, like the Festinger and Carlsmith (1959) procedure, typically induce research participants to engage in actions that pose a threat to the integrity of their self-belief system. One way to restore the integrity of the self-system is to eliminate the discrepancy by changing relevant attitudes or beliefs. But according to self-affirmation theory, dissonance reduction through attitude or behavior change is just one way people go about the business of maintaining the integrity of their globally positive self-concept. Under some conditions, justification or rationalization may not be the most efficient or desirable route for reducing dissonance.

According to the theory (Steele, 1988), the primary goal of dissonance reduction is aimed at restoring the positive integrity of the entire self-system. As a result, any thought or action

that restores the integrity of the self is sufficient for dissonance reduction. The novel prediction made by self-affirmation is that if a person can call upon other positive aspects of his or her self-concept when threatened, dissonance will be reduced without having to confront the issue that caused the threat in the first place. To use the famous example of the smoker first used by Festinger (1957), the person who smokes despite his or her knowledge of the dangers of smoking experiences an attack on his or her positive self-integrity. The smoker's dilemma can be resolved by recalling or focusing on other aspects of the self that are highly regarded: "I may smoke," the smoker may reason, "but I am one heck of a parent, athlete, and lover!" By bringing to mind other cherished aspects of the self, the smoker can reduce dissonance without having to change the cognitions relevant to his or her discrepant behavior.

A number of studies show that the accessibility of positive self-attributes can attenuate changing one of the discrepant cognitions following the arousal of dissonance. As one example, Steele and Lui (1983) induced dissonance through counter-attitudinal behavior and then had half the participants, who had rated themselves during a pretest as having strong socio-political values, complete a scale measuring socio-political values prior to completing a measure of their attitudes toward their discrepant behavior. The data showed that dissonance-induced attitude change was eliminated when participants with strong socio-political values were allowed to "re-affirm" those values by completing the socio-political survey before their attitudes were assessed. Participants who were not value-oriented, or who did not complete the socio-political value measure after writing the essay, reduced dissonance by changing their attitudes. The attenuating effect on dissonance reduction of priming self-attributes indicates that people do not necessarily need to confront the discrepant cognitions directly following a discrepant behavior; if other positive self-attributes are somehow brought to mind following a discrepant act, dissonance will be reduced without justification of the act.

A further tenet of self-affirmation theory concerns the dispositional availability of positive self-attributes. For self-relevant thought to attenuate attitude or behavior change, people

must think about more positive than negative self-attributes following a discrepant act. People with high self-esteem presumably have more positive attributes available for affirmation compared to people with low self-esteem. Therefore, affirmation of the self should be more available and more efficient for people with high compared to low self-esteem. Steele and his colleagues (Steele et al., 1993) tested this prediction in an experiment in which participants with high or low SE participated in the free choice paradigm originally reported by Brehm (1956). In Brehm's study, female participants were allowed to make a choice between two household appliances they had rated previously as equally attractive. After they made their difficult decision, when asked to re-rate the attractiveness of the items, participants rated the chosen alternative as more desirable whereas the unchosen alternative was rated as less desirable than before the decision. According to Brehm (1956), the potential inconsistency introduced by choosing one desirable alternative over another desirable alternative aroused dissonance, which was then reduced by altering perceptions of the desirability of the two alternatives after the difficult choice.

In the contemporary version of the free choice paradigm by Steele et al. (1993, experiment 2), participants were asked to choose between two desirable compact disks. To test the use of self-attributes for dissonance reduction, for some of the participants, self-attributes were primed when they completed the Rosenberg self-esteem scale (1979) before making their decision; the other participants made their decision without having their self-attributes primed. The results showed that when self-attributes were primed before the dissonant act, participants with high SE did not change their ratings of the alternatives, whereas participants with low SE showed significant decision justifying change in their ratings of the alternatives. In the no-prime control, both self-esteem groups showed similar levels of significant post-decision justification. Note that the Steele et al. (1993) pattern of self-esteem differences in dissonance reduction are exactly opposite what is predicted by the self-consistency revision of dissonance theory (i.e., people with high self-esteem should show more dissonance reduction than people with low self-esteem, see Thibodeau & Aronson, 1992).

In sum, self-affirmation theory (Steele, 1988) proposes that the reason people change their discrepant attitudes or behavior is because these options for dissonance reduction are the only ones provided by the experimenter. If alternate strategies for affirming the self are provided, self-affirmation theory predicts that participants will use the strategy that most fully restores the integrity of the self, even when it has little to do with the behavior that caused the dissonance in the first place. By showing that people may have some flexibility about how they reduce dissonance, the self-affirmation perspective seriously questions whether dissonance induces a motive to restore consistency or reduce the perception of aversiveness following a discrepant behavior.

Limitations to Self-Affirmation Processes

Other research, however, indicates that there are important limitations to how and when people can rely upon the accessibility of positive self-attributes to avoid changing cognitions associated with a discrepant act. One qualification was published in papers by J. Aronson, Blanton, and Cooper (1995) and by Blanton, Cooper, Skurnik, and J. Aronson (1998). In the J. Aronson et al. (1995) research, participants completed an attitude-discrepant essay writing task in which they argued to reduce funding for handicapped services. Participants were then allowed to read the results of a personality test that they had completed prior to their participation. Specifically, they could read paragraphs that described their high standing on a number of positive self-attributes, some of which were attributes related directly to the discrepant act (e.g., compassion) and some that were unrelated to the essay (e.g., creative). The results showed that in the high dissonance conditions, participants avoided reading information about positive self-attributes that were relevant to the dissonant behavior. Despite the fact that these attributes were positive, participants preferred to read paragraphs that told them how wonderful they were on the irrelevant attributes, such as how "creative" they were. In a follow-up study by Blanton et al. (1998), participants were provided with positive feedback about their standing on positive traits that were either relevant (i.e., compassion) or irrelevant (i.e., creative) to the discrepant essay about handicap funding. When the positive feedback was rele-

vant to the counter-attitudinal act, participants showed significantly more attitude change compared to participants who wrote the essay but received no feedback. This suggests that the positive feedback increased dissonance arousal beyond what was induced by just writing the essay under conditions of high choice. In contrast, when the positive feedback was irrelevant to the behavior, participants showed significantly less attitude change compared to the relevant feedback and no feedback control conditions. Together, these studies indicate that people will avoid thinking about positive self-attributes that relate to the discrepancy (e.g., J. Aronson et al., 1995), and when they can not avoid exposure to related self-attributes, thinking about positive attributes will increase the need for dissonance reduction (Blanton et al., 1998). This suggests that the accessibility of positive self-attributes will only attenuate attitude or behavior change when people can bring to mind attributes that distract them from thinking about the discrepancy.

In another line of research, Simon, Greenberg, & Brehm (1995) proposed that when people bring to mind other positive aspects of their self-concept, the salience of such important cognitions may cause people to trivialize or reduce the importance of the behavioral discrepancy. In a series of experiments, Simon et al. (1995) found that when people made an attitude discrepant advocacy, they were more likely to reduce the importance of what they had done when provided the opportunity to think about positive self-attributes before they were asked to indicate their attitude toward the essay topic. Thus, based on one of Festinger's (1957) original assertions about dissonance reduction, Simon et al. (1995) argued that the accessibility of positive self-attributes attenuates attitude change by reducing the importance of the behavioral cognition. Affirmation of the self may only occur if people can somehow downplay the discrepancy.

A third challenge to self-affirmation theory concerns how people prefer to reduce dissonance when more than one strategy is available. Stone, Weigand, Cooper, & Aronson (1997) distinguished between two general strategies for dissonance reduction: Direct, which was defined as changing one of the discrepant cognitions, and indirect, which involves strategies like self-affirmation whereby people reduce dissonance

without altering directly cognitions associated with the discrepancy. Stone et al. (1997) observed that in many self-affirmation studies, participants are provided with the opportunity to self-affirm (i.e., use an indirect strategy such as focus on positive self-attributes) before they know they will have an opportunity to change their attitudes or behavior (i.e., use a direct strategy). Finding that people will use an indirect strategy for dissonance reduction before they are offered the use of a direct strategy does not tell us much about which strategy they prefer to use for dissonance reduction. It may be that people usually want to resolve the discrepancy directly through attitude or behavior change, but if they perceive that the indirect, affirmation option is the only option available, they may use it to reduce their discomfort, but they may then feel regret when the second option presents itself.

To investigate preferences among different reduction strategies, Stone et al. (1997) offered more than one strategy at a time and allowed participants to choose following an induction of hypocrisy. In the first experiment, participants were made to feel hypocritical about their practice of safer sexual behavior to prevent AIDS (e.g., Stone et al., 1994). In one condition, participants were then provided with an indirect, self-affirming option for dissonance reduction δ they were offered an opportunity to donate their subject payment to a homeless shelter. In another condition, participants were offered the opportunity to donate to the homeless shelter, but before they used this option, they were provided with a direct strategy for dissonance reduction δ they were offered the opportunity to use their subject payment to purchase condoms for themselves. The results showed that when offered only the indirect option, fully 83% of those in the hypocrisy condition donated to the homeless shelter. This indicates that when it is the only option available, people will use an indirect self-affirmation strategy for dissonance reduction. However, when the indirect strategy was offered alongside the direct strategy, fully 78% chose to purchase condoms whereas only 13% chose to donate to the homeless shelter. A follow-up study showed that participants preferred to use a direct reduction strategy even when they could self-affirm on a behavioral dimension that held more importance for their self-concept than the direct

strategy δ a serious challenge to the tenets of self-affirmation theory. These studies show that under some conditions of dissonance arousal (e.g., hypocrisy), people have a strong preference for resolving directly the discrepancy that caused their dissonance. Indirect strategies for dissonance reduction, such as self-affirmation, are useful when they are the only means available, but if given a choice, people sometimes prefer to reduce dissonance by altering the cognitions that contributed to their discomfort.

Together, these studies suggest that self-affirmation theory does not provide a comprehensive understanding of the processes underlying the reduction of cognitive dissonance. People may avoid thinking about positive aspects of the self if they remind them of the behavioral discrepancy, and when they do think about positive attributes that are unrelated to the discrepancy, such thinking may reduce dissonance by shifting attention away from the discrepancy (Cooper, 1999) or by providing a frame by which people can reduce the importance of the behavioral discrepancy (e.g., Simon et al., 1995). And, even when other positive aspects of the self are available for use as a reduction route, people sometimes choose to confront the discrepancy head-on and change the relevant cognitions or behavior, thereby erasing the discrepancy altogether (e.g., Stone et al., 1997).

Construal Processes in Dissonance: The Interpretation and Evaluation of Action

When put all together, the 40 years of research and deliberation over the proper interpretation of dissonance phenomena resembles a giant, unfinished jigsaw puzzle. Several researchers have constructed some pieces or even large sections of the puzzle, but the debate over the necessary conditions for dissonance to operate has obscured the overall picture. As Berkowitz and Devine (1989) noted, the focus on analysis over synthesis has failed to produce an integrated portrait of the entire dissonance arousal and reduction process. In a recent paper, Stone and Cooper (1999) argued that one way to integrate all the pieces and begin to see the big picture is to assume that each of the contemporary perspectives describes an important part of the cognitive dissonance process. For example, it is quite reasonable to suppose that,

under some conditions, people are motivated by a desire to uphold important attitudes (e.g., Harmon-Jones et al., 1996) or beliefs they have about themselves (i.e., self-consistency); it is equally tenable that, under some conditions, people are motivated to reduce the perceived aversive consequences of their unwanted behavior (i.e., the "New Look"); and it is also the case that under some conditions, people would prefer to think about other positive aspects of themselves rather than face the implications of their behavior (i.e., self-affirmation). If we assume that behavioral discrepancies are capable of inducing different motivational states, then we can see that the different perspectives are neither synonymous nor simple linguistic translations of one another. Rather, they each describe a distinct and important piece of the overall dissonance process, and, in doing so, make a unique contribution to our understanding of cognitive dissonance arousal and reduction.

Nevertheless, to bring these various perspectives under one roof requires looking for what they have in common. Indeed, all of the contemporary perspectives on dissonance theory have at least one common bond δ each makes an important assumption about how people assess the psychological meaning of their behavior. Specifically, every major perspective on cognitive dissonance, starting with Festinger (1957), assumes that dissonance begins when people commit an act and then try to make sense of it, which they accomplish by determining how their behavior "fits" with other relevant cognitions. However, because each makes a specific assumption about the cognitions people use to make sense of their behavior, each perspective on dissonance offers its own interpretation of dissonance motivation. Thus, the various models share the assumption that dissonance begins with the detection of a discrepancy between behavior and some pre-existing set of cognitions. Where the models appear to differ most is in their assumptions about the content of the pre-existing cognitions, especially those related to the self, that people use when deciphering their behavior.

Stone and Cooper (1999) proposed a new model to account for the processes by which people determine that their behavior is discrepant from other relevant cognitions δ the first step in many of the models of dissonance. According to the "self-standards" model, people

may determine the "fit" between cognitions by comparing the outcomes of their behavior against cognitive representations for how they should have or could have conducted themselves. That is, dissonance processes start with a comparison between behavior and a guide for behavior, which can include cognitive representations of various attributes (e.g., attitudes and beliefs) or self-standards (e.g., Higgins, 1989; 1990). The basic assumption of the self-standards model is that the motivational basis of dissonance δ why and how people reduce dissonance δ depends in part upon the attributes or standards people use to interpret and evaluate what they have done.

An important assumption of the self-standards model is that any given behavior may be construed in a multitude of ways, for example, as relevant to one's attitudes, self-concept, or the rules of a given society or culture. The model predicts that how people construe the meaning of a given behavior, and the specific discrepancy that they perceive as a result, determines the nature of the arousal and motivation that follows (see also Blanton, this volume; Vallacher, 1992). There are two contemporary areas of research and theory in social cognition that offer support for the assumptions made by the present model. The first has to do with how people interpret or define action, the second has to do with the way in which people evaluate their behavior.

The Interpretation of Behavior

Multiple lines of research in social cognition have made the observation that the interpretation and evaluation of behavior is a malleable state of affairs; when people act, the meaning they ascribe to what they have done can be influenced by the context in which it was conducted. Vallacher and Wegner (1985; see Vallacher & Kaufman, 1996) have proposed a hierarchical model of action identification which specifies that any given action can be identified at various levels of interpretation, ranging from detailed, mechanistic descriptions of behavior that explain how an act is completed, to more comprehensive and abstract identities which explain why a behavior was conducted and with what effect (i.e., consequences for behavior). To illustrate, imagine a researcher using a computer to analyze data or write a paper. The same activity on the com-

puter can be thought of as "punching the number pad," or "typing letters on the keyboard" (low-level identifications), as "entering the data" or "writing a paper" (intermediate-level identifications), or as "conducting research" and "advancing my career" (high level identification). Like other models of self-regulation (e.g., Scheier & Carver, 1988; Pyszczynski & Greenberg, 1992), Vallacher and Wegner's model of action identification assumes low level identities (e.g., typing another manuscript) provide the information necessary for reaching the higher-level identities (i.e., advancing my career), and higher level identifications (i.e., advancing my career) serve as goals to direct the lower level activities (writing another manuscript).

Higher level action identities often define the actor as well as the action. Vallacher and Wegner suggest that as action identities become more comprehensive and abstract, "doing" becomes "being"; behavior identified at the highest levels becomes self-defining. "Playing the piano" becomes "expressing myself" and then "being a musician". The experience of successfully maintaining lower level identities (e.g., "playing the piano") facilitates movement up the identification hierarchy (e.g., "expressing myself") until the behavior represents an important self-concept dimension (e.g., "I'm a musician").

Within the hierarchy of possible identities, people tend to focus on only one identity for their behavior at a give time. The level of identification that becomes "prepotent" in thinking about behavior is determined by the "personal difficulty" of the behavior (Vallacher & Wegner, 1986). Behaviors that are unfamiliar, difficult, that require effort or that are time consuming tend to be identified at a lower level in the hierarchy. The logic of this claim is largely functional; thinking about the mechanics of an unfamiliar, difficult, or effortful action facilitates smooth and successful performance of the act. For example, when dancing a waltz for the first time, the novice bride and groom have to think in terms of the mechanics of the dance in order to execute successfully each step.

But despite the functional value of thinking about new or difficult acts in terms of the lower-level mechanics, action identification theory (Vallacher & Wegner, 1986) maintains that people are not very content with mechanistic representations of behavior. Even when a be-

havior is personally difficult, people prefer to think about it at a level that provides comprehensive psychological meaning. The interesting observation made here is that because people prefer to think about their behavior at a more comprehensive and abstract level, when they are conducting an act that requires low-level identification, they are susceptible to new ways of conceptualizing what they are doing. They become acutely sensitive to the context surrounding the act, and they will embrace whatever higher-level identity cues are provided by the situation (Vallacher, 1992). Consequently, the "emergence" of more abstract and comprehensive interpretations for behavior are most likely to occur when behavior is personally difficult and a situational cue makes accessible a higher-level identity for understanding what they are doing.

What theory and research on how people interpret their actions offers to our understanding of dissonance processes is the observation that the construal of one's own behavior is malleable and dependent upon the context in which the behavior occurs. This may especially be the case when people engage in acts that are novel, difficult, or require extensive cognitive effort. To the degree a given behavior requires low-level identification for successful execution, interpretation of what the act means to and for the individual is particularly susceptible to cues provided in the behavioral context. The implication is that any of the classic dissonance-arousing acts, such as making a difficult decision (Brehm, 1956), attempting to persuade a confederate about the nature of a task (Festinger & Carlsmith, 1959), or having to construct a counter-attitudinal essay (e.g., Scher & Cooper, 1989), could be prone to the emergence process and consequently, the interpretation and evaluation of these acts could be influenced by whatever identity cues are operating in the situation (Vallacher, 1992). The construal of a particular behavior as representing a significant discrepancy should therefore be influenced by the salience and accessibility of cognitions relevant to the evaluation of behavior.

Salience and Accessibility of Attributes and Standards for Behavior

Part and parcel of the debate among the various perspectives on dissonance is the disagreement over the information people use to

interpret and evaluate the psychological meaning of their behavior. Once people have acted, dissonance theorists generally assume that the behavior or its outcome are evaluated against some relevant criteria. When the behavior is judged not to fit the relevant criteria, a discrepancy is detected and the dissonance process is engaged. But what determines the criteria for evaluation? According to the self-standards model of dissonance (Stone & Cooper, 1999), the context in which the act occurs can make some criteria especially more salient or accessible, and therefore invoke a specific construal of the act. The specific content of the discrepancy, and the nature of the dissonance motivation that follows, may be determined by what criteria are made salient in the context in which behavior is performed.

For example, the psychological consistency perspective (e.g., Festinger, 1957; Harmon-Jones et al., 1996) predicts that dissonance can occur for discrepancies between behavior and a specific attitude or belief. If in fact the construal of behavior is dependent upon what cues are salient in the context, then it seems possible for dissonance to be aroused if the situation cues the use of relevant attitudes or beliefs to make sense of the behavior. When this is the case, people should identify their behavior at a relatively intermediate level of abstraction \neq one that does not focus on the mechanics of writing, nor on the higher level identity implied by such acts (e.g., competent). For example, if asked to describe what they have done, people might say they just "advocated a position on a topic opposite my own" or "decided between two attractive alternatives." Such interpretations of behavior may focus people on resolving the discrepancy between behavior and a specific attitude or belief relevant to the act. Thus, the motive for psychological consistency may operate when people make an intermediate-level identification of their behavior, possibly because the situation makes salient specific attitudes or beliefs and the context either does not make salient a higher-level identification, or as in the Harmon-Jones et al. (1996) procedure, eliminates any high-level meaning (i.e., by eliminating the consequences for one's act). Thus, psychological consistency may be a central motivating factor in dissonance, even in the absence of an aversive outcome or product for behavior, but perhaps only when something in the context cues the

use of specific attitudes or beliefs to the interpret behavior.

There is not, however, any reason to believe that people routinely use specific attitudes or beliefs to interpret and evaluate their behavior. According to the self-standards model (Stone & Cooper, 1999) any behavior that can be perceived as discrepant from a specific attitude or belief can also be perceived as discrepant from cognitions at a higher level of abstraction, such as cognitions about the self or normative rules for conduct. When people interpret and evaluate their behavior at higher levels of meaning, the discrepancy they perceive and the dissonance motivation that arises may take on qualitatively different characteristics.

From the perspective of the aversive consequences model (Cooper & Fazio, 1984), dissonance processes turn on the perception of a negative behavioral outcome. But how do people determine that their behavior has reaped an aversive consequence? According to the analysis offered by Cooper and Fazio (1984), they do so by comparing the outcome of the behavior to standards for what they should have or could have achieved from the perspective of others \neq what might be called "normative" standards for behavior (e.g., Higgins, 1990). The aversive consequences model assumes that people interpret and evaluate their behavior at a higher, more abstract level of meaning than what is suggested by the psychological consistency perspective (Harmon-Jones et al., 1996). For example, when norms are salient and people are asked to identify the meaning of a counter-attitudinal act or difficult decision, they might say "I have violated norms for social responsibility" or "I have made a socially undesirable choice." According to the self-standards model, when normative standards for behavior are salient, most people, regardless of individual differences in the content of their self-concept, should perceive a discrepancy between their behavior and the relevant normative standard. Consequently, dissonance should be aroused for most people (assuming that they subscribe to the salient norms), and reduction will be targeted toward reducing the negative perception of the behavioral outcome.

Alternatively, a different high-level construal of behavior is assumed by the self-consistency revision, which predicts that cognitions about the self play a role in the process of

dissonance arousal. Specifically, according to the self-consistency revision (e.g., Aronson, 1968; Thibodeau & Aronson, 1992), dissonance involves a discrepancy between behavior and specific beliefs about the self-attributes of competence and morality. Moreover, because people vary in how competent and moral they expect themselves to be, the self-consistency perspective predicts that self-esteem differences should moderate for whom dissonance is aroused. Dissonance from the self-consistency viewpoint is predicated on a perceived discrepancy between behavior and idiosyncratic self-expectancies for competent and prudent behavior.

A central assumption to this process concerns the cognitive elements that underlie self-expectancies. According to Thibodeau and Aronson (1992), self-expectancies for behavior are based on "personal standards" for morality and competence that are "...culturally derived, and largely shared, by most people within a given society or subculture" (p. 596). In other words, the standards that people rely on to assess their behavior are normative in nature. But, if in fact the standards used to assess behavior are always derived culturally and shared by all, how can people with different self-concepts draw different conclusions about the meaning of what they have done?

One possibility is that for self-consistency processes to operate in dissonance, in addition to the relevant normative standards, people must also take into account their actual self-concept when assessing their behavior. Stone and Cooper (1999) proposed that when people commit a dissonant act, *two* chronic aspects of the self can become accessible in memory: 1) the "self-concept", represented by an actual self-attribute for competence or morality, and 2) the normative self-standards for competence or morality. Together, these two cognitions can form a "self-expectancy," in that people expect their behavior to confirm or verify the chronic relationship δ the degree of discrepancy δ between the actual self and normative standard on the dimensions of morality and competence. So, once induced to commit a dissonant act, a person might assess the competence or morality of his or her behavior by comparing the contextual self inferred from the behavior (e.g., "I just said something stupid and immoral") against a chronic self-expectancy ("I am usually a smart and decent person δ relative to the norm for

competence and morality"). As in this example, when a discrepancy is detected between the behavior and chronic self-expectancy, dissonance will be aroused. But another person with a different expectancy might not perceive a discrepancy in this case. For example, another person might infer the same contextual self from behavior ("I just said something stupid and immoral"), but conclude that it does not represent a discrepancy when compared against a less positive self-expectancy (e.g., "I am NOT ALWAYS a smart and decent person δ relative to the norm for competence and morality"). In this case, the use of self-expectancies δ the chronic degree of discrepancy between actual and normative standards δ does not lead to dissonance arousal. Thus, idiosyncratic self-expectancies can be represented in memory as a chronic discrepancy between an actual self-attribute (e.g., competence or morality) and its relevant normative standard. Dissonance is aroused when a given behavior fails to confirm the chronic relationship between the actual self-concept and its normative self-guide.

What distinguishes people with positive versus negative expectancies for their behavior is the size of the discrepancy between their chronic actual-self, referred to as the self-concept, and the normative standards for competence and morality. These differences in how self-expectancies are represented (i.e., the size of the discrepancy between the chronic actual self and self-standard) seem to operate as the definition of self-esteem in the self-consistency perspective (cf. James, 1890; Rosenberg, 1979; see Moretti & Higgins, 1990). Thus, people with high self-esteem, who have a smaller chronic discrepancy between their actual self and the norms for behavior, should experience dissonance when "...lying, advocating a position contrary to their own beliefs, or otherwise acting against one's principles δ the stock in trade of countless dissonance experiments" (Thibodeau & Aronson, 1992, p. 592). Alternatively, those with negative expectancies, who have a larger chronic discrepancy between their actual self and the normative standards, are simply not surprised when they act in a way that deviates from the norm.

In the self-standards model, the activation of self-expectancies also depends upon what information is made salient in the context of a given behavior. Specifically, in order for chronic

self-expectancies to moderate dissonance, the normative standard cannot be the only salient criterion by which people evaluate their behavior. In addition to the norms, an idiographically based, unique conception of the self-concept (e.g., actual self-attributes) must also become accessible during the construal of behavior. For example, as supposed by the self-consistency perspective (Thibodeau & Aronson, 1992), if people were to use their own, "personal" standards to assess their behavior, they may activate their chronic self-expectancies and self-esteem differences in dissonance reduction would emerge. Otherwise, if idiosyncratic actual self-attributes are not also made accessible when assessing behavior, then most people, regardless of their self-expectancies, should perceive the behavior as discrepant from the norm, and dissonance should manifest itself without self-concept moderation of the arousal process (Cooper & Fazio, 1984).

Finally, unlike the other views of dissonance, self-affirmation theory (e.g., Steele, 1988; Spencer, Josephs, & Steele, 1993) does not define how people determine a threat to global self-integrity, nor does it define the cognitive representation of a self-threat. It seems to focus primarily on how people cope with dissonance once it is aroused. As a result, it is conceivable that the affirmation process could follow the detection of discrepancies that involve attitudes, self-expectancies, or normative standards, although as noted above, there are important limitations to how the accessibility of positive self-attributes can reduce dissonance (e.g., Blanton et al., 1997; for full discussion of affirmation processes in the self-standards model, see Stone & Cooper, 1999).

In sum, each of the perspectives assume that dissonance is aroused when people detect a discrepancy between their behavior and specific attributes or standards for behavior. The malleability with which people interpret and evaluate their behavior, however, suggests that the construal process may not always rely on any one source of information, but instead may be dependent upon what criteria are salient or become accessible in the context in which the behavior occurs. Consequently, the nature of the dissonance motivation that follows from a behavioral discrepancy should be a function of the attributes and standards people rely on to interpret and evaluate their behavior.

Investigating the Construal of Behavioral Discrepancies: Empirical Evidence

The approach to testing the predictions made by the self-standards model has thus far involved making specific attributes and standards accessible in the context one of the classic dissonance-arousing behaviors. If the interpretation of behavior is subject to whatever attributes or standards are brought to mind in the situation, it should be possible to manipulate independently the motivation for psychological consistency, self-consistency, self-affirmation, or the reduction of aversive consequences by priming the specific criteria each perspective assumes people use to understand their behavior. Evidence that different motives were engaged by priming various attributes and standards is shown in part by the pattern of dissonance reduction (e.g., attitude change) across groups of participants with different levels of self-esteem.

In one of the first experiments designed specifically to examine how the accessibility of self-attributes and standards in the context of a classic dissonance-arousing behavior might influence the processes, Stone (1999) had participants with high or low self-esteem (as measured in a pretest session) conduct a free choice paradigm based on the procedures reported by Steele et al. (1993). The accessibility of self-attributes was manipulated for some participants when they completed the Rosenberg (1979) self-esteem scale just before they made their choice; other participants were primed for self-attributes in the same way just after they made their decision.

Table 1: The interaction between self-esteem and the timing of the self-attribute prime on the spread of alternatives reported in Stone (1999). Higher numbers indicate more dissonance reduction in each condition.

Self-Esteem	Timing Of The Self-Attribute Prime		
	None	Before Decision	After Decision
High	1.35	0.55	1.35
Low	1.52	2.48	0.52

The results presented in Table 1 showed that both self-esteem groups reported significant change in their perceptions of the alternatives

in the no-prime, decision-only control condition. This suggests that when self-attributes were not primed, both groups appeared to be focused on the inconsistency inherent in their decision and were motivated to change their attitudes about the alternatives (e.g., Festinger, 1959). However, when primed for their self-attributes before the choice, participants with high self-esteem showed significantly less justification of their decision compared to participants with low self-esteem. When primed after they made their decision, participants with high self-esteem showed significant post-decision justification whereas participants with low self-esteem did not. The results in the priming conditions suggest that when self-attributes were primed before the decision, they operated as self-affirming resources (Steele et al., 1993) and reduced the need for decision justification among participants with high (but not low) self-esteem. In contrast, when self-attributes were primed after the difficult decision, they appeared to engage self-expectancies and the motivation for self-consistency (e.g., Aronson, 1968). As a result, those with high self-esteem showed more dissonance than those with low self-esteem. This study shows that the nature of dissonance motivation can be a function of when people think about themselves in the context of making a difficult decision.

In another series of studies, Stone, Galinsky, and Cooper (1999) examined how the accessibility of different self-standards for behavior would influence the arousal and reduction of dissonance. Specifically, in one experiment based on the free-choice paradigm described above, participants with high or low self-esteem were asked to make a difficult choice between two desirable alternatives and then complete a measure of "self-understanding." The task was designed to prime different standards for behavior by having participants write a short description of a fictitious target person who exemplified two positive self-attributes such as "competent" and "rational." To manipulate the type of standards made accessible by this task, some participants wrote about the target person using their own *personal standards*. Specifically, they were instructed to think about the standards for competence and rationality from their own perspective, and then to describe the target person using their own personal standards for each trait. Other participants wrote about the target person

using *normative standards*. They were directed to think about the standards from a societal perspective and to describe the target using "the standards for what most people think" represent each attribute. Once they had completed the self-standard priming task, the experimenter had them rate the psychology studies for desirability again.

As seen in Table 2, both participants with high and those with low self-esteem in the decision-only control condition showed significant levels of post-decision justification. As noted above, the free choice paradigm itself, which was created to investigate psychological consistency in the early days of dissonance research, appears to focus people on the discrepancy between the choice and specific beliefs about the alternatives (e.g., Festinger, 1959). However, when primed for their own personal standards, participants with high self-esteem reported significantly more post-decision justification of their choice compared to the justification reported by participants with low self-esteem. In contrast, when normative standards were made salient, both self-esteem groups reported relatively equivalent levels of post-decision justification. Thus, as predicted by the self-standards model (Stone & Cooper, 1999), making salient personal standards for behavior engaged self-expectancies and caused participants with high self-esteem to seek more dissonance reduction compared to participants with low self-esteem. In contrast, making salient the norms for behavior caused the same level of decision justification for both self-esteem groups.

Table 2: The self-esteem X standards prime interaction on the spread of alternatives dependent measure in Experiment 1 of Stone, Galinsky & Cooper (1999).

Self-Esteem	Self-standards Prime		
	None	Personal Standards	Normative Standards
High	0.88	1.77	0.55
Low	1.08	0.92	0.86

Stone, et al. (1999) conducted a second experiment to examine the effects of self-standards primes in another classic dissonance paradigm δ one involving counter-attitudinal advocacy. In addition, several measures were included in an attempt to capture mediational

evidence of the hypothesized processes underlying the various predictions made by the standards model. For example, measures were included to tap the valence of the self-relevant thought induced by the standards primes. According to the self-standards model (e.g., Stone & Cooper, 1999), when personal standards are salient in the context of a discrepant act, people with low self-esteem, who presumably hold less positive expectancies for their behavior, should show evidence of more negative self-relevant thought, which should correspond with less self-justification after a discrepant act. In contrast, people with high self-esteem, who presumably hold more positive expectancies for their behavior, should show evidence of more positive self-relevant thought, and this should correlate with more justification of the discrepant act. Furthermore, the model predicts that when normative standards are salient, most people, regardless of their prevailing self-esteem, should be focused on the positive normative standards for behavior. Consequently, the content of self-relevant thought should be positive for both those with high or low self-esteem when normative standards are made salient, and this should correlate with the level of justification following the discrepant act. These predictions were tested by having participants circle traits that applied to each type of attribute when they were primed for personal versus normative standards following the induced compliance task.

Self-report measures of negative and positive affect were also collected. Elliot and Devine (1994) presented evidence that self-reports of psychological discomfort were enhanced by writing a counter-attitudinal essay under high choice conditions, and Galinsky et al. (in press) found that psychological discomfort was reduced by focus on irrelevant positive attributes following dissonance arousal. According to the proposed self-standards model of dissonance, when personal standards are salient, people with high self-esteem should experience more psychological discomfort and more negative affect directed at the self compared to people with low self-esteem. In contrast, when normative standards are salient, both those with high or low self-esteem should experience psychological discomfort and negative self-affect associated with dissonance and the salience of the normative prime. Thus, to investigate the potential mediating role of negative and positive affect, after

participants completed the induced compliance task (and in some conditions, the standards primes), they completed a measure of their current affective state.

In Experiment 2 (Stone, et al., 1999) participants with high or low self-esteem made a counter-attitudinal advocacy under conditions of high or low choice. Specifically, participants were asked to generate arguments in favor of a tuition increase at the University of Arizona (e.g., Simon, Greenberg, & Brehm, 1995). Once they had completed the advocacy task and choice manipulation, those randomly assigned to the standards prime condition were asked to examine a list of 30 trait words that ranged from negative to positive (Anderson, 1968). The traits were chosen for their relevance to the counter-attitudinal argument task (e.g., Blanton et al., 1998).

Those randomly assigned to the *Normative Standards Prime* condition were told that the list of traits represented various normative standards for behavior. They were told to examine the list and think about which traits represent the type of person they should or ought to be from the perspective of others. Once they had organized their thoughts, they were instructed to circle the traits on the list that best represent the normative standards that guide their behavior. Those randomly assigned to the *Personal Standards Prime* condition were told that the list of traits represented various personal standards for behavior. They were told to examine the list and think about which traits represent the type of person they personally wanted to be. They were then instructed to circle the traits that best represented the personal standards that guide their behavior.

After the standards prime manipulations, participants received a questionnaire designed to measure three affective states: psychological discomfort, negative self-affect and positive affect (Elliot & Devine, 1994; Galinsky et al., in press). After all participants completed the affect measures, the experimenter had them complete the attitude questionnaire, ostensibly because he forgot to have them complete it earlier. The primary measure asked participants to indicate their agreement with the statement "I believe that tuition should be raised for the next academic year."¹

Analysis of the attitude change scores shown in Table 3 revealed a significant interac-

tion between self-esteem and the self-standards priming conditions. Planned contrasts showed that participants in the high choice control condition tended to justify their advocacy more ($M = 1.80$) than low choice control participants ($M = 1.06$), and this was not moderated by self-esteem. Further contrasts revealed that attitude change was significantly moderated by self-esteem when self-standards were primed. Those with low self-esteem showed significantly less attitude change compared to participants with high self-esteem when personal standards were primed, and they showed less attitude change compared to those with high or low self-esteem when normative standards were made salient. There were no differences between the other standards primes conditions.

Table 3: The self-esteem X standards prime interaction on attitude change scores in Experiment 2 of Stone, Galinsky & Cooper (1999). Higher numbers indicate more dissonance reduction in each condition.

Self Esteem	Low Choice Con- trol	High Choice Con- trol	Personal Standards Prime	Normative Standards Prime
High	0.98	1.50	2.52	2.68
Low	1.14	2.09	0.57	2.52

Analyses of the mediational measures of affect and trait listings did not reveal significant differences across the experimental conditions. However, within-cell correlations showed that among participants with high self-esteem in the personal standards condition, attitude change was correlated positively with feelings of psychological discomfort ($r = 0.35$, $p < .12$) and negative affect directed toward the self ($r = 0.41$, $p < .06$). For participants with low self-esteem, the correlations between attitude change and the measures of negative affect did not approach significance. In contrast, when normative standards were salient, participants with low self-esteem reported a positive correlation between attitude change and feelings of psychological discomfort ($r = .44$, $p < .05$) and negative affect directed toward the self ($r = .42$, $p < .06$). In contrast, participants with high self-esteem did not show any correlation between the affect measures and justification, but they

did report significant negative correlations between perceptions of choice and psychological discomfort ($r = -.47$, $p < .02$) and negative affect directed toward the self ($r = -.51$, $p < .01$).

The data from the experiments reported in Stone et al. (1999) support the idea that the attributes and standards made salient in the context of a behavioral discrepancy will determine the nature of dissonance motivation. First, the results from the no-prime control conditions suggest that the behavioral discrepancies studied in the classic dissonance paradigms, like in the induced compliance or free choice procedures, tend to focus participants on the discrepancy between their behavior and a specific attitude or belief. That is, without priming specific attributes or standards, participants focused primarily on the situational antecedents of their behavior (i.e., choice), and when external justification was low, they reduced dissonance by changing their attitudes. Importantly, these effects were not moderated by self-concept differences nor were they mediated by self-reports of psychological discomfort. Whereas it is premature to conclude that attitude change in the control conditions was a function of an intermediate level of action identification, the data are compatible with what might follow when people are focused on an intermediate-level interpretation of a behavioral discrepancy.

In comparison, when self-standards were made salient in the situation, these cognitions appeared to become part of the assessment of behavior, and they changed the way in which people perceived what they had done. Priming personal standards for behavior appeared to make self-expectancies accessible, which caused more dissonance and attitude change in people with high compared to low self-esteem. In addition, participants with high self-esteem showed more correspondence between attitude change, psychological discomfort, and negative affect directed at the self compared to participants with low self-esteem, who showed almost no evidence of dissonance reduction or discomfort when personal standards were primed. As predicted by the self-standards model (Stone & Cooper, 1999), the use of personal standards to interpret and evaluate behavior engaged self-consistency motivation (Aronson, 1968), a phenomena that has proved difficult to replicate in past dissonance research (e.g., Cooper &

Duncan, 1971).

Finally, when normative standards were primed, both groups showed evidence of dissonance reduction, suggesting that both came to the same conclusion about the meaning of their behavior. One caveat to this interpretation, however, is that whereas both groups showed significant justification when normative standards were primed, the mediational data hint that attitude change in each group may have been influenced by different concerns about the meaning of the salient normative discrepancy. For example, low self-esteem participants may have been influenced more by feelings of discomfort and negative self-affect, whereas participants with high self-esteem may have been more concerned with attributions about responsibility. One possibility is that when norms for behavior are salient, people with different levels of self-esteem may be motivated to justify their behavior, but in doing so, they may be attempting to achieve different goals (e.g., reduce discomfort versus alter perceptions of responsibility). If they have different goals in mind, they may prefer to use different strategies for dissonance reduction when multiple options are available (e.g., Stone, Wiegand, Cooper, & Aronson, 1997).

In sum, the results of these experiments provide some initial evidence that the process of dissonance arousal and reduction is highly malleable and dependent upon the construal processes operating in a given situation. As predicted by the self-standards model (Stone & Cooper, 1999), the specific motivational state that follows from a behavioral discrepancy depends upon on the type of attributes and standards that influence how people make sense of a discrepant behavior. Thus, instead of assuming that dissonance is a function of one "master motive," it may be more accurate view dissonance motivation as a function of qualitatively different processes, the activation of which depend upon the information made accessible in the context of behavior.

Looking to the Future: Implications and Directions

The construal processes described by the self-standards model (Stone & Cooper, 1999) suggest a number of directions and issues for future research on how dissonance is aroused and

subsequently reduced.

Dissonance Arousal

First, future work should continue to examine how the use of different attributes and standards to interpret and evaluate behavior influence dissonance processes. The research presented here only provides a hint at how these processes may operate, and future research should utilize cognitive methodologies such as lexical decision tasks (Baldwin & Sinclair, 1996) or self-reference effects (Markus, 1977) to measure the accessibility of different constructs during dissonance arousal. Response latency to different attributes and standards, and the relationship between response latency, affect, and dissonance reduction would be especially useful for delineating the processes that follow from different construals of behavior (see Monteith, this volume). A full understanding of how social cognition operates in dissonance will most likely require dissonance researchers to step outside of the classic paradigms, or to incorporate more contemporary cognitive measures into the classic paradigms, in order to test directly hypotheses about the dissonance arousal process.

Second, the current model offers an alternative explanation for how dissonance may be aroused in the absence of an aversive consequence for behavior (e.g., Harmon-Jones et al., 1996). Specifically, it suggests that dissonance may be aroused when people perceive a discrepancy between behavior and a specific attitude or belief. In social cognition terms, dissonance may be aroused when people think about their behavior at an intermediate level, even when an unwanted product for behavior is absent or is negated in some way (Harmon-Jones et al., 1996). Future research can examine these hypotheses directly by manipulating the identification level at which participants interpret a counter-attitudinal essay or difficult decision (e.g., Wegner, Vallacher, Kiersted, & Dizadji, 1986). Examining discrepancies between behavior and different levels of interpretation may reveal new insight into how the importance and relevance of cognitions influence the arousal process.

A third implication of the current model has to do with the point at which dissonance arousal begins to emerge following behavior. According to the steps described by the aversive conse-

quences model (Cooper & Fazio, 1984), dissonance arousal does not begin until people detect an aversive outcome, conduct the attributional search for responsibility, and conclude that they are responsible for the outcome. The current model suggests that dissonance arousal may begin earlier in the process, such as after the detection of a discrepancy, and that the attributional search for responsibility may be the first line of dissonance reduction. Assuming that the attribution of low choice or unforeseeability for an outcome can reduce dissonance arousal, then the attributional processes that follow the detection of a discrepancy may represent motivated reasoning (e.g., Kunda, 1990). Future research should examine the point at which arousal begins following the detection of a behavioral discrepancy, and how subsequent processing is influenced when arousal is present immediately following behavior.

Labeling of Affect

The use of different attributes and standards for interpreting and evaluating behavior also has implications for the affect that corresponds with dissonance arousal. For example, Elliot and Devine (1994) reported that dissonance is experienced as a generalized state of psychological discomfort, one that is not tied specifically to affect directed toward the self. However, Stone, et al. (1999) found that when personal or normative standards were made salient in a similar context, participants reported a correlation between attitude change and negative affect directed specifically at the self. This indicates that how a behavioral discrepancy is construed may influence the affective state that corresponds with dissonance arousal.

Research by Higgins and his colleagues has shown (e.g., Higgins, 1989) that violations of different self-standards are experienced as qualitatively different emotions. For example, deviations from ought-self standards are experienced as agitation-related emotions. Consequently, to the degree norms are perceived to represent what people should or ought to do, dissonance following a violation of the normative standards may be specifically experienced as an emotional state such as anxiety or guilt. In contrast, to the degree that personal self-standards represent important wishes or goals (i.e., ideal self-standards), dissonance following violation of personal self-standards may be specifically expe-

rienced as dejection- or frustration-related emotions such as shame or embarrassment. Consequently, different behavioral discrepancies may be experienced as qualitatively different emotional states, which may have implications for how people seek to reduce them.

The labeling of dissonance arousal as a particular emotion also raises a question about how people can misattribute their arousal to an external source if important standards are used to assess behavioral outcomes (Zanna & Cooper, 1974; see Cooper & Fazio, 1984)? According to the aversive consequences process model, after dissonance arousal is labeled as negative, a situational cue can cause people to misattribute their arousal to a source other than their behavior, assuming its current source is ambiguous (e.g., Schacter & Singer, 1962). But are people always unaware of why they are experiencing the psychological discomfort associated with dissonance? It seems likely that there are conditions under which people are acutely aware that their behavior is the source of their psychological discomfort. One prediction that follows from the current model is that the more people are acutely aware that their behavior is discrepant from personal or normative standards for behavior, the less likely they will be to misattribute their arousal to an external source.

Dissonance Reduction

The connection between different affective states and dissonance reduction strategies may also be an important direction for future research. Self-regulation theories (Carver & Scheier, 1990; Pyszczynski & Greenberg, 1992) predict that the higher the standard for behavior in a hierarchy, the more important the discrepancy, and the more negative affect that is generated when behavior falls short of the standard. If psychological consistency, defined here as an intermediate discrepancy between behavior and a specific attitude or belief, causes dissonance arousal, the affective experience may be less intense than discrepancies that involve higher, more abstract standards for behavior, such as those that relate to the self or to norms for behavior. Consequently, lower-level discrepancies may cause a generalized, negative discomfort (e.g., Elliot & Devine, 1994) that can be reduced effectively through a variety of strategies. High-level discrepancies, however, may cause a more specific negative affective re-

sponse that can only be reduced through a strategy that in some way reduces the discrepancy (e.g., Stone et al., 1997). How people label dissonance arousal as a particular negative emotion may delineate qualitatively different states of dissonance motivation which could influence the strategies people use to reduce their discomfort (e.g., Elliot & Devine, 1994; Cooper & Fazio, 1984).

But as noted above, even when different attributes and standards are salient or accessible, it is conceivable that people are not completely aware that they are using them in the construal process (e.g., Nisbett & Wilson, 1977). Under some conditions, the interpretation and evaluation of behavior may be very quick like a conditioned emotional response. When this is the case, people may not be consciously aware of the source of arousal because the construal of behavior is relatively automatic (e.g., Bargh, 1997). Another direction for future research is to examine the conditions under which dissonance arousal and reduction operate automatically such that people are unaware of why they experience dissonance or how they ultimately reduce it.

Conclusions

Forty years after its initial publication, dissonance theory continues to intrigue researchers with its fascinating blend of cognition and motivation. By illuminating a potential process by which people create meaning for their behavior, it may be possible to go beyond the current debate over which contemporary perspective is the best account of dissonance phenomena. Although the debate over the most parsimonious interpretation of dissonance phenomena has been productive for the discipline, more synthesis among the major perspectives seems possible. By focusing on how people construe behavioral discrepancies, and the potential processing that follows from a specific interpretation and evaluation of action, dissonance theory can move forward in new directions that continue to present important insights into human social behavior.

Endnotes

1. Also included was a question designed to measure perceptions of choice to write the

essay. Analysis of this item indicated that those in the low choice condition perceived significantly less choice to write the essay compared to participants in the high choice conditions.

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