The Construction of Attitudes

Norbert Schwarz
University of Michigan

and

Gerd Bohner
University of Kent

Manuscript of a chapter in A. Tesser & N. Schwarz (Eds.) (2001),
Intrapersonal Processes (Blackwell Handbook of Social Psychology),
Oxford, UK: Blackwell, pp. 436-457.

Attitudes have long been considered a central concept of social psychology. In fact, early writers have defined social psychology as the scientific study of attitudes (e.g., Thomas & Znaniecki, 1918) and in 1954 Gordon Allport noted, "This concept is probably the most distinctive and indispensable concept in contemporary American social psychology" (p. 43). As one may expect of any concept that has received decades of attention, the concept of attitudes has changed over the years (see Allport, 1954, for an early review). The initial definitions were broad and encompassed cognitive, affective, motivational, and behavioral components. For example, Allport (1935) defined an attitude as "a mental and neural state of readiness, organized through experience, exerting a directive and dynamic influence upon the individual's response to all objects and situations with which it is related" (p. 810). A decade later, Krech and Crutchfield (1948) wrote, "An attitude can be defined as an enduring organization of motivational, emotional, perceptual, and cognitive processes with respect to some aspect of the individual's world" (p. 152). These definitions emphasized the enduring nature of attitudes and their close relationship to individuals' behavior. Some sociologists (e.g., Fuson, 1942) and psychologists (e.g., Campbell, 1950) even defined attitudes simply in terms of the probability that a person will show a specified behavior in a specified situation.

In subsequent decades, the attitude concept lost much of its breadth and was largely reduced to its evaluative component. In the succinct words of Daryl Bem, "Attitudes are likes and dislikes" (1970, p. 14). Similarly, Eagly and Chaiken (1993), in a highly influential textbook, defined attitudes as "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (p. 1). Along the way, many functions that were initially ascribed to attitudes have been reassigned to other cognitive structures and the accumulating body of empirical findings drew many of the classic assumptions into question.

A growing body of literature suggests that attitudes may be much less enduring and stable than has traditionally been assumed. As we review below, self-reports of attitudes are highly context-dependent and can be profoundly influenced by minor changes in question wording, question format or question order. For some researchers, this malleability simply reflects measurement error (e.g., Schuman & Presser, 1981): People presumably hold stable attitudes, yet

their assessment is subject to contextual influences. For other researchers, the same findings indicate that all we assess in attitude measurement are evaluative judgments that respondents construct at the time they are asked, based on whatever information happens to be accessible (e.g., Schwarz & Strack, 1991). From this perspective, the traditional attitude concept may not be particularly useful and we may learn more about human cognition and behavior from a detailed analysis of the underlying judgmental processes. Other researchers have taken intermediate positions in an attempt to maintain the traditional attitude concept. For example, Lord and Lepper (in press) and Tourangeau and his colleagues (e.g., Tourangeau, 1992) equate attitudes with relatively stable memory structures, but assume that individuals sample from these structures when they answer attitude question. Hence, a stable attitude can result in variable attitude reports, depending on which aspect of the knowledge structure (attitude) is accessed. Others (e.g., Wilson, 1998) suggested that individuals may hold multiple attitudes about an object, accessing different ones at different points in time. As we illustrate below, it is surprisingly difficult to design conclusive empirical tests to evaluate the relative merit of these proposals and, with a few plausible assumptions, each is compatible with the available data. Yet, a scientific concept like "attitude" is to be evaluated on the basis of its explanatory power -- and without taking judgmental processes into account, there is little that the attitude concept explains. In fact, the contemporary definition of attitudes as "likes and dislikes" (Bem, 1970, p. 14) equates attitudes with evaluative judgments. Hence, the first section of this chapter highlights judgmental processes and the second section applies these process assumptions to some findings that are typically considered evidence for the enduring nature of attitudes.

In response to the malleability of attitude reports, social psychologists have repeatedly tried to replace or supplement verbal self-report measures with other, presumably more direct, ways to assess individuals' evaluative responses to attitude objects. These attempts range from the "bogus pipeline" (Jones & Sigall, 1971) of the 1970' s to the recent development of sophisticated "implicit" measures of attitudes (e.g., Dovidio & Fazio, 1992). Recent findings suggest that such measures may be just as context dependent as verbal reports, although the relevant contextual variables may differ. The third section addresses these developments, which are discussed in more detail by

Banaji and colleagues (this volume) and Bassili (this volume).

Much as the enduring nature of attitudes has been called into question, another body of research suggested that attitudes may not be closely related to behavior either (see Wicker, 1969, for an influential early review). Instead, we may expect a close relationship between attitudes and behavior only under some specific, and relatively narrow, conditions (see Bohner & Schwarz, this volume). These conditions can be fruitfully conceptualized within a judgment perspective, as we review in the final section.

Although we consider these topics central to current developments in attitude research, we are keenly aware that our coverage does not do justice to the broad range of topics that has been addressed under the attitude rubric. For treatments of topics not addressed in this chapter we refer readers to Eagly and Chaiken (1993, 1998), Petty and Wegener (1998), and Bohner & Schwarz (this volume).

Attitude Judgments: Lessons Learned from Context Effects

Attitudes are a hypothetical construct, invented by researchers to account for a body of phenomena. We cannot observe attitudes directly but infer them from individuals' self-reports and behavior. Accordingly, the processes underlying self-reports of attitudes are of central importance to our inferences about the nature of attitudes. Empirically, attitude measurement is highly context dependent and minor changes in question wording, format, or order can have a profound impact on the obtained reports (for reviews see Schuman & Presser, 1981; Schwarz & Sudman, 1992; Sudman, Bradburn, & Schwarz, 1996; Tourangeau & Rasinski, 1988). The underlying dynamics are increasingly well understood and reflect an intricate interplay of cognitive and communicative processes. Answering an attitude question entails several tasks (Strack & Martin, 1987; Tourangeau, 1984): Respondents (a) need to interpret the question to determine the attitude object and evaluative dimension the researcher has in mind. Next, they (b) need to retrieve relevant information from memory. In most cases, a previously formed judgment that meets the specifics of the question will not be accessible and they have to draw on information that seems relevant to the question at hand. Relevant information includes features of the attitude object, the respondent's

apparent affective response to the object, as well as information about the respondent' s own behavior with regard to the object. Based on this information, respondents (c) need to compute a judgment. Having formed a judgment, they (d) can rarely report it in their own words but need to map it onto a set of response alternatives provided by the researcher. Finally, (e) respondents may want to edit their private judgment before they communicate it to the researcher for reasons of social desirability and self-presentation. Performance at each of these steps is context dependent, yet this context dependency has differential implications for the notion that people hold enduring attitudes.

Question Comprehension

To answer a question, it is not sufficient to understand the words. For example, when asked, "What have you done today?" the words pose no particular problem, yet you still need to determine what the questioner is interested in. Should you report, for example, that you took a shower or not? To infer what the questioner has in mind (i.e., the *pragmatic* meaning of the question), respondents go beyond the words (i.e., the *literal* meaning of the question) and draw on contextual features, such as the content of preceding questions or the response alternatives provided by the researcher (see Sudman et al., 1996, for a review). This context dependent interpretation of question meaning entails that the same literal question can acquire different pragmatic meanings in different contexts, resulting in what are essentially answers to substantively different questions. For example, Schwarz and Hippler (1995) asked respondents questions of the type, "How do you feel about Bill Clinton?," accompanied by an 11-point rating scale ranging from "don' t think highly of him" to "think very highly of him." To answer this question, respondents have to determine if the researcher intends the wording "don' t think highly of him" to refer to the presence of negative thoughts or merely to the absence of positive thoughts. To do so, they draw on contextual features, including such formal aspects as the numeric values of the rating scale. Specifically, respondents in this study inferred that "don' t think highly of him" refers to the absence of positive thoughts when the numeric values ranged from 0 to 10, but to the presence of negative thoughts when they ranged from -5 to +5. Not surprisingly, this shift in the meaning of the verbal end anchor resulted in dramatic shifts in the obtained ratings and all politicians were evaluated more positively on the -5 to

+5 scale.

Note that context effects at the question comprehension stage reflect differences in the understanding of the evaluative dimension or the identification of the attitude object, i.e. answers to substantively different questions. Hence, these effects do not bear on whether people hold enduring attitudes or construct an answer on the spot, but are compatible with both theoretical perspectives.

Recall and Judgment

After respondents determined the intended meaning of the question, they need to form a judgment. To do so, they may either engage in a systematic evaluation of features of the attitude object, may draw on their own behavior towards the object, or may use their apparent affective reaction or other phenomenal experiences as a basis of judgment. We address these options in turn.

Feature-based Judgments:

The Construal of Objects and Standards

To arrive at a feature-based evaluation of the attitude object, respondents need to recall relevant information from memory to form a mental representation of the object and of a standard against which it can be evaluated (Schwarz & Bless, 1992a; see also Biernat, this volume; Martin, Stapel, & Strack, this volume). In doing so, they are unlikely to recall all information that may potentially be relevant to the judgment, but truncate the search process as soon as enough information has come to mind to form a judgment with sufficient subjective certainty. Some of this information will be *chronically accessible* (Higgins, 1996) and will come to mind independent of contextual influences. Other information, however, will only come to mind because it has been used recently, e.g. to answer a preceding question. This *temporarily accessible* information results in context effects in attitude judgments, whereas chronically accessible information lends some context independent stability to these judgments.

The specific impact of chronically or temporarily accessible information depends on how it is *used*. Information that is included in the mental representation of the object results in *assimilation* effects, i.e., more positive (negative) judgments when positive (negative) information comes to mind. Suppose, for example, that respondents are asked of which party General Colin

Powell has recently become a member (Stapel & Schwarz, 1998). This question not only brings the highly respected Colin Powell to mind, but the correct answer ("Republican Party") also invites his inclusion in the mental representation formed of that party. This representation now includes a positive element that may otherwise not have come to mind, resulting in more positive evaluations of the Republican Party than when no question about Powell was asked. Similarly, suppose that respondents are asked to evaluate the trustworthiness of American politicians and Richard Nixon happens to come to mind because he was addressed in a previous question. Richard Nixon can be included in the superordinate category "American politicians," resulting in judgments of lower trustworthiness than would otherwise be the case (Schwarz & Bless, 1992b). Nixon's negative impact, however, would be less pronounced the more other, trustworthy, members came to mind at the same time (Bless, Igou, Schwarz, & Wänke, in press). These assimilation effects simply reflect that the judgment is based on the features included in the mental representation of the object, i.e. the category "American politicians" or "Republican Party."

Next, suppose that the question about Powell asks which party offered him to run as its presidential candidate -- an offer he declined. This question again brings Colin Powell to mind, but it invites his exclusion from the representation formed of the Republican Party. Nevertheless, Powell is highly accessible and may be used in constructing a very positive standard of comparison, relative to which the rest of the Republican Party looks less good. Empirically, this is the case and the party is evaluated more negatively than if no question about Powell were asked (Stapel & Schwarz, 1998). Similarly, suppose that Nixon is again brought to mind by a preceding question, yet the judgment does not pertain to the trustworthiness of the superordinate category "American politicians," but to the trustworthiness of a specific exemplar, say Newt Gingrich. Nixon would still be highly accessible, yet he cannot be included in the mental representation formed of the attitude object Newt Gingrich, reflecting that lateral categories are mutually exclusive. In this case, Nixon may be used in constructing a standard of comparison, relative to which Gingrich is evaluated as more trustworthy than would otherwise be the case. An experiment with German politicians as attitude objects confirmed these predictions (Schwarz & Bless, 1992b). Again, however, Nixon's influence on judgments of Gingrich would be attenuated the more other, more

trustworthy, politicians are included in the construal of the standard, thus resulting in a less negative comparison point (Bless et al., in press). In more general terms, information that is used to construct a standard of comparison results in *contrast* effects. In this case, negative (positive) information results in a more negative (positive) standard, relative to which the attitude object is evaluated more positively (negatively).

As these examples illustrate, the *same* piece of accessible information can have *opposite* influences on attitude judgments, depending on how it is *used*. Information that is used in constructing a representation of the attitude object results in assimilation effects, whereas information used in constructing a standard results in contrast effects. Empirically, the influence of a given temporarily accessible piece of information can only be observed when its implications are more extreme than the implications of chronically accessible information used in forming the same representation. Moreover, the size of its influence decreases with the amount and extremity of other information used in forming the respective representation.

Numerous different variables influence how a given piece of information is used. These variables can be conceptualized in terms of three broad decisions (Schwarz & Bless, 1992a). First, why does this information come to mind? In general, individuals assume that what comes to mind does so in response to the topic they are thinking about, a pervasive assumption that Higgins (1998) termed the *aboutness principle*. Hence, accessible information is likely to be included in the representation formed of the object, unless subsequent decisions result in its exclusion. If respondents are aware, however, that the information may have come to mind for the "wrong" reason, e.g., because of a preceding question or priming task (e.g., Strack et al., 1993), they exclude it from the representation of the attitude object (rendering the subsequent decisions irrelevant). Second, is the information representative of the attitude object? If yes, it is included in the representation formed, if not it is excluded and used in constructing a standard of comparison. Variables that influence this decision are the categorical relationship between the context information and the superordinate or lateral attitude object, as in the Nixon example reported above, the extremity of the context information, and similar determinants of perceived representativeness. Finally, conversational norms may prohibit the use of information that the listener may not be

interested in, again resulting in the exclusion of this information from the temporary representation of the attitude object used in forming a judgment (e.g., Schwarz, Strack, & Mai, 1991). Whenever any of these decisions results in the exclusion of accessible information from the representation of the object, a contrast effect is likely to emerge; otherwise, assimilation effects are obtained.

Behavioral Information

Alternatively, respondents may base their attitude judgments on information about their own behavior towards the attitude object. In doing so, they follow the same inference rules that an external observer would apply, as initially suggested by Bem' s (1970, 1972) self-perception theory. For example, they may conclude that they like an activity when they seem to engage in it without external pressure or high rewards, yet that they don' t like it when they seem to engage in it due to external pressures or high rewards. That is, they infer their attitudes from behavior under conditions that allow for correspondent inferences (Jones, 1979). Moreover, it is not individuals' actual behavior, but their perception of their behavior, that drives their attitude judgments. For example, Salancik and Conway (1975) presented participants with a list of religious behaviors, like "I go to church," and asked them to check all that apply. For some participants, the statements were paired with low frequency terms ("I sometimes go to church"), and for others with high frequency terms ("I frequently go to church"). Because most people are more likely to do all kinds of things "sometimes" rather than "frequently," participants endorsed more religious statements in the former than in the latter condition. Subsequently, these participants inferred that they held more religious attitudes, reflecting that they drew on the number of religious behaviors they seemed to engage in. Note that observers would, and do, arrive at the same conclusion in studies of this type, indicating that individuals do not have privileged access to their own attitudes, in contrast to what the traditional attitude concept would suggest.

Feelings and Phenomenal Experiences

As a final route to attitude judgments, respondents may draw on their feelings and phenomenal experiences. For example, they may use their apparent affective reaction to the attitude object as a basis of judgment, essentially asking themselves, "How do I feel about this?" (Schwarz & Clore, 1988). When the attitude object itself elicits a strong affective response, as

when a spider phobic is exposed to a spider, this route may lead to relatively context independent judgments. Yet, it is often difficult to determine the source of one's feelings and respondents may misread their pre-existing mood as a response to the attitude object, resulting in more positive evaluations when they are in a good rather than bad mood (see Bless, this volume).

Similarly, respondents may draw on their apparent physiological arousal or other bodily sensations as a source of information. They may conclude, for example, that they like a pin-up photograph more when false feedback suggests that it makes their heart beat faster than when it does not (Valins, 1966), or may be more likely to agree with a message when an unrelated task induces them to move their heads up and down (thus evoking the sensation of nodding one's head) rather than from side to side (thus evoking the sensation of shaking one's head; e.g., Wells & Petty, 1980).

Finally, they may infer from an experienced difficulty of retrieving positive (negative) information about the attitude object that there isn't much good (bad) to say about the object, and may base their judgment on this inference, consistent with Tversky and Kahneman's (1973) availability heuristic (see Schwarz, 1998, for a review).

Reliance on such experiential information often allows respondents to simplify the judgmental task. Hence, these sources of information are particularly likely to be used when the judgment task is complex and burdensome, when little other information is available, or when respondents' motivation is low, that is, under conditions that typically foster the use of heuristic strategies of judgment (Bohner, Moskowitz, & Chaiken, 1995; see Bless, this volume; Martin, Stapel, & Strack, this volume).

Summary

In sum, respondents can draw on a wide range of information and inference rules to arrive at an evaluative judgment and the outcome of these judgmental processes is highly context dependent. This context dependency calls into question that individuals hold enduring attitudes that they recall from memory to answer attitude questions. Instead, it suggests that attitude judgments are constructed on the spot, based on the information and inference rules that are most accessible at that point in time.

Formatting the Answer

After having formed a judgment in their own minds, respondents need to map their judgments onto the response alternatives provided by the researcher. This process is again context dependent. For example, when a rating scale is presented, respondents need to determine the meaning of the scale points. To do so, they draw on the range of accessible related objects and anchor the endpoints of the scale with the most extreme objects that come to mind (e.g., Ostrom & Upshaw, 1968; Parducci, 1983). Hence, a given object will be rated as less extreme when presented in the context of a more extreme one, than when presented in the context of a less extreme one. In addition, if the number of to-be-rated objects is sufficiently large, respondents will attempt to use all categories of the rating scale about equally often to be maximally informative. Accordingly, the specific mappings depend on the range and frequency distribution of the to-be-evaluated objects.

As in the case of question comprehension effects, *response language* effects of this type do not bear on whether attitudes are enduring or constructed on the spot. They simply reflect that respondents draw on the context of the task to determine the meaning of the response alternatives (see Strack, 1994, for a review). Once a specific point on a rating scale has been checked, however, this answer may itself remain accessible for a limited time, serving as input into subsequent judgments and behavioral decisions (e.g., Sherman, Ahlm, Berman, & Lynn, 1979).

Editing the Response

As a final step, respondents have to report their private judgments to the researcher. At this stage, they may want to edit their responses due to influences of social desirability or self-presentation. Although such effects have received considerable attention in public opinion research (for a review see DeMaio, 1984), their emergence is limited to topics that are highly personal and threatening in nature. Moreover, many of the more robust findings are theoretically ambiguous. For example, survey researchers observed that white Americans report more positive attitudes towards African-Americans when the interviewer is black rather than white (e.g, Hatchett & Schuman, 1976). From a social desirability perspective, the answers they give to the black interviewer presumably do not reflect their "true" attitude. Yet, the highly salient friendly, middle-

class, and usually well-educated African-American interviewer may herself serve as input into the temporary representation formed of the superordinate category "African-Americans," resulting in more positive judgments for the reasons discussed above. In fact, simply presenting a well liked African-American on a larger list of individuals as part of an unrelated task (Bodenhausen, Schwarz, Bless, & Wänke, 1995), has been found to improve attitudes about the group under anonymous reporting conditions, which do not give rise to social desirability concerns. Hence, the extent to which interviewer effects reflect deliberate misreports of respondents' actual attitude judgments, or differential construals of the attitude object, often remains an open question.

Summary

As our selective review indicates, attitude reports are highly context dependent. Note, however, that only context effects at the judgment stage bear on whether individuals hold enduring attitudes or construct an attitude judgment when needed, based on the information accessible at that time. In contrast, context effects at the question comprehension and response formatting stage reflect influences on respondents' understanding of what the attitude object under consideration is, or how the response alternatives are to be interpreted and used. Finally, socially desirable responding presumably reflects a deliberate misrepresentation of one' s enduring attitude or temporary judgment, again not bearing on whether individuals hold enduring attitudes. Next, we turn to the theoretical implications of these findings.

Context Effects and the Conceptualization of Attitudes

From a social judgment perspective, the observation that attitude reports are context dependent is not surprising: After all, human judgment is always context dependent, no matter if it pertains to simple psychophysical stimuli or complex social issues. The reviewed findings are difficult to reconcile, however, with the traditional assumption that people hold well-formed and enduring attitudes, which they can "look up" in memory -- an assumption that is sometimes referred to as the "file-drawer" model of attitudes (e.g., Wilson & Hodges, 1992). To reconcile the file-drawer assumption with the emergence of context effects, some researchers suggested that people may only hold well-formed attitudes with regard to some objects, but not others (e.g., Converse, 1964). Well-formed, or *crystallized* attitudes can presumably be retrieved from memory, rendering context

effects unlikely. Context effects are only expected when we assess *nonattitudes* (Converse, 1964), that is opinions about objects for which respondents do not hold well-formed attitudes in the first place, and hence have to compute a judgment on the spot.

Of course, these distinctions are only useful to the extent that they generate different predictions for observable phenomena. Unfortunately, deriving diagnostic predictions is more difficult than one might expect. To make this point, we adopt a strong version of a construal model, assuming, for the sake of the argument, that respondents *always* need to compute a judgment from scratch and can' t recall their previous evaluations. As anyone who remembers that a movie was "boring" --but can' t recall any relevant details -- realizes, this extreme assumption is unrealistic. Nevertheless, findings typically cited as support for the notion that individuals have enduring attitudes on some positions, although perhaps not on others, can be accommodated within such an extreme version of a judgment model, giving judgment models the advantage of accounting for findings that presumably challenge as well as support the traditional attitude concept.

The Stability of Attitude Reports Over Time

First, consider the stability of attitude reports over time. From the perspective of file-drawer models, similar reports at different points in time suggest that respondents have a "crystallized" attitude towards the object that they can report with some accuracy. In its general form, this assumption is circular and contributes little to our understanding of the stability of attitude reports in the absence of independent evidence for the crystallization of attitudes. In contrast, construal models specify the conditions under which we are likely to obtain similar reports at different points in time, namely the conditions under which context effects will be small or absent. Specifically, repeating the judgment process at different points in time will result in similar judgments to the extent that respondents form similar mental representations of the attitude object and standard at each time, or draw on similar other sources of information. Several variables determine how likely this is to be the case.

Most obviously, no change is expected when the context of the attitude judgment remains the same, thus rendering the same information temporarily accessible at t1 and t2. Similarly, no change is expected when the judgment is solely based on chronically accessible information which

comes to mind at both points in time, a situation that may arise when the context does not provide relevant information (e.g., Sia, Lord, Blessum, Ratcliff, & Lepper, 1997). Moreover, even under conditions where the mental representations formed at both times include a considerable amount of different information, these differences in representation will only result in different judgments when the information used at t1 and t2 has different evaluative implications. Simply replacing one piece of information with a different one of similar valence will not change the evaluative judgment (e.g., Sia et al., 1997).

In addition, our previous discussion of the size of context effects bears directly on stability over time (see Schwarz & Bless, 1992a). As noted above, the size of assimilation effects decreases as the amount and evaluative consistency of other information included in the representation of the target increases (e.g., Bless et al., in press). Hence, adding an additional piece of information at t2 to a representation of the object that is otherwise identical with the representation used at t1, will only result in change if the initial representation was (a) based on a small amount of information or was (b) evaluatively inconsistent, in which case that the new piece of information may tip the balance, or (c) the new information is more extreme than the average implications of the old information. Similar considerations apply to changes in the representation of the standard, again paralleling our previous discussion of the size of contrast effects.

In short, the variables that determine the size of context effects are also the variables that determine the stability of attitude judgments over time. As this selective discussion indicates, feature-based construal models (e.g., Lord & Lepper, in press; Schwarz & Bless, 1992a) are compatible with the observation of change as well as stability in attitude reports -- and specify the conditions under which such stability should be observed, rendering such models clearly testable. In contrast, the conclusion that individuals must have a well-formed attitude *because* their reports are stable over time is circular in the absence of other evidence. One such set of evidence pertains to measures of attitude strength.

Attitude Strength

Several researchers suggested that attitudes vary in their degree of "strength", "centrality", or "crystallization" (see Krosnick & Abelson, 1992; Petty & Krosnick, 1995, for reviews).

Empirically, these concepts have been difficult to operationalize and researchers have used a variety of indicators to assess attitude strength, including the intensity of respondents' feelings about the object, the certainty with which they report holding the attitude, or the importance they ascribe to it. Unfortunately, the various measures of attitude strength are only weakly related to one another (Krosnick & Abelson, 1992) and reports of attitude strength are themselves context dependent (e.g., Haddock, Rothman, Reber, & Schwarz, 1999). Moreover, the widely shared hypothesis that context effects in attitude measurement "are greater in the case of weaker attitudes has clearly been disconfirmed" (Krosnick & Abelson, 1992, p. 193). In the most comprehensive test of this hypothesis, based on more than a dozen experiments and different measures of attitude strength, Krosnick and Schuman (1988) found no support for it.

On the other hand, attitude strength has proved important in other domains of research. Most importantly, strongly held attitudes have been found to be more stable over time and less likely to change in response to persuasive messages. Moreover, they are better predictors of behavior than weak attitudes (see Krosnick & Abelson, 1992; Bohner & Schwarz, this volume). Again, however, a construal approach allows for the same predictions. To the extent that we are likely to think more, and more often, about topics that are important to us, a larger amount of information would be chronically accessible. Increased chronic accessibility of a larger amount of information, in turn, would decrease the likelihood of arriving at a different judgment when a few new pieces of information are added to the representation in response to a persuasive message. Similarly, the individual would be likely to draw on a similar set of chronically accessible information when asked to report a judgment and when faced with a behavioral decision, resulting in greater consistency between the judgment and the behavior. Accordingly, a construal approach arrives at the same predictions if we make the plausible assumption that people think more about issues that are important to them. Therefore, the findings of the attitude strength literature do not *necessarily* reflect that the processes underlying reports of "strong" attitudes differ from the processes underlying reports of "weak" attitudes.

Attitude Accessibility

In an impressive program of research, Fazio and his colleagues (for reviews see Fazio,

1995; Bassili, this volume) suggested that some attitudes are more accessible than others, as reflected in respondents' reaction times. Presumably, a fast response to an attitude question indicates that a previously formed evaluation was accessible in memory, whereas a slow response indicates that an evaluation had to be computed on the spot, which takes time. Several studies have found that highly accessible attitudes, as inferred from fast answers, are more stable over time and are better predictors of behavior (see Fazio, 1995). Unfortunately, reaction time measures do not tell us which stage of the judgment process produces a fast or slow response. A fast response may reflect the retrieval of a highly accessible previous judgment as well as the high speed of a current computation. From a judgment perspective, fast computations would be expected under different conditions, only some of which map onto the attitude concept -- yet all of which would result in the observed relationships between response time and stability over time or attitude-congruent behavior.

For example, an attitude object may elicit an affective response that may serve as a basis for a fast evaluative judgment. At first glance, the affective reaction is presumably what the attitude concept refers to, yet such reactions can be obtained in response to novel objects that have not previously been evaluated (Zajonc, 1980). Accordingly, fast evaluations do not necessarily reflect the accessibility of a previously formed attitude. Yet, the affect-eliciting quality of the stimulus itself would result in consistent responses over time as well as affect-congruent behavior.

Fast computations would also be expected, for example, when all information that comes to mind is evaluatively consistent, whereas slow computations would be expected when the information is evaluatively inconsistent. Making this assumption, which is amenable to empirical testing, construal models would again arrive at the same predictions. When the knowledge bearing on an attitude object is evaluatively consistent, retrieving different pieces at different times would not result in different judgments. Moreover, retrieving different pieces when one makes a judgment and when one makes a behavioral decision would still result in a high consistency between the judgment and the behavior. It is only when different pieces of information have opposite implications that we should see low stability over time and low attitude-behavior consistency (Lord & Lepper, in press). Integrating the implications of these different pieces of information, however,

would take time (as Bassili, 1998, observed for "ambivalent" attitudes), potentially resulting in the observed relationship between response time and stability or attitude-behavior consistency. Hence, the observed relationship does *not necessarily* reflect differences in the accessibility of existing attitudes, but may reflect differences in a mental construal process. Accordingly, the accessibility of a previously computed judgment in memory is a *sufficient* but not a *necessary* condition for fast evaluative responses, rendering the empirical findings less conclusive than often assumed.

Conclusions

Our conclusion from these conjectures is *not* that the literatures on attitude strength and attitude accessibility are necessarily mistaken. At present, we are not aware of data that bear on our conjectures in unequivocal ways. Rather, we simply note that the available findings are potentially compatible with judgment models if one makes some plausible additional assumptions. In our reading, this suggests that asking whether people "have" attitudes or not may be relatively futile for most practical purposes, despite the obvious theoretical interest value of the issue. Yet, a judgment approach has important advantages over the traditional file-drawer assumption: It allows us to account for stability as well as change; predicts the conditions under which context effects are or are not likely to emerge; predicts their direction and size; and allows for the conceptualization of individual differences between respondents (e.g., expertise; attitude strength, and so on) as well as questionnaire variables within a single conceptual framework. For the time being, we consider such an approach more promising and parsimonious than attempts to distinguish "real" attitudes from supposedly less real ones.

Implicit Measures of Attitudes: A Solution to Context Dependency?

In response to the malleability of verbal reports, social psychologists have repeatedly attempted to develop measures that are less context dependent, presumably allowing researchers to assess respondents' "true" attitude. Early attempts were motivated by a desire to reduce socially desirable responding. For example, Jones and Sigall' s (1971)*bogus pipeline* procedure was designed to convince respondents that a sophisticated machine would pick up spontaneous muscle

movements, thus informing the researcher about their "true" response, presumably making deliberate misrepresentations of their attitudes futile. As expected, Sigall and Page (1971) observed that white respondents reported more negative attitudes towards African-Americans under these conditions. While this procedure may discourage the deliberate misrepresentation of judgments of which the respondent is aware, more recent developments try to assess evaluative reactions that may even escape the respondents' own awareness. To illustrate these approaches, we draw on two different uses of priming procedures and reaction time measures. Both approaches assess the impact of presenting an attitude object (prime) on the speed with which participants respond to a subsequent target word. The first approach requires them to *evaluate* the target word, whereas the second merely requires them merely to *identify* the target word, either by pronouncing it as quickly as they can or by deciding whether it is a word or a nonword (see Banaji, Lemm, & Carpenter, this volume, and Bassili, this volume, for reviews).

Do Facilitation Effects Reflect Attitude Strength?

As part of their research into attitude accessibility, Fazio and his colleagues (for reviews see Dovidio & Fazio, 1992; Fazio, 1995) demonstrated that exposure to an attitude object facilitates subsequent evaluative responses to unrelated targets that share the same valence. In a typical experiment, participants are required to decide if an adjective (e.g., "disgusting") has a positive or a negative meaning. When the adjective is preceded by a valence-congruent attitude object (e.g., "cockroach"), shown at exposure times that preclude conscious awareness, participants are faster in responding that "disgusting" has a negative meaning than when the adjective is preceded by a valence-incongruent attitude object (e.g., "ice cream").

Findings of this type are compatible with two different theoretical perspectives. On the one hand, Fazio and his colleagues suggested that respondents have an evaluation of the attitude object stored in memory, which is activated automatically upon exposure to the object, facilitating subsequent valence-congruent responses. From this perspective, the facilitation pattern allows us to infer respondents' positive or negative attitudes towards the primed object without ever asking them about it. Supporting the assumption that facilitation effects reflect respondents' stored attitudes, Fazio, Sanbonmatsu, Powell, and Kardes (1986) only observed pronounced facilitation effects

when respondents' evaluation of the object was highly accessible in memory, as indicated by fast evaluative responses to the attitude object itself. Yet, subsequent studies by Bargh and colleagues (especially Bargh, Chaiken, Raymond, and Hymes, 1996; Giner-Sorolla, Garcia, & Bargh, 1999) qualified this conclusion. In Fazio' s paradigm, respondents' evaluation of the attitude primes is assessed shortly before the priming procedure and evaluative judgments of the target words serve as the dependent variable, thus establishing evaluation as the key processing goal. To attenuate this processing goal, Bargh and colleagues separated the assessment of attitude strength from the experiment proper and used pronunciation tasks as the dependent variable. Under these conditions, they observed automatic facilitation effects even for weak attitude primes. Their results strongly suggest that facilitation effects reflect automatic, on-line evaluations: Presumably, we automatically classify all stimuli as good or bad within split-seconds after exposure and valence congruent primes facilitate this process without necessarily requiring the accessibility of a previously formed strong attitude (for different perspectives see Fazio, 1995; Bargh, 1997; Wegner & Bargh, 1998).

Do Facilitation Effects Reflect Attitudes or Semantic Knowledge?

Using lexical decision or pronunciation tasks as dependent variables, other researchers observed, for example, that racial primes (e.g., "black" or "white") facilitate the subsequent processing of target words (e.g., traits) that are consistent with racial stereotypes, but inhibit the processing of target words that are inconsistent with racial stereotypes (e.g., Wittenbrink, Judd, & Park, 1997). At present, the available literature suggests that facilitation effects observed on these semantic tasks are unrelated to explicit reports of racial attitudes, whereas facilitation effects observed on evaluative judgment tasks are related to explicit attitude measures (see Blair, in press; Wittenbrink, Judd, & Park, 1999). As Blair (in press) noted, some have concluded from this observation that the lexcial decision and pronunciation task hold particular promise because they assess something that people are not willing to report explicitly or may not even be aware of. In contrast, others suggested that semantic facilitation effects may primarily reflect semantic knowledge about prominent attitude objects, knowledge that is widely shared within a society but not necessarily indicative of a given individual's attitude (e.g., Devine, 1989). Given the weak relationship of semantic facilitation measures with any variables that could serve as an independent validation (e.g., explicit reports or overt behavior), it remains unclear what exactly is being assessed. Moreover, the accumulating findings once again indicate that these measures are subject to context effects. Glaser and Banaji (1999), for example, observed that evaluatively extreme primes may inhibit rather than facilitate subsequent performance, thus reversing the usually obtained pattern.

Summary

As this selective review indicates, the hope that implicit measures can provide us with a context independent window on respondents' "true" attitudes may be overly optimistic. Instead, we conjecture that abundant context effects will emerge as research in this area progresses and we are hopeful that these context effects will illuminate the cognitive processes underlying implicit measures of attitudes. In our reading, investigations into the *interplay* of automatic and controlled processes in attitude judgment hold great promise and the temptation to equate one or the other set of measures with individuals' "true" attitudes may do more harm than good. Suppose, for example,

that subliminal exposure to "cod liver oil" facilitates your identification of "disgusting" as a "bad" word, yet you know cod liver oil is good for you and you take it regularly. Which of these responses should we consider an unbiased indicator of your "true" attitude? Your behavior (as Campbell, 1950, would have urged us), your verbal report ("Good for me, but I don't like the taste."), the speed with which you evaluate "disgusting" as a bad word, or the speed with which you can pronounce it? Chances are that we learn different things from each one, rendering the designation of one as the key phenomenon counterproductive.

Attitude Construal and the Attitude-Behavior Relationship

Theoretically, an observed relationship between an individual's attitude and his or her behavior may reflect (a) that the behavior serves as input into an attitude judgment, (b) that the attitude guides the individual's behavioral decisions, or (c) that the attitude judgment and the behavioral decision are based on the same input information. We have already addressed the first pathway in our discussion of attitude judgments and now turn to the latter two. Consistent with common sense notions, early attitude theorists assumed that "attitudes determine for each individual what he will do" (Allport, 1935, p. 806). Subsequent research failed to find compelling support for this assumption and by the early 1970's many researchers concluded that the influence of attitudes on behavior may be negligible (see Wicker, 1969). In the years since, social psychologists have made considerable progress in understanding the conditions under which substantial relationships between attitude reports and overt behavior can be observed (see Bohner & Schwarz, this volume).

In our discussion of the consistency of attitude judgments over time we emphasized that similar judgments are to be expected when respondents form similar mental representations of the attitude object and a relevant standard at different points in time. The same logic holds for the relationship between attitude judgments and overt behaviors: Attitude-behavior consistency is to be expected to the extent that the mental representation used in forming an attitude judgment has similar implications as the mental representation used in arriving at a behavioral decision. As Lord and Lepper (in press) noted, this *matching* assumption has a long tradition in social psychological theorizing, dating back to the seminal work of LaPiere (1934). In the 1930's LaPiere travelled up and down the West Coast of the United States in the company of a Chinese student and his wife and

the group received courteous service at numerous hotels and restaurants. But when later asked if they would accept "members of the Chinese race" as guests, over 90% of the establishments responded with a clear "no," consistent with the anti-Chinese prejudice of the time. Presumably, the proprietors' answers to LaPiere's question were based on a mental representation of "members of the Chinese race" that reflected the low social status and education of the majority of Chinese-Americans at that time. Yet, in the actual behavioral situation they were confronted with a well-dressed couple in the company of a white professor, resulting in a pronounced mismatch between the information used to answer LaPiere's question and the information used for the crucial behavioral decision. This matching notion, which is at the heart of Lord and Lepper's (in press) attitude representation theory, provides a parsimonious theoretical rationale for the conditions under which we can observe attitude-behavior consistency and has important methodological implications.

When Can We Expect Attitude-Behavior Consistency?

In general, attitude-behavior consistency will be higher when the attitude judgment and the behavioral decision are based on the same input information. This simple principle underlies many empirical regularities, although it may play out in complex ways under some conditions.

First, suppose that the attitude judgment is feature-based. In this case, attitude-behavior consistency is higher when the temporary representation formed of the attitude object at the time of judgment matches the temporary representation formed at the time of behavior. For example, Ramsey, Lord, Wallace, and Pugh (1994) observed that participants' attitudes towards former substance abusers were a better predictor of their behavior towards an exemplar when the description of the exemplar matched rather than mismatched participants' representation of the group, as assessed two weeks earlier. Because many exemplars (individuals or objects) provide a poor match with our general representation of the category to which they belong, it is difficult to predict behaviors towards exemplars from attitude judgments about the category. This notion further entails that attitude-behavior inconsistency should increase with the salience of the mismatch. Hence, it should be pronounced when the exemplar deviates from the category on easily observable features, but not when it deviates on less observable features.

Note, however, that behavioral decisions are not always based on specific information about the attitude object, e.g. on individuating information about the specific person we encounter. For example, being under cognitive load (e.g., Macrae, Milnae, & Bodenhausen, 1994) or being in a good mood (see Bless, this volume) increase reliance on pre-existing knowledge structures at the expense of reliance on individuating information. Hence, we may expect that individuals' behavior towards an exemplar is more consistent with their attitude judgment about the category when they are in a good mood or under cognitive load because information about the exemplar is less likely to enter the decision process. Supporting this prediction, Blessum, Lord, and Sia (1998) observed a high consistency between participants' attitude judgments about gay men in general and their behavior towards a specific exemplar under these conditions, even when the specific exemplar did not match their representation of the category "gay men." Only in a neutral mood, and when given enough time, did the match between the category representation and the exemplar moderate participants' behavior.

Second, suppose that the attitude judgment is based on respondents' mood at the time of judgment (Schwarz & Clore, 1988). In this case, we may be hard put to detect any attitude-behavior consistency unless respondents happen to be in the same mood in the behavioral situation and the behavior is inconsequential, thus rendering one's apparent affective response sufficient for a decision. Moreover, any other difference in processing motivation at the time of judgment and behavior is similarly likely to decrease the attitude-behavior relationship. When asked in a consumer survey how much we like a Volvo, for example, we are likely to draw on fewer features of the attitude object than when pondering whether to actually buy a Volvo (see Shavitt & Wänke, this volume), thus increasing the likelihood of mismatches between the two representations. In a similar vein, Wilson and his colleagues (for reviews see Wilson & Hodges, 1992; Wilson, Dunn, Kraft, & Lisle, 1989) observed that writing an essay that justifies one's attitude judgment can undermine the attitude-behavior relationship -- in writing the essay, participants draw on many aspects they may not consider in the behavioral situation, thus reducing the match between the relevant representations.

Third, as Millar and Tesser (1992) noted, we engage in some behaviors for their

instrumental value in reaching a goal and in other behaviors for the pleasures they provide. If so, attitude judgments should be a better predictor of instrumental behaviors when the judgment is based on a consideration of the behavior' s instrumental implications rather than hedonic implications. But attitude judgments based on our hedonic assessments of the behavior should be an excellent predictor for consummatory behaviors, i.e., behaviors we engage in for enjoyment. An elegant series of studies confirmed this variant of the general matching hypothesis (e.g., Millar & Tesser, 1986).

Fourth, numerous studies have shown that attitude-behavior consistency is higher when the individual has direct behavioral experience with the attitude object (see Fazio & Zanna, 1981, for a review). For example, Regan and Fazio (1977) asked participants to rate how interesting they find different puzzles either after they worked on an example or after they examined a previously solved example. Participants' interest ratings were better predictors of how much time they spent on each puzzle in a subsequent free play period when their ratings were based on prior behavioral experience. Presumably, the prior experience resulted in a representation that provided a better match with participants' experiences during the free play period, than did the representation formed on the basis of examining an already solved example.

As a final example, attitude-behavior consistency is likely to be higher when individuals take the context in which the behavior is to be performed into account when they form an attitude judgment. In most cases, however, attitude judgments are assessed without mentally instantiating the context in which the attitude object may be encountered, resulting in low attitude-behavior consistency. Hence, attitudes assessed in a "cold" state, e.g., attitudes towards condom use assessed in a research setting, are poor predictors of actual behavior in a "hot" state, like an actual romantic encounter (for a review see Loewenstein & Schkade, 1999). A similar argument can be made for the role of subjective norms and perceptions of personal control, variables that figure prominently in Fishbein and Ajzen' s (1974) theory of reasoned action andAjzen' s (1980) theory of planned behavior. As Lord and Lepper (in press) highlight, these variables are unlikely to enter the representation of the attitude object itself, but are prominent in the representation of the behavioral situation. Accordingly, taking these variables into account increases our ability to predict actual

behavior over the predictive value of the attitude judgment alone.

In combination with our discussion of the temporal stability of attitude judgments, these examples highlight that consistency between attitude judgments at different points in time, or between attitude judgments and behavior, is likely to emerge when both responses are based on input information of similar valence. If so, however, we may hesitate to conclude that some pre-existing attitude plays a causal role in the behavioral decision. Instead, the observed relationship may be rather *spurious*, reflecting that the attitude judgment and the behavioral decision are based on similar representations of the attitude object. Of course, this conclusion can be avoided when one equates the attitude with the knowledge representation on which the attitude judgment or the behavioral decision are based, as suggested by Lord and Lepper (in press) and Tourangeau (1992). However, this definitional move does not increase the explanatory power of the underlying process assumptions.

Methodological Implications

The preceding discussion of matching and mismatching inputs also bears in straightforward ways on methodological issues. As Fishbein and Ajzen (1974) noted, we are more likely to observe attitude-behavior consistency when we use multiple behavioral criteria rather than a single criterion (see Bohner & Schwarz, this volume). In terms of the preceding discussion, an aggregation across multiple behaviors or multiple situations increases the likelihood that some matches are included in the assessment. Moreover, attitude-behavior consistency increases the better the attitude question matches the behavioral criterion. For example, respondents' evaluation of "Donating money to the Democratic party" is a better predictor of this particular behavior than their general evaluation of the Democratic party per se. Such matches between the attitude question and the target behavior again increase the likelihood that both responses are based on similar representations.

Although multiple behavioral criteria and a close match between the attitude question and the act reliably improve predictions, it is quite obvious that this accomplishment falls short of the promise of early attitude theories. Instead of being able to predict a multitude of behaviors towards the attitude object across a broad range of situations, we now realize that we can only predict that the individual will do "something" that is consistent with his or her attitude judgment or need to ask

a multitude of questions at a level of specificity that makes it more parsimonious to ask right away, "Do you intend to give money to the Democratic party?" Unfortunately, an analysis of the cognitive processes underlying attitude-behavior consistency suggests that it is unlikely that we will ever be able to deliver on the sweeping promises of the classic attitude concept. In contrast, a detailed analysis of the underlying processes is likely to advance our understanding of the conditions under which our evaluations of an object and our behavior towards this object may, or may not, show consistency.

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