

Origins of Attitude Importance: Self-Interest, Social Identification, and Value Relevance

David S. Boninger
University of California, Los Angeles

Jon A. Krosnick
The Ohio State University

Matthew K. Berent
Colgate University

Five studies examined the relations between attitude importance and 3 of its hypothesized determinants: self-interest, social identification with reference groups or reference individuals, and cherished values. Verbal protocols, multivariate analysis of survey data, and laboratory experimentation revealed that (1) people's theories of the causes of attitude importance pointed to all 3 hypothesized predictors, (2) the 3 predictors each had significant, unique statistical associations with importance, and (3) a manipulation of self-interest yielded a corresponding change in importance. These results help clarify the nature and origins of attitude importance, challenge the widely believed claim that self-interest has little or no impact on political cognition, and identify new likely consequences of social identification processes and values.

Almost every day, it seems, the news media describe events in which passionately held attitudes have apparently led people to engage in dramatic acts, from hunger strikes to violent protests to murder. Clearly, convictions on such political issues as abortion, the right to die, and racial equality can sometimes become so strong as to take over people's lives for many years (e.g., Herzog, 1993). Yet at the same time, numerous other people seem completely unmoved by these same issues. This variation in the extent to which people are invested in their attitudes on political issues seems true of attitudes toward social groups, consumer products, aspects of the self, and many other sorts of objects.

Such variability in people's investment in their attitudes has been dubbed *attitude strength* in the social science literature (see, e.g., Raden, 1985). Attitude strength has been more of a metaphor than a formally defined construct with a well-established operationalization. Consequently, previous studies have gauged attitudes' strength by using a wide array of indicators,

including their extremity (Tannenbaum, 1956), their accessibility (Fazio, 1986), the certainty with which they are held (Budd, 1986), and the sizes of people's latitudes of rejection and non-commitment (C. W. Sherif, Sherif, & Nebergall, 1965). These various strength indicators are generally only moderately related to one another and in some cases are completely independent (Krosnick, Boninger, Chuang, Berent, & Carnot, 1993). Therefore, attitude strength appears to be a multidimensional construct rather than a simpler, unitary phenomenon.

In this article we focus on one of these strength-related dimensions: attitude importance. A large body of evidence indicates that attitudes people consider personally important are firmly crystallized and exert especially strong influence on social perception and behavior (see Boninger, Krosnick, Berent, & Fabrigar, in press). For example, important attitudes are unusually resistant to change (Fine, 1957; Gorn, 1975) and stable over time (Krosnick, 1988a; Schuman & Presser, 1981). Attitude importance instigates selective exposure to and more extensive elaboration of attitude-relevant information, better memory for that information, and more complex organization of it when it is stored in memory (Berent, Krosnick, & Boninger, 1993). Attaching personal importance to an attitude leads people to weigh it more heavily in deriving attitudes toward other relevant objects (e.g., Byrne, London, & Griffitt, 1968; Krosnick, 1988b). Also, more important attitudes are more powerful guides of attitude-expressive behaviors, such as voting, writing letters to public officials, and making contributions to political organizations (Krosnick, 1986, 1988b; Schuman & Presser, 1981). Thus, important attitudes appear to possess the four defining features of strong attitudes: resistance to change, stability over time, impact on cognition, and impact on behavior (Krosnick & Petty, in press).

Although a great many studies have documented links between dimensions of attitude strength such as importance and these four strength-defining features, far less work has exam-

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Correspondence concerning this article should be addressed to David S. Boninger, Department of Psychology, University of California, Los Angeles, 405 Hilgard Avenue, Los Angeles, California 90024-1563; to Jon A. Krosnick, Department of Psychology, The Ohio State University, 1885 Neil Avenue, Columbus, Ohio 43210; or to Matthew K. Berent, Department of Psychology, Colgate University, 13 Oak Drive, Hamilton, New York 13346-1398. Electronic mail may be sent via the Internet to boninger@psych.sscnet.ucla.edu, to krosnick@osu.edu, or to mberent@center.colgate.edu

ined the origins of these dimensions (for exceptions regarding extremity and accessibility, see Downing, Judd, & Brauer, 1992; Fazio & Zanna, 1978; Fazio, Chen, McDonel, & Sherman, 1982; Tesser, 1978). Furthermore, some scholars have argued that to understand how an attitude operates, it may be necessary to understand the source of its strength (e.g., Johnson & Eagly, 1989). Consequently, our goal in these studies was to investigate the origins of attitude importance. We begin by offering conceptual and operational definitions of this construct and by summarizing various scholars' speculations about its likely antecedents. After reviewing previous findings relevant to these hypotheses, we describe five studies in which we explored why people care deeply about some attitudes while caring little about others.

Defining Attitude Importance

Conceptual Definition

Strength-related attitude attributes fall into at least three general categories (Krosnick & Petty, in press). Some of these attributes are features of the evaluation itself, such as its extremity (e.g., Judd & Johnson, 1981). Others are features of the cognitive structure in which the attitude is stored in memory, such as the strength of the link between the object and the evaluation (e.g., Fazio, 1986) or the amount of information linked to the attitude (e.g., Wood, Kallgren, & Preisler, 1985). Other attitude attributes are subjective judgments or perceptions of the attitude, such as how confident people are in its validity (e.g., Budd, 1986).

Attitude importance falls into this latter category and is defined as an individual's subjective sense of the concern, caring, and significance he or she attaches to an attitude (e.g., Krosnick, 1988a). To attach great personal importance to an attitude is to care passionately about it and to be deeply concerned about it. There is nothing subtle about attitude importance, particularly at its highest levels: People know very well when they are deeply concerned about an attitude, and they know just as well when they have no special concern about one. In short, attitude importance is a belief (see Fishbein & Ajzen, 1975) that links an attitude to an attribute (i.e., high, moderate, or low psychological significance).

In our view, attitude importance is consequential precisely because of its status as a belief: Perceiving an attitude to be personally important leads people to use it in processing information, making decisions, and taking action. The impact of this subjective perception is likely to be most apparent when people are confronted with consequential choice situations that demand they plan out their courses of thought and behavior carefully. This could include everything from choosing a spouse to choosing which presidential candidate to support to deciding whether to experiment with cigarette smoking. In this sense, attitude importance is most likely to be helpful for understanding situations that entail what Fazio (1990) called *deliberative processing*. Importance may have automatic effects on information processing and behavior as well, but these effects are likely to evolve over time as the result of deliberate choices that people make on the basis of how much personal importance they attach to an attitude (see Boninger et al., in press).

Thus, to attach personal importance to an attitude is to make a commitment to think about the object, to gather information about it, to use that information as well as one's attitude in making relevant decisions, and to design one's actions in accord with that attitude. In this sense, attaching personal importance to an attitude represents a substantial commitment (Abelson, 1988), not unlike a long-term commitment to an interpersonal relationship with another person. Consequently, we suspect, people are not likely to make such a commitment lightly, in response to relatively trivial events. Just as people are "misers" with regard to cognitive processing (e.g., Fiske & Taylor, 1991), they are probably also miserly with their emotional attachments: Only clear and compelling reasons seem likely to motivate such a psychological investment. So high levels of importance are unlikely to emerge unnoticed over time; rather, deep passion and concern are likely to be instigated by significant events of which people are well aware, or by long-standing and salient socialization forces.

Operational Definition

This conceptual definition, which emphasizes a subjective sense of psychological significance, seems best measured by means of people's self-reports. Certainly, self-reports may be subject to intentional distortion that are due to self-presentation concerns or unintentional errors that are due to vague internal cues. Nonetheless, the best way to get at the critical self-perception component of the construct is by asking people directly. In our own research, for example, we have relied on three principal sorts of questions: asking people how important an attitude object is to them personally, how deeply they care about it, and how concerned they are about it. Our research has focused on political attitudes, and we have asked people about the personal importance they attached to various issues (e.g., "How important is the issue of abortion to you personally?").¹

Antecedents of Attitude Importance

Various social psychologists and political scientists have speculated about the sorts of reasons that are likely to be origins of attitude importance (e.g., Key, 1961; Modigliani & Gamson, 1979; Petty, Cacioppo, & Haugtvedt, 1991). These speculations suggest that an attitude may become important to an individual

¹ We have assumed that the importance people report attaching to objects is an interchangeable proxy for the importance they attach to their attitudes toward those objects. We have not asked people about the latter directly (e.g., "How important is your attitude toward abortion to you personally?") because we agree with Abelson (1988) that this approach uses the term "attitude" in a way that departs from its use in most nonpsychologists' conversations and would be confusing to respondents. Consistent with this reasoning, the reliabilities of items asking about the importance of objects are significantly greater than the reliabilities of items asking about the importance of attitudes (Fabrigar & Krosnick, 1993). Also, after correction for unreliability and systematic measurement error, people's perceptions of the importance of objects and attitudes are essentially identical for the sorts of political attitudes we examine (*Mdn r* = .94 after correction for random and systematic measurement error; see Fabrigar & Krosnick, 1993).

as the result of three factors: self-interest, social identification, and values.

Self-Interest

First, an attitude may become important to individuals who perceive it to be linked to their material self-interests. Self-interest-based importance develops when a person perceives an attitude to be instrumental to one's tangible rights, privileges, or lifestyle (or what Johnson & Eagly, 1989, called *outcomes*). That is, an individual presumably perceives his or her self-interest to be relevant to an attitude when it is related to the attainment of desired material goods or behavioral opportunities. Or, as Barry (1965) argued, self-interest comes into play whenever one's wealth, power, or prestige are involved. With regard to a government policy issue, for example, perceived self-interest is likely to be high among people who feel they are or may be "immediately and personally affected by [the issue] . . . when they have a direct stake in it" (Popkin, Gorman, Phillips, & Smith, 1976, p. 787), when it "impinge[s] on their lives in a concrete way" (Modigliani & Gamson, 1979, p. 11). Thus, a woman who lives near a nuclear power plant and is affected directly by it is likely to consider her attitude toward nuclear power more personally important than someone who does not live near such a plant and whose electricity is not provided by one.

Social Identification

A second possible basis for an attitude to become personally important is social identification with reference groups or reference individuals. This may occur in a number of ways. First, identification with a social group may lead an attitude to become important to a person if the group's rights or privileges are perceived to be at stake (Key, 1961; Modigliani & Gamson, 1979). Thus, a Black Wall Street executive who identifies closely with Blacks as a group may care deeply about his or her attitude toward social welfare programs for Black urban poor people, even though he or she is unlikely to be affected directly by such programs.

Strong identification with a group that consensually considers an attitude to be important can also serve as an impetus for importance, independent of whether tangible rewards or punishments for the group are in question (M. Sherif & Hovland, 1961). For example, people who strongly identify with Catholics are likely to care deeply about their attitudes toward abortion, because the Catholic Church has publicly declared that issue's importance and has taken a strong stand on it. Similarly, attitude importance may develop as a result of identification with reference individuals whose interests are perceived to be at stake or who are perceived to care deeply about a particular attitude.

Value Relevance

Third, an attitude may become personally important to an individual if he or she comes to view the object as relevant to his or her basic social and personal values. A value is an abstract belief "about how [people] ought or ought not to behave, or about some end-state of existence worth or not worth attaining. Values are thus abstract ideals . . . not tied to any specific atti-

tude object or situation" (Rokeach, 1968, p. 124). According to Rokeach (1973), values are "standards employed . . . to tell us which beliefs, attitudes, values, and actions of others are worth challenging, protesting, and arguing about, or worth trying to influence or change" (p. 13). In this sense, values may tell people which attitudes to consider personally important. Therefore, the closer the perceived linkage between an attitude object and an individual's values, and the more important the values, the more important the attitude is likely to be to him or her (Campbell, Converse, Miller, & Stokes, 1960; Johnson & Eagly, 1989; Katz, 1960; Rosenberg, 1956).

Related Theories

These hypotheses regarding self-interest, social identification, and value relevance resonate with functional theories of attitude formation and change (e.g., Katz, 1960; Kelman, 1961; Smith, Bruner, & White, 1956). Self-interest closely parallels Katz's (1960) instrumental function; social identification is similar to Smith et al.'s (1956) social adjustment function; and value relevance is consistent with Katz's value-expressive function. Our hypotheses share the spirit of these theories and extend them a step by proposing that self-interest, social identification, and value relevance might shape attitude importance as well as the direction or extremity of the attitude.

Existing Evidence

Although previous research has not explored the relation of attitude importance to social identification or values, a number of studies have investigated the relation of self-interest to importance. Surprisingly, however, these investigations' results are quite mixed. One nonexperimental study found only a weak association: People who had friends or relatives serving in Vietnam in 1968 reported being only slightly more personally concerned about the war than did those who had never had friends or relatives in Vietnam (Lau, Brown, & Sears, 1978). Also, experimental studies that attempted to manipulate self-interest have sometimes observed effects on attitude importance and sometimes have not. For example, Apsler and Sears (1968) told undergraduates that a change in their school policy would or would not affect them directly. This self-interest induction increased reports of concern about the issue but failed to significantly alter judgments of its personal importance. Comparable manipulations increased attitude importance ratings in a study by Madsen (1978), one by Brickner, Harkins, and Ostrom (1986), and one by Sorrentino, Bobocel, Gitta, Olson, and Hewitt (1988), but failed in Sorrentino et al.'s other study and in a study by Price (1989). Thus, it is difficult to draw any definitive conclusions from this evidence, and further investigation seems merited.

The Present Studies

Our goal in the current research was to understand why some individuals considered a particular attitude important and why others considered it unimportant. This question can be investigated in a number of ways. First, people could be asked directly why they attach importance to some of their attitudes and not

to others in what Selltiz, Jahoda, Deutsch, and Cook (1959, pp. 55–59) called an *experience survey*. If attitude importance is indeed a belief that evolves in dramatic and easily noticeable ways, people are likely to develop theories about its origins. Those theories may well be informative, particularly if their implications converge with those of data collected in other ways. A second approach would be to compute correlations across individuals, using cross-sectional data. For a hypothesized predictor variable to be a cause of attitude importance, importance must be correlated with it (Kaplan, 1964; Selltiz et al., 1959). However, a bivariate correlation for each predictor is not enough; each predictor must have a *unique* association with importance after statistically controlling for all other hypothesized predictors. A failure to find significant associations would discredit the causal hypothesis. A third type of useful evidence would be experimental. Manipulations of the presumed antecedents should yield comparable shifts in levels of importance.

In designing the studies reported below, we adopted the perspective that a finding confirmed by triangulation through the use of multiple research methods is more believable than one supported by only a single method (see, e.g., Webb, Campbell, Schwartz, & Sechrest, 1966). Consequently, we used all three of these methods to test our hypotheses regarding self-interest, reference groups or individuals, and cherished values. As in our previous work, we focused on people's attitudes on controversial political issues such as racial integration and abortion. In the first study, we assessed people's beliefs about why they attached personal importance to some attitudes and not others. In the next three studies, we conducted multivariate statistical analyses of survey data to predict attitude importance with measures of self-interest, social identification, and value relevance. In our final study we examined the impact of an experimental manipulation of self-interest.

Study 1

Because so little research had examined the relation between attitude importance and the three antecedents proposed above, we conducted a first study to provide an initial indication of the plausibility of these hypotheses. This study gauged people's explanations of why they consider various attitudes to be personally important or unimportant. Our interest here was in both people's beliefs about why they cared about some attitudes and their beliefs about why they did not care about others. If attitude importance evolves as dramatically and noticeably as we believe, then people should be equally able to identify the presence of factors that inspire high importance and the absence of these factors, in cases where importance is low.

If references to either self-interest, social identification, or values are absent from the explanations people provide, serious doubt would be cast on one or more of our hypotheses. However, mentions of self-interest, social identification, and values would provide initial support for the plausibility of our hypotheses and would provide a rationale for additional studies. The open-ended approach of this first study also allowed us to identify other potential causes of attitude importance.

Method

Participants

Thirty-four male and female undergraduates participated in this study in partial fulfillment of a course requirement.²

Measures

In private cubicles, subjects completed self-administered questionnaires that addressed five issues: legalization of marijuana, abortion, defense spending, racial integration, and pollution. Subjects first rated how personally important each issue was to them (4 = extremely important, 3 = very important, 2 = somewhat important, and 1 = not too important). Then they wrote down all the thoughts, beliefs, feelings, and ideas that they considered in deciding how important each issue was to them.

Coding Scheme

The coding scheme used was designed a priori and was later revised on the basis of suggestions made by two judges after they had reviewed one-third of the questionnaires. In the final coding scheme, statements were coded as related to *self-interest* if they referred to being directly affected or unaffected by the attitude object, if they referred to personal goals that were or were not tied to the attitude object, or if they referred to having or not having had direct behavioral experiences involving the attitude object (e.g., having an abortion or trying marijuana). Statements in this category were separated into those that affirmed the presence of self-interest concerns (e.g., "I come from an area in New York City where pollution is rampant.") and those that denied the presence of self-interest concerns (e.g., "Busing never really affected me.").

Statements were coded as related to *social identification* if they referred to social groups, family, or close friends having interests at stake or not at stake or as being affected or unaffected by the issue. Statements were also coded as related to social identification if they referred to the extent to which social groups, family, or close friends cared about the issue. Again, statements in this category were separated into those that affirmed social identification concerns (e.g., "I have some friends who use marijuana.") and those that denied them (e.g., "I wasn't brought up in a strongly religious family, and abortion has never been an issue my family has debated.").

Statements were coded as *value relevant* if they referred to the extent to which instrumental or terminal values (e.g., freedom or equality), religious values, or general political values (e.g., protection of the environment) were related to the issue. These statements were separated into those that affirmed value relevance (e.g., "I believe that this issue is important because a woman has her own personal right to do what she wants with her own body.") and those that denied value relevance (e.g., "I am not concerned about this issue because it doesn't really seem to affect anyone's freedom.").

We created three additional coding categories to account for statements that went beyond these three core categories, including: (1) Statements of subjects' attitudes on the issues. When explaining how much they cared about an issue, subjects also stated their attitudes on the issue. This may be especially true in the case of important attitudes, because they are more accessible than unimportant attitudes (Krosnick, 1989). (2) Statements describing subjects' knowledge about an issue or acquisition of information relevant to the issue (e.g., time spent reading, hearing, or thinking about the issue). These self-perceptions may also

² We did not collect measures of subject gender or race in this or subsequent studies. Consequently, we could not investigate the impact of these variables.

help determine importance (Bem, 1970). (3) Restatements of how much importance subjects attached to their attitudes. Finally, a small number of statements (6%) were unrelated to the task, did not fit into any recognizable category, or both. These statements were not included in the proportions reported below.

Coding Procedure

One judge identified each independent statement in each protocol. A total of 740 statements were identified, an average of 4.35 statements per issue per subject. Two new judges then assigned each statement to one of the nine coding categories just described. The correlation between the two judges in terms of the number of statements each judge placed in each category (per subject and per issue) was .89. To resolve discrepancies between the judges, we averaged the numbers of statements that they placed in each category.³

Results and Discussion

Distributions of Importance

Ratings of attitude importance (collapsing across issues) were well distributed across the four categories: 21% of the ratings were "extremely important," 37% were "very important," 30% were "somewhat important," and 11% were "not too important." This distribution corresponds closely to those of importance ratings gathered in surveys of representative samples of American adults (see, e.g., Krosnick, 1990). This distribution also indicates that subjects' explanations were of both high and low importance ratings. Many students felt that their attitudes on abortion ($M = 3.1$), pollution ($M = 3.0$), and defense spending ($M = 2.9$) were highly important to them, whereas fewer felt that way about their attitudes toward legalization of marijuana ($M = 2.3$) and racial integration ($M = 2.1$). Thus, we had reasonably large variability among our subjects in terms of their importance ratings across issues.

Content Analyses

Core categories. Of the statements categorized as related to one of our three hypothesized antecedents, 63% fell into the self-interest category, 19% fell into the social identification category, and 18% fell into the value-relevance category. There were significantly more self-interest statements than social identification statements, $\chi^2(1) = 64.82, p < .001$, and value-relevance statements, $\chi^2(1) = 69.63, p < .001$. Although there was some variation in these percentages across issues, self-interest was consistently the most prevalent of the three categories (see Table 1).

Affirmations and denials across levels of importance. Self-interest statements were about evenly split between affirmations (55%) and denials (45%). In contrast, social identification statements were primarily affirmations (83%), and value-relevance statements were all affirmations. As would be expected, for self-interest there were more denial statements for unimportant issues (1 or 2 on the importance scale; $M = 1.0$) than for important issues (3 or 4 on the importance scale; $M = 0.1$), $F(1, 168) = 66.70, p < .001$, and there were more affirmations for important issues ($M = 0.7$) than for unimportant issues ($M = 0.4$), $F(1, 168) = 4.16, p < .05$. Similarly, for social identification there were more denial statements for unimportant issues ($M =$

0.1) than for important issues ($M = 0.01$), $F(1, 168) = 11.33, p < .001$, and there were more affirmations for important issues ($M = 0.4$) than for unimportant issues ($M = 0.1$), $F(1, 168) = 5.33, p < .05$. Finally, there were more value-relevance statements (all affirmations) for important issues ($M = 0.4$) than for unimportant issues ($M = 0.2$), $F(1, 168) = 4.23, p < .05$.

Other categories. Statements categorized as either self-interest, social identification, or value relevance comprised 41% of the total number of statements. An additional 40% of the statements were attitude statements. Thus, along with explaining their importance ratings, subjects often stated their attitudes on the issue. Consistent with Krosnick's (1989) finding that important attitudes were more accessible than unimportant attitudes (as gauged by response latency), attitude statements were more common for important issues ($M = 1.8$) than for unimportant issues ($M = 1.3$), $F(1, 168) = 6.49, p < .02$. Only 4% of the statements were placed in the knowledge-information-acquisition category. Thus, it appears that subjects rarely used these types of self-perceptions in arriving at their ratings of importance. Finally, 15% of the statements were simply restatements of importance. There were no significant differences in these latter two categories across levels of importance.

Summary. Taken together, these data are consistent with our hypotheses. All three hypothesized sources of importance were mentioned for all five issues. Moreover, no other explanations of attitude importance were stated frequently enough to be recognized by our judges. In general, self-interest statements were more prevalent in subjects' protocols than were social identification and value relevance. This difference stems at least in part from the fact that both affirmations and denials of self-interest were common in subjects' protocols, whereas only affirmations were common for social identification and value relevance.

Study 2

To explore the generalizability of the findings of Study 1 across research methods, we next conducted a survey to measure attitude importance, self-interest, social identification, and value relevance directly and independently for two issues. We then conducted multivariate statistical analyses to assess the unique predictive power of each of the hypothesized antecedents.

Method

Participants

Two hundred eighty-eight male and female undergraduates participated in partial fulfillment of a course requirement.

Questionnaire

Subjects completed a questionnaire about either abortion or capital punishment (determined randomly) in groups of 35–45 in a classroom

³ A third judge, who was unaware of our hypotheses, read the protocols and developed a coding scheme without any a priori expectations. The categories she created clearly overlapped with the notions of self-interest, social identification, and value relevance, and she identified no additional recurring themes.

Table 1
Study 1: Proportions of Core Category Statements in the Self-Interest, Social Identification, and Value-Relevance Categories by Issue

Cause of importance	Issue					All issues
	Racial integration	Defense spending	Marijuana	Pollution	Abortion	
Self-interest	80.0	66.3	66.2	53.8	48.7	62.6
Social identification	8.6	16.3	24.6	29.4	14.1	19.3
Values	11.4	17.4	9.2	16.8	37.2	18.1
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note. Numbers represent percentages.

setting. The questionnaire measured subjects' attitudes, attitude importance, self-interest, levels of interests at stake and levels of concern among reference groups and reference individuals, and value relevance. Each of these constructs was assessed with a minimum of five questions, which varied according to question type, question wording, and scale length (e.g., 7-point and 101-point rating scales and 4-point agree-disagree scales).

Attitude importance. Questions assessing attitude importance asked subjects how important the issue was to them personally, how much they personally cared about the issue, how much the issue meant to them, and how important the issue was to them as compared to other issues.

Self-interest. Questions assessing self-interest asked subjects how much laws concerning the issue would affect them, how much they had an interest at stake in the issue, how much the issue affected them personally, how easy it was for them to think of ways the issue might affect them, and how relevant the issue was to their lives.

Social identification. Subjects were asked to list five social groups with which they identified and to specify the group to which they felt closest. They then reported how important the issue was to most members of that group and how much most members of that group cared about the issue. Subjects also reported how often their friends thought about the issue, how important the issue was to their friends, and how often their mothers and fathers thought about the issue.

A multiplicative index of social identification was also used. Borrowing a technique from the National Election Studies (Miller, Miller, & Schneider, 1980), we asked subjects to provide thermometer ratings (ranging from 0 to 100) indicating how warm or cold they felt toward 21 social groups, including poor people, Catholics, college students, women, black people, and businessmen. Although this measure clearly taps attitudes toward the various groups, it has also been used in past studies to gauge identification with such groups (e.g., Green, 1988). Subjects also rated (on 5-point scales) how important the issue was to each group (what we call *group importance* ratings) and how much they thought the issue directly affected each group (*group interest* ratings). Each thermometer rating was multiplied by the corresponding group importance rating, and each thermometer rating was multiplied by the corresponding group interest rating. The mean of these 42 product terms was then treated as an index of social identification.

Value relevance. Subjects reported how much their opinions on the issue were related to their personal values, how often they considered that their attitudes on the issue were related to their values, and how much their attitudes were based on their general beliefs about how life should be lived.

Here, too, we created a multiplicative index to provide another measure of value relevance. Subjects ranked Rokeach's (1973) 18 instrumental values and 18 terminal values in order of importance to them, and they rated (on a 9-point scale) the importance of 10 values specifi-

cally relevant to abortion and capital punishment (e.g., all human beings having equal rights, being allowed to maintain the privacy of one's opinions and beliefs, and taking responsibility for our actions). Subjects rated how much each of these 46 values was achieved or blocked by the attitude object (on 9-point scales). These ratings were then rescaled so that 1 represented highest value relevance (either achieving or blocking) and 0 represented no value relevance. The importance ratings and rankings were also rescaled to range from 0 to 1. Each importance rating and ranking was then multiplied by the corresponding achieve or block rating, and the average of these products was treated as an index of value relevance.

Index Computation

For each of the four factors, all self-report measures and product term indices were standardized and averaged after rescaling such that higher scores represented greater presence of the factor.

Results and Discussion

Validation of Measures

Our first goal was to confirm that each measure taps the intended construct and that the four constructs are distinct from one another. To do so, we conducted a confirmatory factor analysis using LISREL (Jöreskog, 1969; Jöreskog & Sörbom, 1989). The measurement model we estimated proposed that each measure reflected the appropriate one of four latent factors (representing attitude importance, self-interest, social identification, and value relevance). The model also included method factors to account for correlations between items that were due to common response scales. Correlations among the four substantive factors therefore reflect the relations among the factors after correction for random measurement error and correlated method variance (for more details on this sort of model, see Alwin, 1974; Kenny, 1979; Widaman, 1985).

Chi-square statistics indicated statistically significant differences between the observed and predicted covariance matrices for the abortion and capital punishment models, $\chi^2(240) = 339.24, p < .001$, and $\chi^2(240) = 283.01, p < .001$, respectively. However, such statistics offer overly conservative estimates of goodness of fit (see, e.g., Burt, 1973, p. 148). Wheaton, Muthen, Alwin, and Summers (1977) advocated examining instead the ratio of the χ^2 to its degrees of freedom. Wheaton et al. suggested that a ratio of 5:1 or less indicates adequate fit; Carmines

and McIver (1981) argued that a more stringent criterion of 2:1 is desirable. Our ratios of 1.41 and 1.18 for abortion and capital punishment, respectively, suggest good fits. Bentler and Bonett (1980) suggested an alternative approach, a non-normed incremental fit index, ρ , for which values of approximately .9 or greater indicate excellent fit. This index also supports the conclusion that our model fits the present data well ($\rho = .93$ for abortion and .97 for capital punishment).

The corrected correlations among the four latent factors are displayed in Table 2. The strongest correlations are of importance with self-interest and social identification (ranging from .62 to .78), and the weakest correlations are between self-interest and value relevance (.12 and .30). Because these correlations have been adjusted for the impact of random and systematic measurement error, it is fully reasonable for them to approach 1.0. Not only are all of them significantly less than 1.0, but also no pair of factors shares more than 61% of their variance. This establishes the discriminant validity of the measures and the integrity of the individual factors. Thus, our measured variables appear to be good indicators of the four latent factors, and these factors appear to be distinct from each other. Furthermore, the correlations among the predictors are small enough to assure that regressions involving them are not in danger of problems because of multicollinearity (Hanushek & Jackson, 1977, pp. 86–96). As a final check on our measures, we assessed the reliabilities of the four composite indices by computing α (Cronbach, 1951). For abortion and capital punishment the respective α s were as follows: .93 and .92 for attitude importance, .89 and .89 for self-interest, .80 and .79 for social identification, and .75 and .79 for value relevance.

Regressions

Given these results, we proceeded to explore the abilities of self-interest, social identification, and value relevance to predict attitude importance in ordinary least squares multiple regressions. As the top row of Table 3 displays, self-interest produced the largest coefficient for capital punishment ($\beta = .50$), followed by social identification ($\beta = .27$) and value relevance ($\beta = .15$). For abortion, social identification ($\beta = .50$) was the more pow-

erful predictor, followed by self-interest ($\beta = .25$) and value relevance ($\beta = .10$; see row 2 of Table 3).⁴

Statistical tests revealed significant differences among the predictors for both issues. For capital punishment, the self-interest coefficient was significantly larger than those for social identification, $\chi^2(1) = 3.96, p < .05$, and value relevance, $\chi^2(1) = 11.92, p < .001$. For abortion, the social identification coefficient was significantly larger than that for value relevance, $\chi^2(1) = 10.56, p < .01$, and marginally significantly larger than that for self-interest, $\chi^2(1) = 2.85, p < .10$. No other differences within issues were significant.⁵

These regression results might have been influenced by a pattern apparent in the reliabilities of our indices reported earlier: The self-interest index was more reliable than the social identification and value-relevance indices. To determine whether correcting for these differences would alter our conclusions, we computed adjusted regression coefficients, corrected for attenuation. In each case, this correction raised the coefficient slightly. In no case, however, did the overall pattern of effect strengths change substantially as a result of this correction. Thus, through the use of a very different methodology than was used in Study 1, Study 2 produced results consistent with the hypotheses we set out to test.⁶

⁴ The social identification and value-relevance indices were created by averaging self-reports with multiplicative indices, as described above. When multiplicative interactions are included in regressions, one must also include main effects for the constituent variables (Cohen, 1978; Evans, 1991). To do so fully properly in our case, it would have been necessary to enter the product terms as individual predictors. Adding these terms in addition to the self-report measures of the same constructs would not be sensible, because multiple independent variables would presumably be manifestations of the same underlying constructs. However, dropping the self-reports would not be desirable, because averaging them together with the multiplicative terms into overall indices is an effective way to reduce attenuation that is due to random measurement error.

To be sure that the omitted main effects were not causing problems in our analyses, we re-estimated the regression equations reported in Table 3 including all main effects for the constituents of the multiplicative indices. Under these conditions, the coefficients for the three core predictors were essentially unaltered. We also ran regressions using only the self-reports as predictors (i.e., dropping the multiplicative indices), and the results were again essentially unaltered. Thus, omission of the main effects did not bias the results obtained.

We also ran the regressions using a reduced version of the multiplicative indices, incorporating only the few groups toward which each subject felt warmest and using only the few values that each subject considered most important. This analysis again produced results comparable to those reported in the text. Finally, we tested for interactions among the three predictors. We thought it plausible that, for instance, social identification might be a stronger predictor when self-interest is high than when it is low. However, we found no significant interactions.

⁵ These tests were performed with LISREL by imposing within-group equality constraints on path analysis parameters.

⁶ The results of Study 2 may have been influenced by the fact that subjects were asked to respond to long questionnaires that included more than 200 items. Krosnick (1991) argued that long questionnaires may induce *satisficing*, a response strategy that involves investing little thought to provide answers that merely appear reasonable, instead of thinking carefully to generate optimal answers. Because it is conceivable that some of the associations found in Study 2 could be artifactual re-

Table 2
Study 2: Correlations Among Latent Constructs Corrected for Random and Systematic Measurement Error

Issue	1	2	3	4
Abortion ($N = 130$)				
1. Importance	—			
2. Self-interest	.63	—		
3. Social identification	.78	.67	—	
4. Value relevance	.20	.12	.26	—
Capital punishment ($N = 131$)				
1. Importance	—			
2. Self-interest	.72	—		
3. Social identification	.62	.55	—	
4. Value relevance	.39	.30	.50	—

Note. All corrected correlations are statistically significantly greater than zero and less than 1.0.

Table 3
Studies 2–4: Standardized Regression Coefficients Estimating the Effects of Perceived Self-Interest, Social Identification, and Value Relevance on Attitude Importance

Issue	Predictor			R^2	N
	Self-interest	Social identification	Value relevance		
Study 2:					
Capital punishment	.50*	.27*	.15*	.53	131
Abortion	.25*	.50*	.10*	.52	130
Study 3: Gun control	.29*	.32*	.18*	.43	199
Study 4: Gun control	.29*	.23*	.35*	.51	170

* $p < .05$.

Study 3

We designed our next study partly to address a methodological concern. In Study 2, the order in which the constructs were measured was held constant: attitude importance, self-interest, social identification, and value relevance. A variety of studies have documented assimilation effects, whereby placing questions close to one another leads to an increase in the correlation between them (see Schwarz & Sudman, 1992; Tourangeau & Rasinski, 1988). So, self-interest may have been a strong predictor of importance because the measures of these constructs were closest together. Indeed, Sears and Lau (1983; Lau, Sears, & Jessor, 1990) argued for just this sort of effect with regard to the relation between self-interest and attitudes: The closer questions tapping these constructs were to one another in a questionnaire, the stronger the relation between them appeared to be. However, other recent studies have challenged this particular claim (Lewis-Beck, 1985) and have documented just the opposite sort of effect: Placing questions close to one another sometimes weakens correlations between them (see Schwarz & Sudman, 1992; Tourangeau & Rasinski, 1988). Therefore, in our third study we manipulated question order to explore whether the conclusions of Study 2 may have been caused by question order.

The second purpose of this study was to examine the relations of attitude importance to antecedents of self-interest and the material interests of reference groups and individuals (see, e.g., Bobo, 1983; Sears & Funk, 1991, pp. 68–70). Presumably, a key determinant of perceived self-interest is the perceived likelihood that one will be directly affected in some material way by an

issue. Similarly, a key source of social-identification-induced importance is presumably the perceived likelihood that a reference group or individual will be materially affected by an issue. Thus, perceived likelihood of being affected should shape perceptions of self-interest and social identification, which in turn should determine attitude importance. Because a multitude of events and factors are likely to determine perceived likelihood, any single measure of an antecedent is likely to capture only a small portion of the full array of causes. Therefore, the associations between measures of antecedent conditions and subjective perceptions of self-interest are likely to be imperfect, and the associations between antecedent conditions and attitude importance should not be as strong as associations between perceptions of self-interest and importance.

Nonetheless, measures of antecedent conditions should be positively correlated with perceptions of self-interest. If they are not, it would raise questions about the validity of the perceived self-interest measures: If they are not rooted at least partly in perceptions of likelihood, then they may simply be post hoc rationalizations for importance instead of antecedents of it. In our third study we therefore obtained measures of antecedent conditions of self-interest and the material interests of reference groups and individuals in addition to the measures of perceived self-interest and social identification used in previous studies.⁷

For this study, we focused on a new issue, gun control, partly because it afforded straightforward opportunities to develop measures of antecedent conditions. We reasoned that people would perceive a high likelihood of being affected by this issue if they had been or were likely to become a) gun owners or gun users who might have their behavioral opportunities limited by gun control laws, or b) victims of crimes involving guns and would therefore feel that the issue touched directly on their personal safety. We followed Sears and Citrin's (1985) procedure of assessing antecedent conditions both retrospectively (e.g., tapping past experiences) and prospectively (e.g., tapping likelihood of future criminal victimization). Similar measures were constructed to tap the likelihood of reference group or individual involvement. All of these measures were clearly not direct

results of nondifferentiation (one form of satisficing) and might disappear if a shorter, less burdensome questionnaire were used, we used a subset of Study 2's measures in a follow-up study. In the follow-up study, we examined two new issues (nuclear weapons freeze and racial integration) to assess the generalizability of Study 2's findings as well.

Self-interest and value relevance significantly predicted attitude importance for both issues. Social identification significantly predicted importance for racial integration but not for nuclear weapons. The absence of a social identification effect here may be because the nuclear weapons issue does not involve clear conflict among salient social groups, whereas racial integration is an issue intertwined with social group conflict. Thus, with a smaller set of questionnaire items, this study provided results consistent with those reported in Study 2.

⁷ Measures of the antecedents of value relevance were difficult for us to imagine. Several measures that we entertained were either confounded with social identification or seemed to us to require making tenuous assumptions about the values that certain types of people hold.

questions about gun control per se but rather tapped beliefs or events that presumably feed into perceived self-interest or the perceived interests of reference groups or individuals.

Method

Participants

One hundred ninety-nine female and male undergraduates participated in this study in partial fulfillment of a course requirement.

Questionnaire

Subjects completed a self-administered questionnaire in groups of 25–35 in a classroom setting. Question types and scales included 7- and 5-point rating scales, 11-point percentage scales (with 0 and 100 at the endpoints), 4-point agree–disagree questions, and dichotomous (yes–no) questions.

Core Measures

Attitude importance. Subjects were asked how much they cared about the issue, how important the issue was to them personally, and how important the issue was to them in comparison to other issues.

Self-interest. Subjects reported how much the issue affected their abilities to live their lives as they wanted to, how much they thought the issue affected their lives directly, how easy it was for them to think of ways the issue affected them, and how much the issue was directly relevant to their lives.

Social identification. Subjects were asked to think about the individual or individuals to whom they felt closest and to report how much the issue affected these individuals, how easy it was to think of ways the issue affected these individuals, how important the issue was to these individuals, and how much these individuals cared about the issue. Subjects also responded to each of these four questions regarding the social group to which they felt closest.

Value relevance. Subjects reported how much impact they thought the issue would have on the values they cared about most, how much they thought their opinions on the issue were related to these values, how much their attitudes on the issue were based on these values, and how much they based their attitudes on their general principles of how life should be lived.

Antecedent-Conditions Measures

Self-interest. We thought that antecedents of perceived self-interest might include subjects' direct behavioral experience with guns and the likelihood of their being involved in a gun-related violent crime. Regarding direct experience, subjects were asked whether they owned a gun and, if not, how likely they were to own a gun sometime during their lives. We also asked whether subjects had ever been involved in any kind of incident involving a gun, whether they had ever fired a gun, and whether they had ever witnessed a gun being fired in their presence. Regarding crime, subjects were asked how likely it is that they would be mugged or robbed at gunpoint sometime in the future, how likely it is that they would be attacked in their homes by a person carrying a gun sometime in the future, how afraid they were to walk alone at night in the areas in which they lived, and how safe they felt in their bedrooms at night.

Interests of reference individuals and groups. Subjects were again asked to think about the individual or individuals to whom they felt closest. They were then asked whether any of these individuals owned a gun, how likely it was that they would own a gun in the future, whether any of these individuals had ever been involved in an incident involving

a gun, how likely it was that any of these individuals would be mugged or robbed at gunpoint sometime in the future, and how likely it was that any of these individuals would be attacked in their homes by a person carrying a gun sometime in the future.

Subjects were also asked to think about the social group to which they felt closest and to indicate how many members of this group owned a gun, how many would own a gun sometime in the future, how likely it was that some members of this group have been involved in an incident involving a gun, how many group members would be mugged or robbed at gunpoint sometime in the future, and how many members would be attacked in their homes by a person carrying a gun sometime in the future.

Question Order

Subjects were randomly assigned to answer questions in one of four sequences, which varied the order of the core measures in two ways. First, the attitude importance questions were asked either before the core predictors or after them. Second, the order of the three core predictors was either self-interest, social identification, and value relevance, or the reverse. Crossing these two manipulations yielded four orders, one of which paralleled the question order used in Study 2. In two of these orders, self-interest and attitude importance questions were asked next to one another, and in the other two orders, social identification and value-relevance questions were asked in-between the self-interest and attitude importance items.

All measures of antecedent conditions were asked at the end of the questionnaire. Therefore, in two of the questionnaire forms the antecedent-condition measures immediately followed the attitude importance items, and in the other two forms the importance and antecedent-conditions measures were separated by the subjective measures. These order manipulations minimized unnecessary complication and maximally varied the distance between the attitude importance items and the other items in ways that allowed us to see whether the proximity of the measures influenced our findings.

Index Computation

All individual measures were standardized, such that higher scores represented greater presence of the factor. We computed overall indices for attitude importance ($\alpha = .89$), perceived self-interest ($\alpha = .82$), perceived social identification ($\alpha = .83$), value relevance ($\alpha = .69$), antecedents of self-interest, and antecedents of social identification, by averaging all relevant measures.⁸

Results and Discussion

All three core predictors were significantly correlated with attitude importance. Subjective self-interest and social identification exhibited the strongest correlations ($r = .55$ and $.57$, respectively; $p < .01$), followed by value relevance ($r = .47$; $p <$

⁸ There are no necessary correlational relations among our measures of the antecedents of self-interest and social identification. That is, for example, whether an individual feels fearful of crime has no necessary relation to whether or not he or she has ever fired a gun. Consequently, these various individual measures are best thought of as indicators of induced latent variables. Such latent variables are defined as the sum of the indicators that comprise them (see Bollen, 1984). Therefore, it is not sensible to assess the reliabilities of these indices using α , which presumes that indicators are interchangeable manifestations of a latent construct in a *cause indicator* model (see Cronbach, 1951; Tanaka, Panter, Winborne, & Huba, 1990).

Table 4
*Studies 3 and 4: Standardized Regression Coefficients
 Estimating the Effects of Objective Self-Interest and
 Social Identification on Attitude Importance*

Study	Predictor		R^2	N
	Self-interest	Social identification		
3	.08	.20*	.07	199
4	.24*	.16*	.11	170

* $p < .05$.

.01). Similarly, the objective measures of self-interest and social identification were significantly correlated with attitude importance, though more weakly ($r = .20$ and $.27$, respectively; $p < .01$). As expected, the antecedent-condition measures of self-interest and social identification were also significantly correlated with their respective core predictors ($r = .38$ and $.40$, respectively; $p < .01$).

We replicated the regressions done in Study 2, and the results here were again consistent with our expectations (see the third row of Table 3). Significant effects appeared for self-interest ($\beta = .29$, $p < .05$), social identification ($\beta = .32$, $p < .05$), and value relevance ($\beta = .18$, $p < .05$). There were no significant differences among the three subjective predictors in terms of their effects in this equation. Importantly, the predictors' effects did not vary significantly across the four question orders, $\chi^2(21) = 12.77$, ns , and the coefficients did not reveal any pattern of stronger associations when questions were located more proximally to one another.⁹

Next, following Sears and Citrin (1985), we repeated this regression substituting the measures of antecedent conditions for their respective core predictors (see the first row in Table 4). Although the antecedents of social identification did have a significant effect on attitude importance ($\beta = .20$, $p < .05$), the antecedents of self-interest did not ($\beta = .08$, ns). The most likely explanation for the weakness of this latter effect is that its impact on attitude importance is probably mediated by perceptions of self-interest (see Kenny, 1979, for an explanation of how this sort of mediation attenuates correlations).

To test this interpretation, we estimated the parameters of the path model displayed in Figure 1. According to this model, antecedent conditions influence the core predictors, which in turn shape attitude importance. We also allowed for direct paths from the antecedent conditions to importance. And we left open the possibility that antecedents of self-interest might lead people to recognize that their values are relevant as well, or that the interests of reference groups or individuals are at stake. Similarly, we specified paths allowing the antecedents of reference group and individual interests to shape perceptions of self-interest and value relevance.

This model revealed a variety of expected effects. First, all three core predictors were associated with attitude importance. Second, the antecedents of self-interest predicted self-interest most strongly ($\beta = .26$, $p < .05$) but also predicted social identification ($\beta = .18$, $p < .05$) and value relevance ($\beta = .16$, $p < .10$). Similarly, the antecedents of social identification predicted

social identification most strongly ($\beta = .27$, $p < .05$), but also predicted self-interest ($\beta = .21$, $p < .05$). Finally, the direct paths from the antecedents to importance were not significant ($p > .10$). Thus, it seems that the antecedents of self-interest and social identification did predict attitude importance, but their effects were indirect, mediated by the core predictors.

Study 4

In our next study we explored the degree to which the results observed thus far generalize beyond convenience samples of college students. Sears (1986, 1987) suggested that overreliance on such samples may have led social psychology to paint a misleading portrait of human nature, and that findings would be different if more heterogeneous, adult samples were examined. In particular, Sears speculated that self-interest effects might be especially difficult to uncover in a college sample because the mean and variability of self-interest might be so low as to preclude identification of any relations between it and other variables.

At least with regard to the issues we examined, this seems not to have been the case, given the strong relations we did observe involving self-interest. In fact, Sears's reasoning suggests that self-interest effects on attitude importance in the general population might be even stronger than those we observed in college students; and, of course, his more fundamental point is that any of the other relations we observed might vary in more heterogeneous samples. We therefore set out to assess the ability of self-interest, social identification, and value relevance to predict attitude importance in a representative sample of adults.

Method

Participants

One hundred seventy-four adult residents of the Columbus, Ohio, metropolitan area were interviewed by telephone by a staff of trained interviewers. Telephone numbers were generated by attaching randomly generated groups of four digits to the end of three-digit prefixes for Columbus-area telephone numbers (Waksberg, 1978).

Questionnaire

Subjects again answered questions about gun control. To adapt to the limitations of telephone interviewing, we used rating scales with no more than 5 points.

Core Measures

To measure attitude importance, subjects were asked how important the issue of gun control was to them personally and how much they cared about the issue. Self-interest questions asked subjects how much the issue affected their abilities to live their lives as they wanted to and how much they thought the issue affected their lives directly. For social identification, subjects were asked to think about the group to which they felt most similar and closest. Subjects were then asked how much they felt the issue affected most members of that group and how important the issue was to most members of that group. To measure value

⁹ This test was performed with LISREL by imposing across-group equality constraints on path analysis parameters.

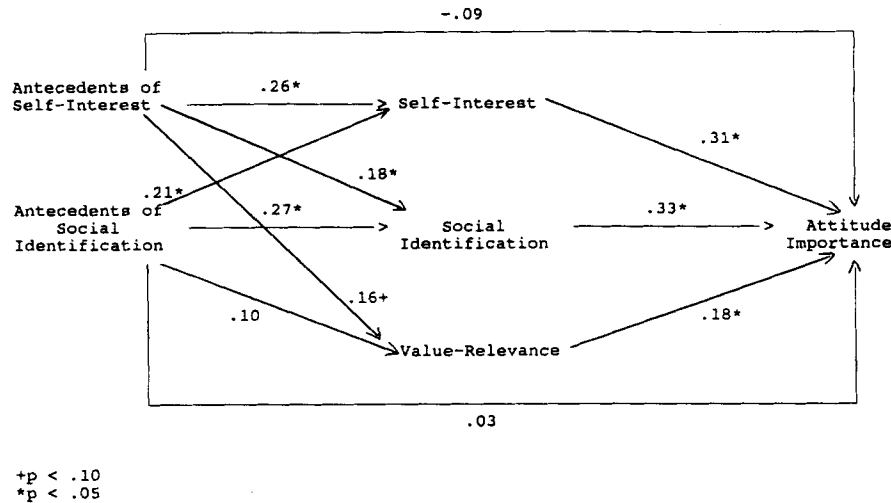


Figure 1. Study 3: Path model of the causes of attitude importance.

relevance, subjects were asked how much they thought their opinions on the issue were related to their own personal values and how much their attitudes on the issue reflected their basic values.

Antecedent-Conditions Measures

To assess some antecedents of perceived self-interest, subjects were asked if they owned a gun, if they had ever been involved in an incident involving a gun, if they had ever fired a gun, and if they had ever seen a gun fired firsthand. To assess some antecedents of the perceived interests of reference groups and individuals, subjects were asked if any member of their family owned a gun and if anyone they felt close to had ever been involved in any kind of an incident involving a gun.

Question Order

The core predictor measures were asked in one of four orders according to a Latin square design, such that each set of questions occurred only once in each position. Subjects were randomly assigned to one of these orders. Thus, the average distance between each pair of constructs, collapsing across question orders, was approximately equal. The antecedent condition measures were always asked after the core predictor measures.

Index Computation and Analyses

We computed indices of attitude importance ($\alpha = .83$), self-interest ($\alpha = .79$), social identification ($\alpha = .76$), and value relevance ($\alpha = .81$) by standardizing and averaging all relevant measures. For the antecedent-condition measures, sums of all "yes" responses constituted overall indices. In all cases, higher scores represented greater presence of the factor.

Results and Discussion

All three core predictors were significantly correlated with attitude importance ($p < .01$). Value relevance exhibited the strongest correlation ($r = .61$), followed by self-interest ($r = .57$) and social identification ($r = .57$). As expected, the antecedents of self-interest and social identification were significantly correlated with attitude importance, though more weakly ($r = .29$

and $.23$, respectively, $p < .05$). The antecedents measures were also positively correlated with their respective core predictors, though again only weakly ($r = .07$, *ns*, and $.19$, $p < .05$, for self-interest and social identification, respectively).

As was the case in Study 3, all three core predictors were significantly associated with attitude importance in an ordinary least squares regression (see the bottom row of Table 3). Value relevance had the strongest effect ($\beta = .35$, $p < .05$), followed by self-interest ($\beta = .29$, $p < .05$) and social identification ($\beta = .23$, $p < .05$). Also as in Study 3, none of these effects were significantly different from one another. Because the results obtained here were so similar to those found in Study 3, these data do not suggest any dramatic differences between college students and older adults in terms of the impact of our core predictors on attitude importance.

Following Sears and Citrin (1985), we repeated this regression, substituting the measures of the antecedents of self-interest and social identification for the respective core predictors (see the bottom row of Table 4). As expected, the antecedents of self-interest were more weakly but nonetheless significantly associated with importance ($\beta = .24$, $p < .01$), as was the case for the antecedents of social identification as well ($\beta = .16$, $p < .05$).

To test for mediation, we estimated the parameters of the same path model that we tested in Study 3. As can be seen in Figure 2, all three core predictors were once again significantly associated with attitude importance. Also, as expected, the antecedents of social identification predicted social identification ($\beta = .18$, $p < .05$) but did not have a direct effect on attitude importance ($p > .10$). The antecedents of self-interest, however, failed to predict self-interest ($p > .10$) but did have a direct effect on attitude importance ($\beta = .19$, $p < .05$).

The weak association between self-interest and its antecedents stands in contrast to the significant association we observed in Study 3. This inconsistency between the two studies may be at least partially due to the fact that the antecedent measures used in this study (which were scaled back to reduce the length

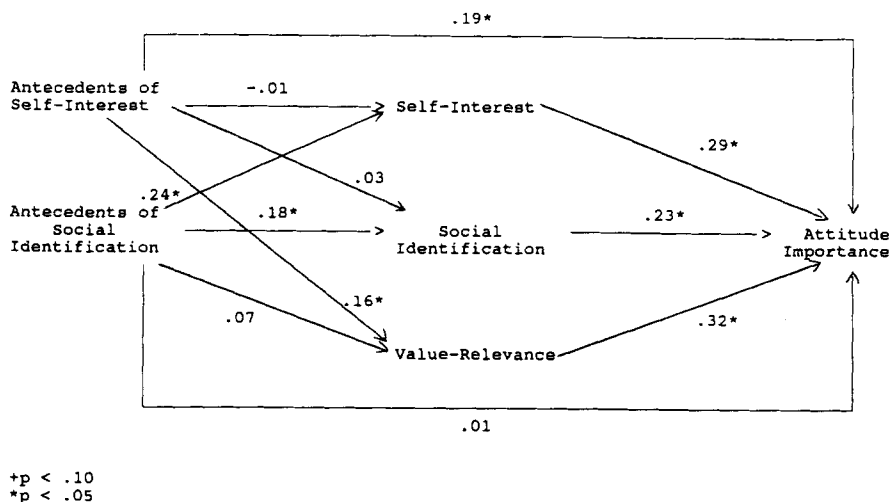


Figure 2. Study 4: Path model of the causes of attitude importance.

of the phone interview) may have been too narrow to fully capture the relevant causes. Whereas Study 3 assessed antecedent conditions both retrospectively (e.g., tapping past experiences) and prospectively (e.g., tapping likelihood of future criminal victimization), the present study included only retrospective measures (e.g., regarding gun ownership, gun use, etc.) and did not address crime-related experiences at all. Thus, the narrowness of this measure may have attenuated the association between the antecedent measures and self-interest. However, when we reestimated Study 3's model using only the items also used in Study 4, the effect on self-interest of its antecedents remained sizable and significant. Thus, the difference between Studies 3 and 4 in this regard seems more attributable to the subject populations involved.

It is particularly surprising that the antecedents of self-interest had a direct effect on attitude importance, as can be seen in Figure 2. This direct effect was also not apparent in Study 3's data when we analyzed only the items also included in Study 4. This raises the possibility that for a nonstudent population, antecedents such as past experiences may have an impact on attitude importance through other subjective mediators that are not represented in our model.

Study 5

Taken together, these last three studies suggest that self-interest, social identification, and value relevance all are independent predictors of attitude importance. This is necessary evidence to make the case that these three factors are plausible causes of attitude importance as it evolves naturally in the course of everyday life. However, an important complement to these studies would be experimental evidence, wherein a manipulation of an antecedent produces a corresponding change in importance.

If people are indeed reluctant to make the psychological commitment that attaching personal importance to an attitude constitutes, such manipulations may not be effective if they are subtle, weak, or unconvincing. Also, dramatic, truly compelling manipulations are difficult to realize during relatively short lab-

oratory sessions without ethically questionable deception. Nonetheless, we set out in our final study to conduct such an experiment using as powerful a manipulation as we could conceive.

Building on the results of Studies 3 and 4, we manipulated perceived self-interest in an issue by attempting to increase subjects' perceptions of the likelihood that the issue would affect their lives directly. A growing body of research shows that imagining an event occurring increases people's estimates of the likelihood that the event will actually occur in the future (Anderson, 1983; Gregory, Burroughs, & Ainslie, 1985; Gregory, Cialdini, & Carpenter, 1982; Sherman, Cialdini, Schwartzman, & Reynolds, 1985). Therefore, we induced subjects to imagine themselves being injured in a traffic accident and expected they would come to believe that they were more likely to experience that event. We further anticipated that these subjects would then perceive their self-interests to be more closely tied to the issue of traffic safety. This should, in turn, increase the personal importance individuals attached to their attitudes on that issue.

Method

Participants

Sixty-nine male and female subjects participated in this study in partial fulfillment of a course requirement. Subjects were run in groups of 15–25 and were randomly assigned to one of three experimental conditions: relevant scenario, irrelevant scenario, and no scenario.

Manipulation

Following a procedure developed by Anderson (1983), subjects in the relevant-scenario condition were instructed to imagine themselves in a car accident and to draw a sequence of five cartoon pictures in which they were driving in a car, got into an accident that was not their fault and could not have been avoided, and woke up some time later in a hospital. Subjects in the irrelevant-scenario condition were asked to draw a sequence of five pictures in which they went on spring vacation, the vacation did not go well, and they returned home disappointed. Sub-

jects in both of these conditions were then asked to draw another sequence of five pictures depicting the same events in a different way. Twenty minutes were allowed for this part of the procedure.

Measures

After completion of this task, subjects in the relevant- and irrelevant-scenario conditions were asked to complete a background questionnaire. Subjects in the no-scenario condition completed this questionnaire immediately on their arrival at the laboratory.

Attitude importance measures asked subjects how important the issue of traffic safety was to them personally and how much they personally cared about the issue. Self-interest measures asked subjects how much the issue affected them personally, how much they felt that they had an interest at stake in it, and how easy it was for them to think of ways the issue might affect them. Social-identification measures asked subjects how much the issue affected people they cared about, how easy it was for them to think of ways the issue may affect their close friends, and how much their close friends cared about the issue. Value-relevance measures asked subjects how much their opinions on the issue were related to their personal values, how often they considered that their attitudes on the issue were related to their values, and how much their attitudes were based on their values. As a manipulation check, we measured subjects' perceptions of the likelihood that they might be injured in a car accident.

All questions were answered on 7-point scales. For attitude importance ($\alpha = .94$), self-interest ($\alpha = .79$), social identification ($\alpha = .61$), and value relevance ($\alpha = .80$), means for each set of questions were computed, such that larger numbers represented greater presence of a factor.

Awareness Check

Finally, at the end of the experiment, all subjects were asked to write down their guesses as to what the purpose of the study was and what hypotheses were being tested. No guesses came close to the true purpose of the study. Thus, demand characteristics almost certainly cannot explain the results obtained.

Results and Discussion

We found no significant differences between the irrelevant-scenario condition and the no-scenario condition on any of our dependent measures, so these conditions were combined into a single control group for all of the analyses reported below.

Compared with subjects in the control conditions, those in the relevant-scenario condition indicated that they were more likely to be injured in an automobile accident in the future ($M = 5.3$ versus 4.1), $t(67) = 4.06$, $p < .01$. Thus, we replicated previous findings that imagining an event causes people to believe it is more likely to occur.

Subjects in the relevant-scenario condition also indicated higher levels of self-interest ($M = 5.3$ vs. 4.6), $t(67) = 2.14$, $p < .05$, and attitude importance ($M = 5.6$ vs. 4.5), $t(67) = 3.07$, $p < .01$, than subjects in the control conditions. These results are therefore consistent with the claim that the imagination manipulation increased attitude importance by increasing perceived self-interest in the traffic safety issue.¹⁰

We next estimated the parameters of a multiple-indicator

structural equation model, shown in Figure 3. According to this diagram, our manipulation altered perceived likelihood of being injured in a car accident, which altered perceived self-interest in traffic safety, which altered attitude importance. Thus, both perceived likelihood and perceived self-interest are presumed to mediate the impact of the manipulation on attitude importance.

As the path estimates shown in Figure 3 document, all of these hypothesized causal processes were statistically significant. Furthermore, this model fit the observed data well, $\chi^2(13) = 18.77$, $p = .13$, $\chi^2/df = 1.45$, $\rho = .96$. This result is consistent with the notion that our manipulation affected attitude importance by altering perceived likelihood and self-interest. Furthermore, when we reestimated this model adding all omitted direct causal paths (i.e., from the manipulation to self-interest and importance, and from likelihood to importance), none of them were statistically significant. This further supports the dual mediator notion.

We also tested our hypotheses regarding mediated effects using techniques outlined by Baron and Kenny (1986). They suggested conducting regressions in three steps to see whether the relation between two variables (A and C) is mediated by a third variable (B). Step 1 involves regressing B on A , with the expectation of seeing a significant effect. In Step 2, C is regressed on B , again with the expectation of seeing a significant effect. Finally, Step 3 entails regressing C on both A and B , expecting the effect of A to be weaker than it was in the first regression. The overall significance of the mediated effect of A on C via B can be tested with a test provided by Sobel (1982).

Because we examined the relations among four variables (two of which were hypothesized mediators), we carried out these procedures twice to confirm that likelihood and self-interest were both mediators of the relation between the manipulation and attitude importance (see Table 5). As expected, significant associations were observed in both of the first two regressions for both proposed mediators. Furthermore, the expected reduction in the manipulation's effect size was observed in both of the third regressions. Finally, Sobel tests indicated significant mediated effects in both cases (likelihood: $z = 2.31$, $p < .05$; self-interest: $z = 2.08$, $p < .05$).

In addition to providing an opportunity to test our self-interest hypothesis, this study also allowed us to examine the relations of attitude importance to social identification and value relevance. If the relations among these variables highlighted in Studies 2–4 reflected the effects of social identification and value relevance on attitude importance (as we suspect), then our experimental manipulation of attitude importance should have had no effects on social identification or value relevance. If, however, the relations shown in Studies 2–4 appeared because attitude importance caused social identification or value relevance, our imagination manipulation should have increased social identification or value relevance.

Consistent with our expectations, subjects in the control and relevant-scenario conditions did not differ in terms of social

¹⁰ Although the level of significance for the effect on self-interest appears to be weaker than the significance of the effect on importance, a formal test of these effects indicates that they are not significantly different from one another.

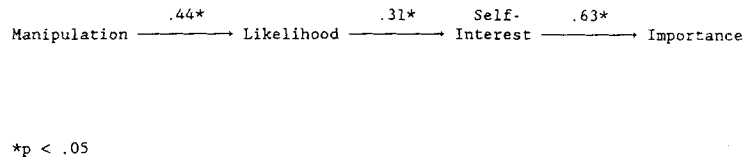


Figure 3. Study 5: Structural equation model assessing mediation of our manipulation effect.

identification, $t(67) = 1.39$, *ns*. However, the relevant-scenario condition subjects did report marginally significantly greater value relevance than did the control subjects ($M = 4.51$ vs. 3.92), $t(67) = 1.87$, $p < .07$. There are two possible explanations for this effect. First, the increase in attitude importance induced by our manipulation may have increased value relevance. Alternatively, the increases in perceived likelihood or self-interest may have increased value relevance. To test these possibilities, we estimated the parameters of the structural equation model shown in Figure 4. As the results shown in the figure reveal, the effect of the manipulation on value relevance was not the result of attitude importance inducing value relevance. This path is nonsignificant ($b = .20$, *ns*). Instead, the change in value relevance was apparently caused by perceived self-interest ($\beta = .61$, $p < .05$). That is, enhanced self-interest apparently led subjects to recognize ways in which their values were at stake in the issue of traffic safety.

There are several alternative models to the one depicted in Figure 4, portraying different causal chains (e.g., that the manipulation affected likelihood, then importance, then self-interest, and then value relevance). Although these alternatives are not well grounded in theory, we nevertheless examined the fit of several of them to our data and found them to fit as well as the model in Figure 4. Although this sort of model equivalence is quite common (MacCallum, Wegener, Uchino, & Fabrigar, 1993), conclusions derived from the results in Figure 4 should be viewed as tentative until future research can more definitively eliminate the plausibility of these alternative models.

Nevertheless, the fact that the manipulation in this study affected value relevance has implications for a set of controversial issues addressed recently by Johnson and Eagly (1989, 1990) and by Petty and Cacioppo (1990; Petty et al., 1991).

These authors disagreed about whether involvement (or importance) induced by outcome relevance (or self-interest) will have the same effects on information processing and attitude change as involvement induced by value relevance. Our results do not help resolve this controversy. However, our results do suggest caution when comparing the information processing impact of attitude importance as induced by these two means.

In their meta-analysis, Johnson and Eagly (1989) treated studies inducing involvement by experimental manipulations of self-interest as exploring outcome-relevant involvement (e.g., Apsler & Sears, 1968). Nonexperimental studies that differentiated high- and low-involvement subjects on the basis of self-reports of issue importance were treated instead as exploring value-relevant involvement (e.g., Gorn, 1975). Our findings raise questions about both sorts of decisions.

First, this study demonstrated that manipulations of outcome relevance can also inadvertently heighten value relevance. Consequently, subjects in studies such as Apsler and Sears's (1968) may have experienced heightened value relevance as well as heightened perceived outcome relevance. Furthermore, our Studies 2–4 indicate that personal-importance ratings such as those gathered by Gorn (1975) reflect both outcome relevance and value relevance. Thus, a neat division between these two sorts of involvement may be difficult to accomplish. To permit clean comparisons in future research, it may be necessary to contrast the effects of outcome-relevant and value-relevant involvement by measuring and statistically separating the two rather than by hoping that one can be manipulated or measured completely independent of the other. More generally, investigators should be cautious before presuming that they have operationalized any one sort of involvement distinctly from others.

General Discussion

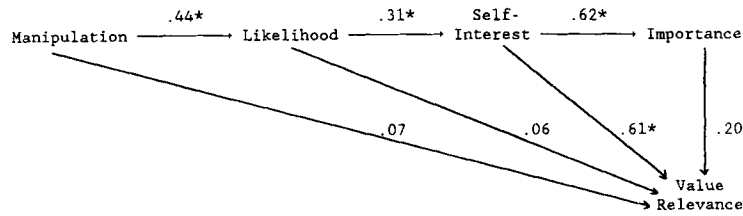
Taken together, the findings of these five studies are consistent with the three hypotheses with which we began: that attitude importance may be the result of self-interest, social identification, and value relevance. Through the use of a variety of different research methods, these studies' results suggest significant roles for all three classes of predictors.

Each of the methods we used has potential weaknesses. Study 1's utility hinges on people's ability to introspect, and any blind spots in such inwardly focused speculation may have produced misleading results. Studies 2–4 hinge partly on people's ability to accurately describe attitude importance and its potential predictors on rating scales. Furthermore, the statistical associations documented in those studies could be the result of spuriousness or of reverse causal processes, whereby attitude importance shaped the predictors. Finally, Study 5's utility hinges especially

Table 5
Study 5: Results of Tests Assessing Mediation of the Impact of the Experimental Manipulation on Attitude Importance

Proposed mediator	Step		
	1	2	3
Likelihood	.44*	.31*	.13*
Self-interest	.27*	.57*	.12*

Note. $N = 69$. Step 1 estimates the effect of the independent variable (i.e., experimental condition) on the proposed mediator. Step 2 estimates the effect of the proposed mediator on the dependent variable. Step 3 estimates the reduction in the effect of the independent variable on the dependent variable due to controlling for the proposed mediator. * $p < .05$.



*p < .05

Figure 4. Study 5: Structural equation model assessing mediation of the effect on value relevance.

on the degree to which one can justify generalizing the events observed in our laboratory to ordinary daily life. However, given the consistency of the findings across these methods, triangulation using all of them reinforces confidence in the validity of the hypotheses being tested.

These findings are useful partly because they contribute to a small but growing body of empirical literature on the antecedents of strength-related attitude dimensions (e.g., Downing et al., 1992; Powell & Fazio, 1984). Discerning the antecedents of the various dimensions of attitude strength will facilitate a better understanding of the similarities and differences among these various dimensions (Krosnick et al., 1993). Thus, we hope to see a more concerted effort to link a wide array of potential antecedents to the many strength-related attitude dimensions in future research. The studies reported here are intended to contribute to movement in this direction.

Self-Interest Effects

There are compelling reasons to expect that self-interest should influence attitude direction, such as Katz's (1960) proposition that attitudes are formed to serve instrumental or utilitarian functions. In other words, attitudes ought to assist in the attainment of personal goals and avoid personal costs. For example, people who have something to lose if a new public policy (such as a school busing program) is implemented should be more opposed to it than people who have nothing to lose.

Despite these sensible rationales, numerous studies have found no self-interest effects or only very weak ones (for reviews, see Citrin & Green, 1990; Sears & Funk, 1991). When effects of self-interest on attitudes have occasionally appeared, they have been in unusually compelling cases, such as when cigarette smokers are most opposed to cigarette taxes and smoking restrictions in public places (Dixon, Lowery, Levy, & Ferraro, 1991; Green & Gerken, 1989), or when homeowners are most likely to favor property tax reduction (Sears & Citrin, 1985). Also, self-interest appears to determine attitudes more when self-interested reasoning is temporarily primed, especially among individuals with behavioral experience with the attitude object (Lau et al., 1990; Lewis-Beck, 1985; Sears & Lau, 1983; Young, Thomsen, Borgida, Sullivan, & Aldrich, 1991).

Self-interest effects have been surprisingly elusive in research on voting as well. For example, rather than voting according to their own personal economic interests, voters choose candidates who they feel will do what is best for the nation's economy as a

whole (Kinder & Kiewiet, 1979, 1981). Also, although one might expect citizens to base their votes on a particular policy issue when their self-interests are at stake in that issue, no such effect of self-interest has been found in various tests (Lau et al., 1978; Sears, Lau, Tyler, & Allen, 1980; Sears, Tyler, Citrin, & Kinder, 1978). Thus, it might seem that people pursue their own material and behavioral self-interests only rarely, at least in the political domain.

The effects of self-interest shown here stand in contrast to these many previous failures to uncover such effects. Of course, our results are not directly in conflict with the specific findings of this work, because we tested different hypotheses. However, our evidence is at odds with the general conclusion that self-interest plays only a minor role in political cognition. Self-interest apparently does not dictate to people whether to favor or oppose specific policies, whether or not to vote in elections, or for which candidate to vote, but it may tell people where to focus their attentions and passions. This is not to say that solidarity with others and adherence to broad principles of life do not do the same; they do. Yet these effects seem not to have precluded a role for self-interest in shaping importance in our studies. Therefore, one effective way to convince people to care deeply about political attitudes they hold may be to convince them that their self-interests are at stake.

Our findings also resonate with evidence that self-interest affects attitudinal phenomena that one would expect to be associated with attitude importance. For example, Sivacek and Crano (1982) demonstrated that people who perceived their self-interests to be at stake in an issue evidenced stronger attitude-behavior correspondence than people who did not see their self-interests as being at stake. Similarly, Jennings (1979) reported positive correlations between having children in school and interest and behavioral participation in school-related political affairs (see also Sears et al., 1978; Sears & Citrin, 1985). In addition, experimental inductions of self-interest have produced enhanced perceptions of social support for one's attitude (Crano, 1983), enhanced attitude-behavior consistency (Petty & Cacioppo, 1986, pp. 187-189), greater attitude stability following a persuasion-induced attitude change (Petty & Cacioppo, 1986, pp. 175-178), and greater cognitive elaboration of relevant information in general and persuasive information in particular (e.g., Berscheid, Graziano, Monson, & Dermer, 1976; Harkness, DeBono, & Borgida, 1985; Leippe & Elkin, 1987; Petty & Cacioppo, 1986, pp. 81-109). Because at-

titude importance enhances attitude-behavior consistency, attitude stability, and elaboration of attitude-relevant information (see Boninger et al., in press), these studies are consistent with the notion that self-interest is a source of importance.¹¹

Social Identification and Value-Relevance Effects

Social identification and values have long had central places in social psychological theorizing and have been shown to be related to a variety of social psychological phenomena. For example, people's attitudes are shaped by reference groups and reference individuals (Campbell et al., 1960; Conover & Feldman, 1984; Converse, 1958; Festinger, 1954; Smith et al., 1956) and by values such as individualism, egalitarianism, equality of opportunity, free enterprise, and postmaterialism (Feldman, 1983, 1988; Inglehart, 1977, 1979, 1981; Katz, 1960; Rokeach, 1968, 1973; Tetlock, 1986). In addition, values have been shown to strengthen commitment to personal projects (Lydon & Zanna, 1990) and to regulate the impact of thought on attitude polarization (Lieberman & Chaiken, 1991), and social identification has been shown to affect perceptions of national economic conditions (Kinder, Adams, & Gronke, 1989), attributions of blame for economic problems (Kiecolt, 1987; Koch, 1991), and political participation (Hershey, 1986; Luker, 1984; Miller, Gurin, Gurin, & Malanchuk, 1981). Our findings highlight yet other likely effects of social identification and values: on people's decisions to become personally invested in particular attitudes.

Translating Attitudes Into Behaviors

People are often interested in influencing others' behavior. Political candidates want to encourage citizens to vote for them. Advertisers want to motivate consumers to purchase their products. Health professionals want to inspire their patients to live healthier lifestyles. In many cases, voters, consumers, and patients already possess the desired positive attitudes toward the objects in question—the goal of the candidates, advertisers, and health professionals is to translate those attitudes into action.

Given the research indicating that personally important attitudes are especially likely to guide behavior (e.g., Krosnick, 1988b), one effective strategy for facilitating this transition may be to encourage people to attach personal importance to the relevant attitude. That is, rather than trying to persuade people to change their attitudes, candidates, advertisers, and health professionals might be better off focusing on making preexisting attitudes strong by making them important. The work reported here provides an empirical basis for recommendations regarding how to do this (i.e., by leading people to link their self-interests, reference groups and individuals, or values to the attitudes involved).

Our findings may also contribute to an understanding of behavior in the form of political activism. In the large literature on this subject (see, e.g., Gurr, 1970; McAdam, McCarthy, & Zald, 1988), scholars have suggested that activist behavior is driven by motivators such as grievances (Opp, 1988), interpersonal networks (Cable, Walsh, & Warland, 1988), cost-benefit tradeoffs (Finkel, Muller, & Opp, 1989), and competing demands (Gilbert, 1988). Our analysis suggests a new theoretical

framework for thinking about the psychological ingredients that motivate people to activism. In retrospect, it may be possible to identify events that led activists to see the relevance of an issue to their self-interests, reference groups or individuals, values, or some combination of these. Perhaps future prospective studies may be able to show the motivating impact of these three forces in this domain.

Variation Across Issues

The consistency and the variation we observed across issues in the apparent roles of the predictors seems sensible in light of Shavitt's (1990) work on the functions attitudes serve. She found that some attitude objects may inherently be oriented toward serving some functions and not others. This object-based approach to analyzing functions suggests that some objects may be most powerfully linked to self-interest (e.g., air conditioners), whereas others may be most powerfully linked to social identity (e.g., perfume).

In this light, the consistent role for self-interest that we observed seems understandable, given that all the issues we addressed have direct implications for our respondents' lives. Abortion has implications for premarital sexual relations, and capital punishment and gun control have implications for people's vulnerability to violent crime. Similarly, these issues seem relevant to salient social group conflicts. Most obviously, abortion is hotly contested by groups divided along gender and religious lines, and gun control debates have provoked conflicts between gun owners and crime victims. Therefore, one would expect the consistent impact of social identification that we observed in these studies.

Variation in the predictive ability of values was more surprising. Although core values such as freedom, equality, and the protection of life are clearly relevant to all these issues, value-relevance effects were surprisingly weak for some issues (e.g., abortion). One possible explanation is that in these cases, value relevance may influence importance indirectly, by shaping the groups with which people identify. So, for example, people who value individual freedom may consequently identify with groups such as feminists, and this identification may in turn cause importance to become attached to abortion. A test of this explanation may be a fruitful avenue for future research.

Other Determinants of Importance

The R^2 s for the regressions in Studies 2–4 leave sizable amounts of variance in attitude importance unexplained, so a

¹¹ Some of the studies cited here (e.g., those by Petty and Cacioppo) manipulated self-interest by altering the perceived likelihood that the issue would have tangible implications for subjects' lives. As Petty and Cacioppo (1986, 1990) have made clear, they consider these manipulations to alter the perceived relevance of the issue to subjects' important outcomes, which in turn alters the personal importance they attach to the issue (just as we hypothesized and tested in the present studies). Thus, their view coincides with Johnson and Eagly's (1989) presumption that these manipulations altered outcome relevance or what Crano (1983) called *vested interest*, both of which we view as equivalent to self-interest.

comprehensive theoretical account of the origins of this construct must presumably expand beyond the three core predictors we have identified. We have therefore begun to speculate along these lines, specifically with regard to factors that might interact with self-interest, social identification, and value relevance. We suspect that each of these antecedents may be especially likely to induce attitude importance under certain conditions.

For example, self-interest, social identification, and value-relevance effects may be facilitated when individuals perceive that there are many other people who oppose their points of view on an issue or when government policy opposes their points of view, so the issue constitutes something to fight about. If most others share one's own viewpoint and that viewpoint is dominant in public policy, there is no reason to become passionate about the issue. Second, importance may be facilitated when one perceives that enough other people share one's own point of view on the issue, so that a fight can be won (see, e.g., Fuld & Nevin, 1988). Third, importance may be facilitated when one perceives easily accessible opportunities to translate concern about an issue into direct action that is likely to have a constructive effect, especially through organized social groups (see, e.g., Kinder & Sears, 1985, pp. 703–704).

In addition, social identification may influence attitude importance by interacting with other constituents of group consciousness (Kiecolt, 1987; Miller et al., 1981). Group consciousness is composed of four components: group identification; preference for one's own group and dislike for the outgroup; an awareness of disparate power, status, or resources of one's own group relative to the outgroup; and the belief that the social system is to blame for the group's standing (Miller et al., 1981). Miller et al. (1981) found that group identification alone had small effects on political participation; substantial effects appeared only when the other components of group consciousness were present in an individual. Likewise, the effects of social identification on attitude importance may be especially strong among individuals who are high in all aspects of group consciousness.

Recently, several other plausible determinants of importance have been suggested. For example, Roese and Olson (1994) demonstrated that repeated attitude expression resulted in increased importance of the attitude to the person. Furthermore, they found that attitude accessibility was a mediator of this effect. The greater prevalence of attitude statements for important than unimportant attitudes we saw in Study 1 is consistent with the idea that accessibility may sometimes influence importance judgments.

Pelham (1991) speculated that the importance people attach to their self-views is determined, at least in part, by self-enhancement motives. People attach importance to positive self-views and consider negative self-views to be unimportant in order to feel good about themselves. This logic may extend beyond self-views to other sorts of general attitudes as well. That is, people may attach importance to attitudes that make them feel good about themselves and downgrade the importance of attitudes that make them feel bad.

Interestingly, this reasoning suggests an even more general possibility involving cognitive dissonance (Festinger, 1957). Specifically, attitudes that are inconsistent with a constellation

of other strongly held attitudes may be downgraded in their importance to minimize the discomfort caused by the inconsistency. Thus, dissonance processes may be yet another source of variation in attitude importance. We look forward to future research that explores these hypotheses.

Coda

In closing, we think it important to note that the findings reported here almost certainly reflect human nature only within a limited context. To borrow Gergen's (1973) words, we may well have produced "a systematic account of contemporary affairs" (p. 316) rather than a more universal documentation of human tendencies. Although self-interest, social identification, and value relevance are likely determinants of attitude importance, the relative magnitudes of their effects probably vary across cultures and across historical time. Specifically, the appearance of strong self-interest effects here is likely to reflect the large recent shift in American culture toward individualism and away from community-oriented thinking (Bellah, Madsen, Sullivan, Swidler, & Tipton, 1985; Triandis, McCusker, & Hui, 1990; Yankelovich, 1981) and may well not be replicated in cultures involving more interdependent self-concepts (Markus & Kitayama, 1991). Presumably, with such large-scale cultural shifts come shifts in the determinants of attitude importance as well.

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