

# 10

## The Case for Measuring Attitude Strength in Surveys

JON A. KROSNICK  
and ROBERT P. ABELSON

### Introduction

Attitude measurement is one of the most common goals of surveys. In the news media, for example, we frequently read reports of survey results revealing the proportions of Americans who approve and disapprove of the president's performance in office, or the numbers of citizens who favor and oppose legislation outlawing abortion, or the percentages of people who prefer particular candidates running for public office. As this is true for the popular press, so it is true for surveys conducted by academics and by government. Many surveys are designed to measure behaviors as well, but attitude assessment has been, since the earliest surveys, the primary focus of research using the survey method (Converse, 1987). And, of course, the usual purpose for attitude measurement is not so much to understand people's preferences per se, but rather to understand the forces shaping individuals' cognition and behavior.

Although it is very common to see attitudes measured in surveys, it is rare for a survey to measure the strength of those attitudes. And yet it seems patently obvious that not all attitudes are alike. Some are strong, in the sense that they have profound effects on individuals' cognition and behavior, and resist even the strongest pressures toward change. And other attitudes are weak, vulnerable to situational pressures, and with little if any impact on an individual's thinking or action. Thus, it would seem that any attempt to use attitudes to understand cognition and behavior certainly ought to take into account variation in strength across those attitudes. Yet, despite this obvious

In. Judith M. Tanur (Ed.), Questions about Questions: Inquiries into the Cognitive Bases of Surveys. New York: Russell Sage Foundation, 1992.

rationale for doing so, the vast majority of surveys have not attempted to measure this attribute of attitudes at all. Instead, they have simply settled for measuring attitude direction—revealing the proportions of people who are pro or con, favorable or unfavorable, positive or negative.

To be sure, the research literature has not made it obvious exactly how one should measure attitude strength in surveys. For example, in his chapter "Attitude Measurement" in the *Handbook of Social Psychology*, William Scott (1968) described nine variable properties of attitudes that might be considered dimensions of attitude strength: magnitude, intensity, ambivalence, salience, affective valence, cognitive complexity, overtness, embeddedness, and flexibility. But Scott did not make clear which of these dimensions one should measure if forced to choose, or how to go about doing so. During the more than twenty years since Scott's chapter appeared, matters have gotten both more complicated and much clearer. Magnitude (or extremity), intensity, ambivalence (or certainty), and embeddedness have all been the subjects of extensive empirical research, whereas Scott's other properties have been largely ignored. In their place a number of other dimensions of attitude strength have been explored, including ego involvement, affective-cognitive consistency, accessibility, amount of attitude-relevant knowledge, personal relevance, and vested interest. As the result of this research, appropriate and practical measurement procedures have been developed and refined.

More important, the last thirty years have brought us a great deal of evidence attesting to why attitude strength should be measured. Specifically, numerous studies have shown that strong attitudes are in fact more firmly crystallized and have more impact on cognition and behavior than weak attitudes. However, this literature is scattered in the journals of a variety of disciplines and has yet to be widely recognized. A review article written by Raden (1985) a few years ago discussed some of this literature, and much relevant work done before and since helps to make the case for attitude-strength measurement even more powerfully. This, therefore, seems like an especially opportune time to take a careful look back at this literature.

In this chapter we set out to do so, but not without a goal in mind. In reviewing this literature we will do our best to make the case that attitude strength should be measured whenever attitude direction is measured in surveys. No matter what one's goal in measuring attitudes, we believe, it can be better achieved by measuring both attitude direction and attitude strength than by measuring direction alone.

In planning this review, we took into account both theoretical and practical considerations. Specifically, we recognized that the limitations on time and money that restrict all survey enterprises discourage the addition of numerous tag-along questions following each attitude measure. Therefore, rather than discussing all of Scott's (1968) dimensions of attitude strength and all of

the others that have gained some attention, we will focus on just five of these dimensions. These five were selected because they possess three great virtues: they are the easiest to measure in surveys, they are the easiest to comprehend conceptually, and they are the most extensively validated as measures of the fixedness and consequentiality of attitudes.

We begin below by defining these five dimensions: extremity, intensity, certainty, importance, and knowledge. We also describe how each of these dimensions can easily be measured in surveys. Next, we clarify how these various dimensions are related to one another. And finally, we review the existing body of evidence, documenting that each of these dimensions is useful for understanding the dynamics of attitudes. All this will make clear, we hope, why including one or more of these measures of attitude strength in surveys will greatly help researchers to gauge and understand public opinion and social behavior.

## Definitions and Measurement

### Extremity

Attitude extremity is the degree of favorableness or unfavorableness of an individual's evaluation of a given object. The more extreme an individual's attitude is, the further it is from neutrality. Therefore, attitude extremity has typically been operationalized as the deviation of an individual's attitude rating from the midpoint of a pro-con dimension (Ewing, 1942; Judd and Johnson, 1981; Tannenbaum, 1956; Tesser, 1978; van der Pligt, Ester, and van der Linden, 1983). This seems straightforward enough on the surface, but as Abelson (1990) has recently pointed out, there are at least three different meanings of an "extreme" degree of favorability: The attitude object might attach to a number of strong values held by the individual; the attitude might be sweeping in its lack of qualification (e.g., "All research and commercial activity involving the incarceration of animals of any sort should be banned immediately"); or the attitude might be extreme because one deems it legitimate to go to great lengths to defend it—extremists in a political cause might endorse terrorism, for example. Despite this conceptual ambiguity, the assessment of extremity has been straightforward: departure from the neutral point of an attitude scale.

### Intensity

Some attitudes involve strong, affective responses to objects, whereas other attitudes involve little or no emotional reaction. Attitude intensity is defined as the strength of an individual's feelings about an attitude object (Krosnick

and Schuman, 1988; Schuman and Presser, 1981). Typically, it has been measured by asking people how strong or intense their feelings are toward a particular object (Cantril, 1944, 1946; Guttman and Suchman, 1947; Schuman and Presser, 1981; Stouffer, Guttman, Suchman, Lazarsfeld, Star, and Clausen, 1950).

### **Certainty**

Attitude certainty refers to the degree to which an individual is certain that his or her attitude toward an object is correct. It has usually been measured by asking respondents how sure they are of their opinion, how easily their opinion could be changed, or how confident they are that their opinion is correct (Budd, 1986; Budd and Spencer, 1984; Cantril, 1944; Davidson, Yanis, Norwood, and Montano, 1985; Fwang, 1942; Holtz and Miller, 1985; Krosnick and Schuman, 1988; Lennon, 1968; Schuman and Presser, 1981; Tourangeau and Rasinski, 1990). Other studies have asked respondents how difficult they found it to report an opinion on an issue (Stouffer et al., 1950). A related construct is the degree of ambivalence (Schuman and Presser, 1981) or conflict (Tourangeau et al., 1989a, 1989b) evidenced by one's beliefs about an object.<sup>1</sup>

### **Importance**

Attitude importance has been defined as the degree to which an individual considers an attitude to be personally important to him or her. Attitude importance has generally been measured by asking people how personally important their attitude or the attitude object is, how concerned they are about it, or how much they care about it (Cantril, 1944; Krosnick, 1988a, 1988b, 1989, 1990a; Madsen, 1978; Tourangeau, Rasinski, Bradburn, and D'Andrade, 1989a).<sup>2</sup>

1. Tourangeau and Rasinski (1990) recently demonstrated that certainty and conflict are only very weakly correlated with one another ( $r = .32$  and  $.21$  for two different issues), so they may not reflect the same underlying construct.

2. Some authors have referred to measures of attitude importance as assessing attitude centrality (e.g., Judd and Krosnick, 1982; Schuman and Presser, 1981). Given the other uses of the term *centrality* in social psychology over the years (Asch, 1946; Lewin, 1951; Newcomb, 1961), we now think it best to use this term to refer to the extent of connectedness between an attitude and other cognitive elements in memory, and to use the term *importance* to refer to the degree to which an individual is concerned about the attitude.

### **Knowledge**

Some attitudes are accompanied in memory by relatively little information about the attitude object, whereas other attitudes are linked to large stores of beliefs about the object. Amount of attitude-relevant knowledge has usually been measured by asking respondents to list everything they know about an attitude object (Davidson, Yanis, Norwood, and Montano, 1985; Kallgren and Wood, 1986; Wood, 1982; Wood, Kallgren, and Preisler, 1985). This dimension has also been assessed simply by asking individuals to report how knowledgeable they feel they are about an issue (e.g., Chuang, 1988). In addition, knowledge has been gauged by the number of correct answers people give to quizlike questions (Iyengar, 1990; Wilson, Kraft, and Dunn, 1989).

### **Relations Between These Dimensions**

In the simplest of worlds, these various dimensions of attitude strength would all be highly correlated with one another; that is, strong attitudes would be extreme, intense, held with great certainty, considered highly important, and bolstered by extensive knowledge. In contrast, weak attitudes would be moderate, would not involve intense feelings, would involve a great deal of ambivalence, would be unimportant to people, and would be bolstered by little or no knowledge. It would be very rare indeed to see an important attitude that was not extreme or an intense attitude that was not bolstered by lots of knowledge.

But the world is not so simple. Instead, a number of studies have documented low to moderate positive correlations between intensity and extremity (Cantril, 1946; Guttman and Suchman, 1947; Stouffer et al., 1950), intensity and certainty (Allport and Hartman, 1925; McCroskey, Prichard, and Arnold, 1967-1968; Raden, 1983; Stouffer et al., 1950), extremity and certainty (Allport and Hartman, 1925; Fazio and Zanna, 1978a; Johnson, 1940; McDill, 1959; Mehling, 1959; though see Lennon, 1968), importance and extremity (Borgida and Howard-Pitney, 1983; Brent and Granberg, 1982; Cialdini, Levy, Herman, Kozlowski, and Petty, 1976; Converse and Schuman, 1970; Granberg and Burlison, 1983; Howard-Pitney, Borgida, and Onoto, 1985; Knower, 1936; Krosnick and Telhami, 1990; Lennon, 1968; Rholes and Bailey, 1983; Smith, 1982), importance and intensity (Raden, 1983), importance and certainty (Raden, 1983; Tourangeau and Rasinski, 1990; though see Budd and Spencer, 1984), importance and knowledge (Bradburn and Caplovitz, 1965; Vallone, Ross, and Lepper, 1985; Wood, 1982), and certainty and knowledge (Davidson et al., 1985). Thus, it would

seem at first blush that these dimensions are not all reflections of a single underlying, superordinate dimension that might be called attitude strength. However, it is difficult to know exactly what to make of these zero-order correlations, because they are attenuated by random measurement error and inflated by shared systematic measurement error. Fortunately, the random measurement error problem can be overcome by using multiple measures of the dimensions, as Wilson, Hodges, and Pollack (1990) did. They found that the attitude-strength dimensions listed above are generally only weakly correlated with one another, and that strong correlations appear only very rarely. However, these analyses did not take into account correlated measurement error. This contamination with measurement error would most likely inflate correlations between measures using the same method and could depress correlations between measures using different methods.

One way to overcome this problem is via multiple indicator multitrait-multimethod analyses (e.g., Judd and Krosnick, 1982). Chuang (1988) did just this sort of analysis and reached a conclusion identical to that of Wilson, Hodges, and Pollack. Thus, it seems that these various dimensions are generally empirically quite separable from one another, so they should be viewed as distinct constructs.

This conclusion is further reinforced by a small body of evidence suggesting that these various dimensions of attitude strength each have unique causes. For example, Boninger, Krosnick, and Berent (1990) found that attitude importance is increased by perceptions of self-interest, social identification, and value relevance.<sup>3</sup> Fazio and Zanna (1978a, 1978b) showed that direct behavioral experience with an attitude object increases certainty about one's attitude toward it. And attitude extremity is increased by discussions among partisans favoring one side of the issue (Lamm and Myers, 1978), exposure to mixed evidence offering justifications both to support and to oppose a partisan position (Lord, Ross, and Lepper, 1979), thinking knowledgeably about the issue (Tesser, 1978), receiving insults during persuasion attempts (Abelson and Miller, 1967), and increased salience of group conflict on the issue (Price, 1989).<sup>4</sup>

Although these strength dimensions are clearly conceptually separable, it is important to note that they are not necessarily independent. Johnson and Eagly (1989) argued recently that self-interest and value relevance might produce attitudes with very different characteristics, thus suggesting that self-interest-based importance may be distinct from value-relevance-based importance. This debate is beyond the scope of our current enterprise.

Of course, it is plausible to hypothesize that many of the conditions that create greater attitude strength are themselves encouraged by strong attitudes, particularly in the context of attitude extremity and intergroup conflict (Abelson, 1980). For example, the increase in extremity following group discussion may make it more likely that some of the group's members will insult the out-group or make more publicly salient the intergroup disagreement. These influences in

is useful to recognize the special conditions under which they do coexist at high levels, as Abelson (1988) illustrated. He conducted factor analyses of them on a number of different issues and consistently uncovered three general dimensions: cognitive elaboration, emotional commitment, and ego preoccupation.<sup>5</sup> Cognitive elaboration is similar to knowledge. Emotional commitment is a combination of intensity and certainty. Ego preoccupation involves concern about the attitude issue and the attachment of personal importance to the attitude object. These three dimensions were found to correlate only weakly in the general population, but Abelson (1988) argued that they could be viewed as components of attitudinal "conviction," with important consequences resulting from the simultaneous presence of all three. Consistent with this general perspective, Tourangeau, Rasinski, Bradburn, and D'Andrade, (1989a, 1989b) identified interactions among dimensions of strength.

Taken together, then, this body of evidence suggests that the various aspects of attitude strength that we discuss below do not all reflect a single underlying dimension. Rather, they are conceptually and empirically separable and may therefore have nonoverlapping effects.

### The Evidence for Crystallization

Presumably, the most significant attribute of strong attitudes is that they are more resistant to change than weak attitudes. Therefore, if extremity, intensity, certainty, importance, and knowledge are to be viewed as dimensions of attitude strength, we must first show that these dimensions differentiate crystallized attitudes from uncrystallized ones.

Fortunately, this claim has received support from four kinds of studies. The first type explored responsiveness to persuasive communications intended to change attitudes in laboratory settings. As would be expected, more extreme attitudes changed less (Ewing, 1942; Osgood and Tannenbaum, 1955; Osgood, Suci, and Tannenbaum, 1957; Sarat and Vichnar, 1976; Tannenbaum, 1956),<sup>6</sup> and attitudes that people considered more personally

turn may push the out-group more toward an extreme position, stimulate more heated thinking, and encourage new group discussions along partisan lines—leading to even further polarization. The possibility of such feedback loops, creating conflict escalation, is of considerable theoretical and practical importance.

5. Unfortunately, attitude extremity was not included in these analyses.

6. Note that this result is just the opposite of what would be expected based on "regression to the mean," whereby more extreme attitudes should change more than moderate ones (assuming that the mean attitude is moderate).

important changed less (Fine, 1957; Gorn, 1975; Knower, 1936; Powell, 1977; Rline and Severance, 1970). Wood (1982) and Wood, Kallgren, and Preiser (1985) found that greater knowledge about an attitude object was associated with greater resistance to attitude change. And Marks and Kannins (1988) found greater attitude change among people low in attitudinal confidence.

A second approach to testing the resistance hypothesis involves examining people's responses to leading questions. Asking a leading question can induce people to generate cognitions consistent with the implications of the question and can thereby induce attitude change. If strong attitudes are more resistant to change, then these attitudes should prompt people to resist the persuasive impact of leading questions. As expected, Swann and colleagues found just this with regard to certainty: people who were more certain about their attitude were more resistant to influence in this fashion (Swann and Ely, 1984; Swann, Pelham, and Chidester, 1988).

However, Swann, Pelham, and Chidester (1988) did identify one type of leading question that induced more attitude change among high-certainty individuals than among low-certainty individuals. This involved asking people loaded questions that encouraged people to make statements that were consistent with, but more extreme than, their attitudes. Doing so led highly certain respondents' attitudes to become more moderate and had no effect on less certain respondents. Thus, resistance strategies that are usually effective can be turned on their heads.

A third set of studies has examined the impact of having people explain the reasons for their attitudes. This cognitive exercise can produce attitude change, and it would be expected to do so most among individuals with weak attitudes. Consistent with this notion, Wilson, Kraft, and Dunn (1989) showed that the disruptive effect of explaining attitudes is greatest among individuals with relatively little attitude-relevant knowledge (for a review of these and related studies, see Wilson, Dunn, Kraft, and Lisle, 1989).

The attitude-change hypothesis has also been tested via a fourth method: by assessing attitude stability over relatively long time periods during the course of everyday life. If stronger attitudes are indeed more resistant to change, they should show higher levels of stability. Consistent with this expectation, a number of studies have found that personally important attitudes are more stable over time than unimportant attitudes (Converse, 1964; Hahn, 1970; Kendall, 1954; Krosnick, 1988b; Schuman and Presser, 1981). High conviction enhances the stability of attitudes (Alberson, 1988), and high conflict is associated with lowered attitude stability (Tourangeau and Rasinski, 1990). Surprisingly, Schwartz (1978) found that more extreme attitudes were not more stable than moderate attitudes, but this result may be attributable to the confounding of less true attitude change with more

regression to the mean among individuals with more extreme attitudes. Nonetheless, the general weight of the evidence here favors the hypothesis that stronger attitudes are more stable over time.

Additional studies have highlighted some of the likely mechanisms of the increased resistance of strong attitudes to change. First, Cialdini, Levy, Herman, Kozlowski, and Petty (1976) showed that in response to the news that individuals would be discussing an issue with someone with whom they disagreed, important attitudes became more polarized, whereas unimportant attitudes became more moderate. Thus, people presumably brace to protect important attitudes and prepare to be flexible when attitudes are unimportant. Second, a number of studies have illustrated that personally important attitudes are more likely to be consistent with other attitudes and with basic values than unimportant ones (Jackman, 1977; Judd and Krosnick, 1989; Krosnick, 1990b; Schuman and Presser, 1981; Smith, 1982). These other attitudes and values presumably lend stability to the target attitude in the face of attack. And finally, Howard-Pitney, Borgida, and Omoto (1986) demonstrated that people for whom an attitude is personally important are especially likely to generate challenging cognitive responses to counterattitudinal arguments. This tendency toward biased cognitive elaboration also presumably enhances resistance to change.

### The Evidence for Greater Influence

It is all well and good to demonstrate that strong attitudes are more firmly crystallized than weak ones. But that is only the first step toward demonstrating that measuring attitude strength would be useful in surveys. In order to be fully convincing, we must produce evidence that strong attitudes also have greater influence on cognition and behavior than weak attitudes. Happily, there is a great deal of such evidence available, and it addresses many phenomena: the impact of attitudes on behavior and perceptions of others' attitudes, the impact of attitudinal similarity on social attraction, the impact of attitudes toward an object's individual attributes on attitudes toward the entire object, the impact of attitudes on memory for attitude-relevant information, the susceptibility of attitude reports to slight changes in a survey question, and a host of other miscellaneous findings. We review all this below.

### Attitude-Behavior Consistency

One of the most important goals of surveys is to predict or explain individuals' behavior from reports of their attitudes. Although it is well known that the attitude-behavior relation is typically weak, it would seem likely that the

relation would be strong in the case of strong attitudes and weak in the case of weak attitudes.

A number of studies have supported this assertion. For example, Fazio and Zanna (1978a, 1978b) found that more extreme attitudes and attitudes held with greater certainty were more consistent with behavior. Petersen and Dutton (1975) also found that greater attitude extremity was associated with increased attitude-behavior correspondence.<sup>7</sup> Sample and Warland (1973) and Davidson et al. (1985) also found greater attitude-behavior consistency for attitudes held with greater confidence. Krosnick (1988a), Schuman and Presser (1981), Jaccard and Becker (1985), and Hokeach and Khejunas (1972) reported greater attitude-behavior consistency among people for whom the attitude was personally important than among people for whom the attitude was unimportant. Kallgren and Wood (1986) found greater attitude-behavior correspondence for attitudes accompanied by more relevant knowledge in memory. Finally, significantly greater numbers of people with high attitude conviction than those with low attitude conviction said they would volunteer to work once a month for a group supporting their attitude position (Abelson, 1987). Thus, this group of studies suggests that attitude strength does moderate the attitude-behavior relation.

This evidence would be especially significant for the typical survey researcher; if it turned out that attitude strength varies across issues and attitude positions. In fact, this does appear to be the case sometimes. For example, Schuman and Presser (1981) showed that, in the late 1970s, Americans who were anti-gun control or anti-abortion typically had stronger attitudes than those who were pro-gun control or pro-abortion. Similarly, Abelson (1987) found that, in the late 1980s, Connecticut residents with higher importance ratings and higher commitment scores alike tended to take the conservative side on each of two issues (anti-abortion, pro-AIDS testing), whereas those with higher knowledge ratings tended to take the liberal sides. Furthermore, Abelson discovered that attitudes toward compulsory AIDS testing were of higher importance than attitudes toward the legality of abortion, but attitude intensity and clarity were higher on abortion than on AIDS. More data-snooping is required before it becomes clearer what types of issues in what stages of their history recruit what types of attitude strength, because attitude strength is sometimes completely independent of attitude position (e.g., Krosnick and Telhami, 1990).

7. Fazio's and Zanna's (1978a, 1978b) and Petersen's and Dutton's (1975) evidence could simply reflect the fact that more extreme attitudes are more variable and produce stronger correlations as a result (see Dawes and Smith, 1986, pp. 555-563).

### Perceptions of Others' Attitudes

According to social judgment theory, actions and statements of attitudes are inherently ambiguous and require some degree of interpreting in order for a perceiver to specify precisely what another person's attitude is (Sherif and Hovland, 1961). This interpretation is accomplished partly through comparisons of the other person's behavior with one's own attitude, which acts as a perceptual anchor. And this comparative process is thought to bring about perceptual distortion: attitudes close to one's own are assimilated toward it, and attitudes clearly different are contrasted away from it.

Social judgment theory argues that stronger attitudes are more powerful anchors and therefore have more impact than weak attitudes on perceptual processes. Thus, individuals with strong attitudes are thought to see others as primarily falling into one of two groups: those with whom they agree (at one end of the attitude continuum) and those with whom they disagree sharply (at the other end of the continuum). People with weak attitudes would be expected to perceive others as falling more evenly across the attitude dimension.

This hypothesis has received support in Krosnick's (1986, 1988a) survey-based studies of attitude importance and political candidate perception. He found that voters who considered a political issue to be personally important perceived presidential candidates to take extreme, opposing stands on the issue. In contrast, voters for whom an issue was personally unimportant were more likely to perceive competing pairs of candidates as taking identical, moderate stands.

Judd and Johnson (1981) reported comparable findings, using a very different approach. They compared a group of women who were strongly pro-women's rights to a group who were only weakly so. Relative to the weakly-pro group, the strongly-pro group reported greater knowledge about the issue, attached greater personal importance to it, and showed greater attitude extremity. And as compared to the weakly-pro group, the strongly-pro group overestimated the proportions of people who were pro-women's rights and anti-women's rights (rather than being neutral) among a variety of social groups to which they did not belong. Similarly, van der Pligt, Ester, and van der Linden (1983) and Crano, Gorenflo, and Slackelford (1988) found that people with more extreme attitudes perceived a greater proportion of others to take their side on an issue. Consistent with this, Hurwitz (1986) found that people with more extreme attitudes judged attitude statements to be more extreme. And Allison and Messick (1988), who experimentally manipulated attitude extremity, showed that increased extremity heightens subjects' perceptions of the proportions of others who share their attitudes.

These studies indicate that greater perceptual distortion is associated with strong attitudes than with weak attitudes.<sup>8</sup>

Holtz and Miller (1985) found related evidence in their exploration of perceptions of the attitudes of social groups. Two kinds of groups were compared: those to which people did belong (in-groups), and those to which they did not belong and competed against for social status (out-groups). On issues people considered personally important, they exaggerated agreement with in-groups, and they exaggerated disagreement with out-groups. But on issues that were not personally important to people, no such exaggeration occurred.

Marks and Miller (1982) provided analogous evidence in a very different way. Rather than studying group membership, these investigators focused on the other person's attractiveness. On issues people considered personally important, they exaggerated perceived agreement between themselves and attractive others, and they exaggerated perceived disagreement between themselves and unattractive target others. No such effects appeared in the cases of issues that subjects considered personally unimportant, further indicating that strong attitudes have stronger effects on perception than do weak attitudes.

Only one study has reported results that are discordant with this literature. In Krosnick's (1991) study of the false-consensus effect, he did find the strength of the perceptual-distortion effect to vary depending upon the importance of the issue to people. Surprisingly, however, the false-consensus effect was weaker in the case of important attitudes than in the case of unimportant attitudes; that is, people generally tended to overestimate the proportion of others who shared their own opinions on an issue, but especially on issues they considered unimportant. This contradicts the expectation that more important attitudes would be more powerful instigators of the false-consensus effect.

However, this effect may be understandable in light of Dawes's (1989) analysis of the false-consensus effect. High-importance individuals presumably have more information about others' stands on an issue (Krosnick, 1990a), so they need not rely on their own stands to infer those of others. By contrast, low-importance individuals are presumably less well informed about the issue generally and are therefore forced to look to their own stands as information about where others may stand. Thus, the reduced false-consensus effect here may reflect greater issue-relevant knowledge among individuals whose attitudes on it are important to them.

8. We use the term *distortion* advisedly here. It is certainly conceivable that if we were to compare people's perceptions to measures of "truth," we would find that it is people with weak attitudes whose perceptions actually deviate more from truth than people with strong attitudes.

Taken together, then, this literature generally supports our expectation that more important attitudes have more impact on perceptions, and this finding highlights yet another reason why it is useful to distinguish strong attitudes from weak ones.

### **Similarity-Attraction Effect**

Theories of cognitive consistency argue that people should be attracted to others who share their attitudes instead of others who hold attitudes that conflict with their own (e.g., Festinger, 1957; Heider, 1958). Consistent with this notion, a great deal of research has demonstrated that attitudinal similarity leads to interpersonal attraction (e.g., Byrne, 1961, 1971; Newcomb, 1961). If this is so, we would certainly expect it to be especially true in the case of strong attitudes as compared to weak ones.

There is much evidence in support of this expectation. A number of studies have shown greater correspondence between an individual's attitudes and his or her friends' attitudes when the individual's attitudes are extreme or highly important (Judd and Johnson, 1981; Tedin, 1974, 1980). Likewise, attitude similarity is a more powerful determinant of attraction to strangers (Byrne, London, and Griffitt, 1968; Clore and Baldridge, 1968) and to political candidates (Aldrich and McKelvey, 1977; Gramberg and Holmberg, 1986; Krosnick, 1988b, 1990a; McGraw, Lodge, and Stroh, 1990; Rabinowitz, Prothro, and Jacoby, 1982; Schuman and Presser, 1981; Shapiro, 1969) when the attitude involved is personally important to the individual. Iyengar (1990) also reported a similar finding regarding attitude-relevant knowledge. The more an individual knew about a particular attitude, the more heavily he or she weighed self-other similarity involving that attitude when evaluating others.

### **Part-Whole Attitude Consistency**

According to Fishbein and Ajzen's (1975; Ajzen and Fishbein, 1980) Theory of Reasoned Action, people's attitudes toward objects are derived from their beliefs about the attributes of the object and their attitudes toward those attributes. Fishbein and Ajzen assumed that attributes toward which an individual has stronger attitudes would have greater impact on the overall attitude toward the object. This enhanced impact is presumably reflected by a greater level of evaluative consistency between the overall attitude and the attitudes toward the attributes.

In line with this assumption, Budd (1986) showed that the attributes of cigarette smoking that individuals consider more important are also more strongly correlated with overall evaluations of smoking. Similarly, Watkins

and Park (1972) and Rosen and Ross (1968) reported that attitudes toward one's own body parts are more strongly correlated with overall attitudes toward one's own body when attitudes toward the body parts are especially important. Analogously, an individual's self-esteem is more influenced by satisfaction with more personally important dimensions of self-evaluation (Hoelter, 1985; Kaplan, 1980; Marsh, 1986; Pelham and Swann, 1989; Rosenberg, 1965), and with dimensions that were evaluated with greater certainty (Pelham and Swann, 1989). And considerations of economic self-interest have more impact on presidential candidate preferences among people for whom economic issues are especially important (Young, Borgida, Sullivan, and Aldrich, 1987).

### **Memory for Attitude-Relevant Information**

According to cognitive dissonance theory (Festinger, 1957), retaining information in memory that challenges one's attitude on an issue is uncomfortable. Therefore, people would be expected to be biased in favor of remembering attitude-consistent information and forgetting attitude-inconsistent information. This has been termed a "congeniality bias" in memory. Although investigators have found it very difficult to document this tendency reliably (Roberts, 1985), this may be because they have failed to differentiate strong attitudes from weak ones. Certainly, we would expect the effect to be stronger in the case of the former.

Consistent with this expectation, Berent (1990) showed recently that attitude importance does indeed regulate the strength of this effect. He examined memory for information acquired in two very different ways: reading sentences on computer screens in laboratory settings, and watching actual United States presidential debates when they were initially broadcast on television in people's own homes. As expected, individuals who considered an issue to be more important were more likely to remember attitude-consistent information and less likely to remember attitude-inconsistent information than people who considered the issue to be unimportant.

In contrast, Johnson and Judd (1983) found no greater congeniality bias in the case of committed activists on an issue, as compared to nonactivists. However, Johnson and Judd's memory measure was quite different from that used by Berent (1990). Instead of assessing recall of attitude-relevant statements that subjects had read, Johnson and Judd examined their subjects' recall of the hypothetical individuals who supposedly made each statement. Cognitive consistency theories do not offer such a strong rationale for a congeniality bias in this sort of memory task, so the failure to find an effect of activism is not especially disconcerting.

A second hypothesis involving attitude strength and memory has also

received some support. This hypothesis proposes that people should attend more closely to and think more deeply about information relevant to stronger attitudes. As a result, this information should be better remembered than information relevant to weaker attitudes.

Howard-Pitney, Borgida, and Omoto (1986) failed to uncover evidence of such a relation in the case of attitude importance; and Craano, Gorenflo, and Shackelford (1988) failed to find an association in the case of attitude extremity. However, Iyengar (1990) did find that people who had more attitude-relevant knowledge stored in memory also had better recall of newly acquired attitude-relevant information. Similarly, Krosnick and Schuman (1985) and Berent (1990) found that attitude importance was associated with better memory for attitude-relevant information. Furthermore, Krosnick (1990a) found that perceptions of the directions of political candidates' stands on a political issue were more accurate among people who considered the issue more personally important. These individuals also evidenced greater accuracy in their perceptions of the directions of differences between political candidates' stands on an issue.

Berent (1990) showed that the correlation between attitude importance and memory for attitude-relevant information was not mediated by selective exposure to attitude-relevant information. Rather, attitude importance apparently induced deeper processing of such information, thus producing stronger memory traces. In addition, Krosnick and Schuman's (1985) evidence suggests that the association between attitude importance and memory appears when the recall task is performed days after information exposure, but not when it is performed only minutes after exposure. Thus, it seems that attitude strength is associated with differential decay of information in memory, not differential likelihood of storing a trace in memory initially.

### **Susceptibility to Survey Response Effects**

The final area of research we shall consider is the most puzzling. This research has explored the magnitude of response effects: the impact on people's attitude self-reports of subtle changes in an attitude question's wording, format, or placement in a questionnaire. Since the earliest research in this area, researchers have assumed that respondents with strong attitudes would be less susceptible to such effects (Blankenship, 1940, p. 401; Cantril, 1944, pp. 34, 35, 45, 48-49; Converse, 1970, p. 177, 1974, p. 656; Erikson and Luttbeg, 1973, pp. 35-39; Gallup, 1941, p. 261; Kagay, 1988; Katz, 1940, p. 279; Payne, 1951, pp. 135, 179; Rosenberg, Verba, and Converse, 1970, pp. 24-25). Presumably, the notion was that a person who is strongly antiabor-

tion, for example, will say so clearly and identically, regardless of how he or

she is asked. In contrast, a person who is only weakly on one side of the issue can presumably be induced to express any of a variety of different positions. Though widely believed, this hypothesis has rarely been tested. The most comprehensive test of it was reported by Krosnick and Schuman (1988), who explored the impact of attitude importance, intensity, and certainty on susceptibility to response effects. Surprisingly, they found that five such effects (response order, question order, tone of wording, balance, and acquiescence effects) were not smaller for important attitudes, intense attitudes, or attitudes held with great certainty. Only in the case of middle-alternative effects was the hypothesis confirmed. When asked questions for which a middle-alternative response is plausible (e.g., gun control laws should be kept as they are now, instead of being made stricter or less strict), offering the middle alternative explicitly in the question is most likely to attract respondents for whom the attitude is not important or intense (although see Stember and Hyman, 1949-1950).

Bishop (1990) conducted a similar set of analyses, and, like Krosnick and Schuman (1988), he found that attitude importance did not regulate the magnitude of question-order or response-order effects. And, like Krosnick and Schuman, Bishop found that attitude importance did moderate the magnitude of middle-alternative effects. But, in contrast to Krosnick and Schuman, Bishop found that attitude importance did seem to moderate the magnitude of balance effects—that is, including an argument against a particular policy in a question decreased expressed support for the policy, especially among people with unimportant attitudes. This finding is consistent with the speculation that balance effects occur through attitude change, and important attitudes are more resistant to change.

Krosnick (1991) reported an interesting reversal of the expected pattern. His focus was on the false-consensus effect—the tendency for people to overestimate the proportion of others who share their points of view on the issue. This tendency is generally stronger when respondents are asked first about others' attitudes and subsequently about their own, as compared to when respondents are asked first about their own views on an issue and then subsequently are asked how many others share this view (Baron and Roper, 1976; Krosnick, 1990b; McCauley, Kogan, and Teger, 1971; Mullen, Atkins, Champaign, Edwards, Hardy, Story, and Vanderklok, 1985; Mullen, Driskell, and Smith, 1989; Mullen and Hu, 1988, though see Weinstein, 1984). Krosnick (1991) found that this effect of question order on the magnitude of the false-consensus effect was stronger among people who considered the issue to be highly personally important than among people who considered it to be unimportant.

Tourangeau, Rasinski, Bradburn, and D'Andrade (1989a, 1989b) reported even more complex results: an interaction between importance, ambivalence,

and a question-order effect. Their interest was in the possibility that prior questions might prime beliefs that then influence answers to later target questions. Consistent with Krosnick and Schuman's (1988) and Bishop's (1990) conclusions, the priming effects Tourangeau et al. observed were no larger on average among respondents who considered the issue to be unimportant than among those who considered it highly important. However, Tourangeau et al. did observe a nonsignificant trend suggesting that the priming effects may have been slightly greater among respondents who said they had ambivalent feelings on the issue (Bishop, 1990, reported a similar finding). More important, though, Tourangeau et al. found that their priming effects were concentrated among respondents who both considered the issue important and were high in ambivalence.

In sum, it is currently unclear precisely what role attitude strength plays in regulating the occurrence of response effects. The relatively simple hypothesis that these effects are greater in the case of weaker attitudes has clearly been disconfirmed. It does seem that some attitude-strength dimensions may regulate some of these effects, although in rather complex fashions that depend upon the particular effect involved. It therefore appears that attitude strength is yet again worth taking into account when using attitude measures.

## Conclusion

Whether one is interested in the impact of attitudes on behavior, on perceptions of others' attitudes, on interpersonal attraction, on superordinate attitudes, or on memory for attitude-relevant information, more informed predictions can be made with measures of attitude strength in hand than without them. The one exception to this rule is in the case of question-order and response-order effects in attitude measurement, which seem not to depend on attitude strength. But in general the weight of the evidence is strongly on the supporting side. It is therefore likely to prove rewarding to survey researchers to include one or more measures of attitude strength when assessing attitude direction. The pattern of relationships observed in respondents with strong attitudes will most likely be different from that observed among respondents with weak attitudes.

When it comes to giving advice on which measure of strength to use, the data base at hand is not sufficiently developed to make a clear recommendation. As we noted, the dimensions of attitude strength are only weakly correlated with one another, which means that one's choice among them may well be quite consequential. We therefore see two stances that one might take. As Abelson (1988) has done, one can measure all of the dimensions and aggregate them, on the theory that the small subset of individuals who score

high on many measures is possessed of more of a general attitude-strength property (say, conviction) than the subset of uniformly low scorers. This strategy appears to produce coherent, albeit somewhat weak, relationships with other variables. The obvious disadvantage of this strategy is that a large number of attitude-strength questions must be asked for each attitude-object.

An alternative tack is to make a theoretical and practical commitment to a particular strength measure, and work out its relationships to other variables in detail. Among the strength dimensions considered here, the two most promising would appear to be importance and extremity, because they appear to be the most well-researched of these variables. In our review 87 empirical results were cited. Importance was the applicable measure in 56 of these, extremity was mentioned 13 times, and the other strength variables together accounted for 18 references. We do not know, of course, with what frequency the various strength measures failed to show effects, since non-results are likely to find their ways into file drawers instead of journals and books (Rosenthal, 1979). And given our own areas of research emphasis, we are more likely to be informed about research on attitude importance than is in the publication pipeline than such work on other dimensions. Nonetheless, importance and extremity seem to be the most extensively documented dimensions to date, so it may prove most useful at this point in time to make use of these two factors.



Preparation of this chapter was supported in part by NSF Grant BNS-8920430 to Jon A. Krosnick. The authors wish to thank Roger Tourangeau and Robyn Dawes for their helpful comments.

## References

- ABELSON, R. P. (1987) The association of attitudinal conviction with attitude positions and issues. Unpublished data.
- (1988) Conviction. *American Psychologist* 43, 267–275.
- (1990) Psychological processes that make intergroup controversies worse. Paper delivered at the annual meeting of the International Society for Political Psychology, Washington, D.C.
- ABELSON, R. P., and MILLER, J. C. (1967) Negative persuasion via personal insult. *Journal of Experimental Social Psychology* 3, 321–333.
- AJZEN, I., and FISHERIN, M. (1980) *Understanding Attitudes and Predicting Social Behavior*. Englewood Cliffs, NJ: Prentice-Hall.

- ALDRICH, J. H., and MCKELVEY, R. D. (1977) A method of scaling with applications to the 1968 and 1972 presidential elections. *American Political Science Review* 71, 111–130.
- ALLISON, D. E., and MESSICK, D. M. (1988) The feature-positive effect, attitude strength, and the degree of perceived consensus. *Personality and Social Psychology Bulletin* 14, 236–241.
- ALLPORT, F. H., and HARTMAN, D. A. (1925) The measurement and motivation of atypical opinion in a certain group. *American Political Science Review* 19, 735–760.
- ASCH, S. E. (1946) Forming impressions of personality. *Journal of Abnormal and Social Psychology* 41, 258–290.
- BAHON, R. S., and ROPER, G. (1976) Reaffirmation of social comparison views of choice shifts: Averaging and extremity effects in an autokinetic situation. *Journal of Personality and Social Psychology* 33, 521–530.
- BERENT, M. K. (1990) Attitude importance and the recall of attitude relevant information. Master's thesis. Columbus, OH: Department of Psychology, Ohio State University.
- BISHOP, C. F. (1990) Issue involvement and response effects in public opinion surveys. *Public Opinion Quarterly* 54, 209–218.
- BLANKENSHIP, A. B. (1940) The influence of the question form upon the response in a public opinion poll. *Psychological Record* 3, 345–422.
- BONINGER, D. S., KROSNIK, J. A., and BERENT, M. K. (1990) The causes of attitude importance: Self-interest, social identification, and values. Manuscript. Columbus, OH: Department of Psychology, Ohio State University.
- BORGIDA, E., and HOWARD-PUTNEY, B. (1983) Personal involvement and the robustness of perceptual salience effects. *Journal of Personality and Social Psychology* 45, 560–570.
- BRAUBURN, N. M., and CARLAVITZ, D. (1965) *Reports on Happiness: A Pilot Study of Behavior Related to Mental Health*. Chicago: Aldine.
- BRENT, E., and GRANBERG, D. (1982) Subjective agreement and the presidential candidates of 1976 and 1980. *Journal of Personality and Social Psychology* 42, 393–403.
- BURD, R. J. (1986) Predicting cigarette use: The need to incorporate measures of salience in the Theory of Reasoned Action. *Journal of Applied Social Psychology* 16, 633–685.
- BURD, R. J., and SPENCER, C. (1984) Latitude of rejection, centrality, and certainty: Variables affecting the relationship between attitudes, norms, and behavioral intentions. *British Journal of Social Psychology* 23, 1–8.
- BYRNE, D. (1961) Interpersonal attraction and attitude similarity. *Journal of Abnormal and Social Psychology* 62, 713–715.
- (1971) *The Attraction Paradigm*. New York: Academic Press.
- BYRNE, D., LANDON, O., and GRIFFITT, W. (1968) The effect of topic importance and attitude similarity-dissimilarity on attraction in an intrastranger design. *Psychonomic Science* 11, 303–304.

- CANTILLI, H. (1944) *Gauging Public Opinion*. Princeton, NJ: Princeton University Press.
- (1946) The intensity of an attitude. *Journal of Abnormal and Social Psychology* 41, 1-12.
- CHURCH, Y. C. (1988) The structure of attitude strength. Master's thesis, Columbus, OH: Department of Psychology, Ohio State University.
- CIACCINI, R. B., LEVY, A., HERMAN, C. P., KOZLOWSKI, L., and PERRY, R. E. (1976) Elastic shifts of opinion: Determinants of direction and durability. *Journal of Personality and Social Psychology* 34, 663-672.
- CLORE, G. L., and BALLOUPE, B. (1988) Interpersonal attraction: The role of agreement and topic interest. *Journal of Personality and Social Psychology* 9, 340-346.
- CONVERSE, J. M. (1987) *Survey Research in the United States: Roots and Emergence 1890-1960*. Berkeley, CA: University of California Press.
- CONVERSE, P. E. (1964) The nature of belief systems in the mass public. In APTEA, D. E. (ed.), *Ideology and Discontent*. New York: Free Press, pp. 206-261.
- (1970) Attitudes and nonattitudes: Continuation of a dialogue. In TORTE, E. R. (ed.), *The Quantitative Analysis of Social Problems*. Reading, MA: Addison-Wesley, pp. 168-189.
- (1974) Comment: The status of nonattitudes. *American Political Science Review* 68, 650-660.
- CONVERSE, P. E., and SCHUMAN, H. (1970) Silent majorities and the Vietnam war. *Scientific American*, 17-25.
- CRANO, W. D., CORENFIELD, D. W., and SHACKELFORD, S. L. (1988) Overjustification, assumed consensus, and attitude change: Further investigation of the incentive-aroused ambivalence hypothesis. *Journal of Personality and Social Psychology* 55, 12-22.
- DAVIDSON, A. R., YANTIS, S., NORWOOD, M., and MONTANO, D. E. (1985) Amount of information about the attitude object and attitude-behavior consistency. *Journal of Personality and Social Psychology* 49, 1184-1198.
- DAWES, R. M. (1989) Statistical criteria for establishing a truly false consensus effect. *Journal of Experimental Social Psychology* 25, 1-17.
- DAWES, R. M., and SMITH, T. L. (1986) Attitude and opinion measurement. In LAUDIZY, G., and ARONSON, E. (eds.), *Handbook of Social Psychology*, 3rd ed. New York: Random House, pp. 509-566.
- EMMONS, R. S., and LATTING, N. R. (1973) *American Public Opinion: Its Origins, Content, and Impact*. New York: Wiley.
- EMING, T. N. (1942) A study of certain factors involved in changes of opinion. *Journal of Social Psychology* 16, 63-88.
- FAZIO, R. H. (1986) How do attitudes guide behavior? In SORRENTINO, R. M., and HUGGINS, E. T. (eds.), *The Handbook of Motivation and Cognition: Foundations of Social Behavior*. New York: Guilford Press, pp. 204-243.
- FAZIO, R. H., CHEN, J., McDONEL, E. C., and SNEAMAN, S. J. (1982) Attitude accessibility, attitude-behavior consistency, and the strength of the object-evaluation association. *Journal of Experimental Social Psychology* 18, 339-357.
- FAZIO, R. H., and ZANNA, M. P. (1978a) Attitudinal qualities relating to the strength of the attitude-behavior relationship. *Journal of Experimental Social Psychology* 14, 398-408.
- (1978b) On the predictive validity of attitudes: The role of direct experience and confidence. *Journal of Personality* 46, 228-243.
- FESTINGER, L. (1957) *A Theory of Cognitive Dissonance*. Stanford, CA: Stanford University Press.
- FINE, B. J. (1957) Conclusion-drawing, communicator credibility, and anxiety as factors in opinion change. *Journal of Abnormal and Social Psychology* 54, 369-374.
- FISHBEIN, M., and AJZEN, I. (1975) *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Reading, MA: Addison-Wesley.
- GALLUP, G. (1941) Question wording in public opinion polls. *Sociometry* 4, 259-268.
- GOSS, G. J. (1975) The effects of personal involvement, communication discrepancy, and source prestige on reactions to communications on separatism. *Canadian Journal of Behavioral Science* 7, 369-386.
- GROBNER, D., and BURTON, J. (1983) The abortion issue in the 1980 elections. *Family Planning Perspectives* 15, 231-238.
- GROBNER, D., and HOUBERT, S. (1986) Political perception among voters in Sweden and the U.S.: Analyses of issues with explicit alternatives. *Western Political Quarterly* 39, 7-28.
- GUTTMAN, L., and SUCHMAN, E. A. (1947) Intensity and a zero point for attitude analysis. *American Sociological Review* 12, 57-67.
- HAIN, H. (1970) The political impact of shifting attitudes. *Social Science Quarterly* 51, 730-742.
- HEIDER, F. (1958) *The Psychology of Interpersonal Relations*. New York: Wiley.
- HOELTER, J. W. (1985) The structure of self-conception: Conceptualization and measurement. *Journal of Personality and Social Psychology* 49, 1392-1407.
- HOLTZ, R., and MILLER, N. (1985) Assumed similarity and opinion certainty. *Journal of Personality and Social Psychology* 48, 890-898.
- HOWARD-PRINCE, B., BORGIDA, E., and OSORO, A. M. (1985) Personal involvement: An examination of processing differences. Manuscript, Twin Cities, MN: Department of Psychology, University of Minnesota.
- (1986) Personal involvement: An examination of processing differences. *Social Cognition* 4, 39-57.
- HURWITZ, J. (1986) Issue perception and legislative decision making: An application of social judgement theory. *American Politics Quarterly* 14, 150-185.
- HYMAN, H. H., and SREATLEY, P. B. (1947) Some reasons why information campaigns fail. *Public Opinion Quarterly* 11, 412-423.
- IVENCAR, S. (1990) Shortcuts to political knowledge: Selective attention and access-

- bility. In FÉREJOU, J., and KUMINSKI, J. (eds.), *Information and the Democratic Process*. Urbana, IL: University of Illinois Press, pp. 160-185.
- JACCARD, J., and BECKER, M. A. (1985) Attitudes and behavior: An information integration perspective. *Journal of Experimental Social Psychology* 21, 440-465.
- JACKMAN, M. R. (1977) Prejudice, tolerance, and attitudes toward ethnic groups. *Social Science Research* 6, 145-169.
- JOHNSON, B. T., and EAGLY, A. H. (1989) Effects of involvement on persuasion: A meta-analysis. *Psychological Bulletin* 106, 290-314.
- JOHNSON, D. M. (1940) Confidence and the expression of opinion. *The Journal of Social Psychology, Society for the Psychological Study of Social Issues Bulletin* 12, 213-220.
- JOHNSON, J. T., and JUDD, C. M. (1983) Overlooking the incongruent: Categorization biases in the identification of political statements. *Journal of Personality and Social Psychology* 45, 978-986.
- JUDD, C. M., and JOHNSON, J. T. (1981) Attitudes, polarization, and diagnosticity: Exploring the effects of affect. *Journal of Personality and Social Psychology* 41, 25-36.
- JUDD, C. M., and KROSNICK, J. A. (1982) Attitude centrality, organization, and measurement. *Journal of Personality and Social Psychology* 42, 436-447.
- (1989) The structural bases of consistency among political attitudes: The effects of political expertise and attitude importance. In PHOTAKIS, A. R., BRECKLER, S. J., and GREENWALD, A. G. (eds.), *Attitude: Structure and Function*. Hillsdale, NJ: Erlbaum, pp. 99-128.
- KAGAN, M. R. (1988) In judging polls, what counts is when and how who is asked what. *New York Times*, September 12, p. A16.
- KALLGREN, C. A., and WOOD, W. (1986) Access to attitude-relevant information in memory as a determinant of attitude-behavior consistency. *Journal of Experimental Social Psychology* 22, 328-338.
- KAPLAN, H. B. (1980) *Deviant Behavior in Defense of Self*. New York: Academic Press.
- KATZ, D. (1940) Three criteria: Knowledge, conviction, and significance. *Public Opinion Quarterly* 4, 277-284.
- KENDALL, P. (1954) *Conflict and Mood. Factors Affecting Stability of Response*. Glencoe, IL: Free Press.
- KNOWER, F. H. (1936) Experimental studies of changes in attitude—III: Some incidence of attitude changes. *Journal of Applied Psychology* 20, 114-127.
- KROSNICK, J. A. (1986) Policy voting in American Presidential elections: An application of psychological theory to American politics. Ph.D. dissertation. Ann Arbor, MI: University of Michigan.
- (1988a) The role of attitude importance in social evaluation: A study of policy preferences, presidential candidate evaluations, and voting behavior. *Journal of Personality and Social Psychology* 55, 196-210.
- (1988b) Attitude importance and attitude change. *Journal of Experimental Social Psychology* 24, 240-255.

- (1989) Attitude importance and attitude accessibility. *Personality and Social Psychology Bulletin* 15, 297-308.
- (1990a) Americans' perceptions of presidential candidates: A test of the projection hypothesis. *Journal of Social Issues* 46, 159-182.
- (1990b) Government policy and citizen passion: A study of issue publics in contemporary America. *Political Behavior* 12, 59-92.
- (1991) The impact of cognitive sophistication and attitude importance on response order effects and question order effects. In SCHWARZ, N., and SUBMAN, S. (eds.), *Order Effects in Social and Psychological Research*. New York: Springer-Verlag.
- KROSNICK, J. A., and SCHUMAN, H. (1985) Exploratory studies of the relation between attitude importance and memory for attitude-relevant information. Manuscript. Columbus, OH: Ohio State University.
- (1988) Attitude intensity, importance, and certainty and susceptibility to response effects. *Journal of Personality and Social Psychology* 54, 940-952.
- KROSNICK, J. A., and TELHAMI, S. (1980) Public attitudes and American policy toward the Arab-Israeli conflict. Manuscript. Columbus, OH: Department of Psychology, Ohio State University.
- LAMM, H., and MYERS, D. G. (1978) Group-induced polarization of attitudes and behavior. In BERKOWITZ, L. (ed.), *Advances in Experimental Social Psychology*, vol. 11. New York: Academic Press.
- LEMON, N. F. (1968) A model of the extremity, confidence and salience of an opinion. *British Journal of Social Clinical Psychology* 7, 106-114.
- LEWIN, K. (1951) *Field Theory in Social Science*. New York: Harper & Row.
- LORD, C., ROSS, L., and LEPPER, M. (1979) Biased assimilation and attitude polarization: The effects of prior theories on subsequently considered evidence. *Journal of Personality and Social Psychology* 37, 2098-2109.
- MCCAULEY, C., KOCAN, N., and TEGER, A. I. (1971) Order effects in answering risk dilemmas for self and others. *Journal of Personality and Social Psychology* 20, 423-424.
- MCCROSKEY, J. C., PRICHARD, S. V. O., and ARNOLD, W. E. (1967-1968) Attitude intensity and the neutral point on semantic differential scales. *Public Opinion Quarterly* 31, 642-645.
- McDILL, E. L. (1959) A comparison of three measures of attitude intensity. *Social Forces* 38, 95-99.
- McCRAW, K. M., LODGE, M., and STROU, P. (1990) On-line processing in candidate evaluation: The effects of issue order, issue importance, and sophistication. *Political Behavior* 12, 41-58.
- MAISEN, D. B. (1978) Issue importance and group choice shifts: A persuasive arguments approach. *Journal of Personality and Social Psychology* 36, 1118-1127.
- MARKS, G., and MILLER, N. (1982) The effect of certainty on consensus judgments. *Personality and Social Psychology Bulletin* 11, 165-177.
- MARKS, L. J., and KAMINS, M. A. (1988) The use of product sampling and advertising:

- Effects of sequence of exposure and degree of advertising claim exaggeration on consumers' belief strength, belief confidence, and attitudes. *Journal of Marketing Research* 25, 266-281.
- MARSH, H. W. (1986) Global self-esteem: Its relation to specific facets of self-concept and their importance. *Journal of Personality and Social Psychology* 51, 1224-1236.
- MEHLISC, B. (1959) A simple test for measuring intensity of attitudes. *Public Opinion Quarterly* 23, 576-578.
- MULLER, B., ATKINS, J. L., CHAMPION, D. S., EDWARDS, C., HARRIS, D., STROM, J. E., and VANDERKLOK, M. (1985) The false consensus effect: A meta-analysis of 115 hypothesis tests. *Journal of Experimental Social Psychology* 21, 162-283.
- MULLER, B., DRISKELL, J. E., and SMITH, C. (1989) Availability and social projection: The effects of sequence of measurement and wording of question on estimates of consensus. *Personality and Social Psychology Bulletin* 15, 84-90.
- MULLER, B., and HU, L. (1988) Social projection as a function of cognitive mechanisms: Two meta-analytic integrations. *British Journal of Social Psychology* 27, 333-356.
- NEWCOMB, T. M. (1961) *The Acquaintance Process*. New York: Holt, Rinehart, and Winston.
- OSGOOD, C. E., SUCI, G. J., and TANNENBAUM, P. H. (1957) *The Measurement of Meaning*. Urbana, IL: University of Illinois Press.
- OSGOOD, C. E., and TANNENBAUM, P. H. (1955) The principles of congruity in the prediction of attitude change. *Psychological Review* 62, 42-55.
- PAYNE, S. L. (1951) *The Art of Asking Questions*. Princeton, NJ: Princeton University Press.
- PELHAM, B. W., and SWANN, W. B., JR. (1989) From self-conceptions to self-worth: On the sources and structure of global self-esteem. *Journal of Personality and Social Psychology* 57, 672-680.
- PETERSEN, K., and DUTTON, J. E. (1975) Certainty, extremity, intensity: Neglected variables in research on attitude-behavior consistency. *Social Forces* 54, 393-414.
- POWELL, J. L. (1977) Satirical persuasion and topic salience. *Southern Speech Communication Journal* 42, 151-162.
- PUCE, V. (1989) Social identification and public opinion: Effects of communicating group conflict. *Public Opinion Quarterly* 53, 197-224.
- RABINOWITZ, G., PROTURO, J. W., and JACOBY, W. (1982) Salience as a factor in the impact of issues on candidate evaluation. *Journal of Politics* 42, 41-63.
- RADEB, D. (1983) The interrelationships between the dimensions of social attitudes. Paper presented at the annual meeting of the Southern Sociological Association, Atlanta, GA.
- (1985) Strength-related attitude dimensions. *Social Psychological Quarterly* 48, 312-330.
- RHINE, R. J., and SEVERANCE, L. J. (1970) Ego-involvement, discrepancy, source credibility, and attitude change. *Journal of Personality and Social Psychology* 16, 175-190.

- RHODES, W. S., and BAILEY, S. (1983) The effects of level of moral reasoning on consistency between moral attitudes and related behaviors. *Social Cognition* 2, 32-48.
- ROBERTS, J. V. (1985) The attitude-memory relationship after 40 years: A meta-analysis of the literature. *Basic and Applied Social Psychology* 6, 221-241.
- ROKEACH, M., and KLEFJUNAS, P. (1972) Behavior as a function of attitude-toward-object and attitude-toward-situation. *Journal of Personality and Social Psychology* 22, 194-201.
- ROSEN, G. M., and ROSS, A. O. (1968) Relationship of body image to self-concept. *Journal of Consulting and Clinical Psychology* 32, 100.
- ROSENBERG, M. (1965) *Society and the Adolescent Self-Image*. Princeton, NJ: Princeton University Press.
- ROSENBERG, M. J., VERBA, S., and CONVERSE, P. E. (1970) *Vietnam and the silent majority*. New York: Harper & Row.
- ROSENTHAL, R. (1979) The "file drawer problem" and tolerance for null results. *Psychological Bulletin* 86, 638-641.
- SAMPLE, J., and WARLAND, R. (1973) Attitudes and the prediction of behavior. *Social Forces* 51, 292-304.
- SARAT, A., and VIDMAR, N. (1976) Public opinion, the death penalty, and the eighth amendment: Testing the Marshall hypothesis. *Wisconsin Law Review* 171, 171-206.
- SCHUMAN, H., and PRESSER, S. (1981) *Questions and Answers in Attitude Surveys: Experiments on Question Form, Wording, and Context*. New York: Academic Press.
- SCHWARTZ, S. H. (1978) Temporal instability as a moderator of the attitude-behavior relationship. *Journal of Personality and Social Psychology* 36, 715-724.
- SCOTT, W. A. (1968) Attitude measurement. In LANDZEX, G., and ARONSON, E. (eds.), *Handbook of Social Psychology*, vol. 2. Reading, MA: Addison-Wesley, pp. 204-273.
- STAPANO, M. J. (1969) Rational political man: A synthesis of economic and social psychological perspectives. *American Political Science Review* 63, 1106-1119.
- SHERIF, M., and HOSLAND, C. I. (1961) *Social Judgment: Assimilation and Contrast Effects in Communication and Attitude Change*. New Haven, CT: Yale University Press.
- SMITH, T. W. (1982) Attitude constraint as a function of non-affective dimensions. General Social Survey Technical Report No. 39. Chicago, IL: National Opinion Research Center.
- STEMMER, H., and HYMAN, H. (1949-1950) How interviewer effects operate through question form. *International Journal of Opinion and Attitude Research* 3, 493-512.
- STOFFER, S. A., GUTTMAN, L., SUCHMAN, E. A., LAZARUS, P. F., STAB, S. A., and CLAUSEN, J. A. (1950) *Measurement and Prediction*. Princeton, NJ: Princeton University Press.
- SWANN, W. B., JR., and ELY, R. J. (1984) A battle of wills: Self-verification versus

- behavioral confirmation. *Journal of Personality and Social Psychology* 46, 1287-1302.
- SWANN, W. B., PELHAM, B. W., and CHIDESTER, T. R. (1988) Change through paradox: Using self-verification to alter beliefs. *Journal of Personality and Social Psychology* 54, 268-273.
- TANNENBAUM, P. H. (1956) Initial attitude toward source and concept as factors in attitude change through communication. *Public Opinion Quarterly* 20, 413-425.
- TEDIN, K. L. (1974) The influence of parents on the political attitudes of adolescents. *American Political Science Review* 68, 1579-1592.
- \_\_\_\_\_. (1980) Assessing peer and parental influence on adolescent political attitudes. *American Journal of Political Science* 24, 136-154.
- TESSER, A. (1978) Self-generated attitude change. In BERKOWITZ, L. (ed.), *Advances in Experimental Social Psychology* 11, New York: Academic Press.
- TOURANGEAU, R., and RASINSKI, K. A. (1990) Conviction, conflict, and consistency of response. Manuscript. Silver Spring, MD: CODA.
- TOURANGEAU, R., RASINSKI, K. A., BRADBURN, N., and D'ANDRADE, R. (1989a) Belief accessibility and context effects in attitude measurement. *Journal of Experimental Social Psychology* 25, 401-421.
- \_\_\_\_\_. (1989b) Carryover effects in attitude surveys. *Public Opinion Quarterly* 53, 495-524.
- VALLONE, R. P., ROSS, L., and LEPPER, M. R. (1985) The hostile-media phenomenon: Biased perception and perceptions of media bias in coverage of the Beirut massacre. *Journal of Personality and Social Psychology* 49, 577-585.
- VAN DER PLIGT, J., ESTER, P., and VAN DER LINDEN, J. (1983) Attitude extremity, consensus, and diagnosticity. *European Journal of Social Psychology* 13, 437-439.
- WATKINS, D., and PAUK, J. (1972) The role of subjective importance in self-evaluation. *Australian Journal of Psychology* 24, 209-210.
- WEINSTEIN, N. D. (1984) Why it won't happen to me: Perceptions of risk factors and susceptibility. *Health Psychology* 3, 431-457.
- WILSON, T. D., DUNN, D. S., KRAFT, D., and LISLE, D. J. (1989) Introspection, attitude change, and attitude-behavior consistency: The disruptive effects of explaining why we feel the way we do. In BERKOWITZ, L. (ed.), *Advances in Experimental Social Psychology*, vol. 22. New York: Academic Press, pp. 287-343.
- WILSON, T. D., KRAFT, D., and DUNN, D. S. (1989) The disruptive effects of explaining attitudes: The moderating effect of knowledge about the attitude object. *Journal of Experimental Social Psychology* 25, 379-400.
- WILSON, T. D., HOICES, S. D., and POLLACK, S. E. (1990) Effects of explaining attitudes on survey responses. Manuscript. Charlottesville, VA: University of Virginia.
- Wood, W. (1982) Retrieval of attitude-relevant information from memory: Effects on susceptibility to persuasion and on intrinsic motivation. *Journal of Personality and Social Psychology* 42, 798-810.

- Wood, W., KALLCHEN, C. A., and PHEISTER, R. M. (1985) Access to attitude-relevant information in memory as a determinant of persuasion: The role of message attributes. *Journal of Experimental Social Psychology* 21, 73-85.
- YOUNG, J., BORDA, E., SULLIVAN, J., and ANDRUCH, J. (1987) Personal agendas and the relationship between self-interest and voting behavior. *Social Psychology Quarterly* 50, 64-71.