

Temporal Instability as a Moderator of the Attitude-Behavior Relationship

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The effects of temporal instability in attitudes on the attitude-behavior relationship were examined in a study of volunteering to tutor blind children. A mailed appeal was received by 286 Israeli undergraduates who had completed a questionnaire either 3 months, 6 months, or both 3 and 6 months earlier, or not at all. Embedded in the questionnaire were attitude items on altruistic acts (including tutoring blind children) and on various controversial issues. The attitude-behavior correlation was higher over the shorter time interval (.47 vs. .13), and data from the group whose attitudes were measured twice indicated this was due to real change in individuals' attitudes. A specific attitude and its corresponding behavior correlated more strongly among those whose general set of altruistic attitudes showed high rather than low temporal stability (.47 vs. -.03), but stability of the specific attitude did not moderate this correlation. Characteristics of attitudes that might influence their stability are discussed, and it is shown that attitude stability is not a general trait.

In 1931, Thurstone suggested that temporal instability in attitudes weakens the relation of attitudes to behavior. Although numerous theorists and researchers have reiterated this point over the years (e.g., Alwin, 1973; Fishbein, 1967; Schuman & Johnson, 1976; Schwartz & Tessler, 1972; Wicker, 1969), not a single published research study has directly examined whether real change in individuals' attitudes contributes to attitude-behavior discrepancies. The present study addresses this question from two vantage points. First, it compares the predictive validity of specific attitudes measured at different temporal removes from behavior. Second, it examines the relative predictability of behavior among groups that differ in the stability of their underlying general attitudes.

Two studies concerned with other questions have mentioned data bearing on whether the

predictive validity of attitudes diminishes with the passage of time prior to behavior. Kelley and Mirer (1974) found that attitudes correctly predicted voting for an average of 85% of their sample in the presidential elections from 1952 to 1964. For respondents whose attitudes reflected conflict or indifference over the election, 28% of the variance in errors of prediction was explained by the number of days that intervened between the interview and the election. With each doubling of time, the error rate rose by 4 percentage points.

This evidence for the importance of change in attitudes cannot be generalized easily to other attitude-behavior settings, however, because the attitude index was dichotomized, and because the key analysis was based only on the 28% of respondents judged most likely to change their minds. Moreover, voting is virtually unique among behaviors in that it is so highly predictable from attitudes (Schuman & Johnson, 1976).¹

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¹ Contributing to this high predictability is the fact that voting (a) entails a particularly limited number of behavioral options, (b) is often the outcome of reflective thought, and (c) is a recurrent activity—so that respondents may infer their attitudes toward candidates and parties from their past behavior.

In the second study with relevant data, Norman (1975) measured the same students' attitudes toward volunteering to be a subject for psychological research two times, separated by a 3-week interval. The overall attitude index was more highly correlated with subsequent behavior for the second administration ($r = .47$) than for the first ($r = .37$), but this difference was not significant. Perhaps the interval between attitude assessments was insufficient for temporal instability to manifest a clear effect. Even a substantial difference might be an artifact of reactivity in this type of design, however. People with poorly integrated attitudes or no attitudes at all may respond to a questionnaire randomly or in reaction to perceived social expectations (Converse, 1970). Answering a first questionnaire may spur them to examine the issues involved and to form integrated attitudes (Rosenberg, 1968), so that answers to a second questionnaire predict behavior better.

Problems in Studying Temporal Instability

The current research was designed to cope with four problems in studying temporal instability suggested by the above studies and by other research on attitudes and behavior. First, to allow time for attitude change to occur, the initial (T1) and subsequent (T2) attitude measurements were separated by 3 months. Second, steps were taken to minimize any inclination by respondents to maintain attitudinal and behavioral consistency with earlier verbalizations to which they might feel committed (cf. Kiesler, 1971): (a) The questionnaire included controversial political opinion items to divert attention from the critical attitude items and reduce recall of them; (b) the attitude items constituted only one tenth of the questionnaire content; (c) 11 weeks passed between T2 and the appeal for behavior; (d) the sponsors of the behavioral appeal and of the questionnaire were totally unconnected; and (e) the behavior was an authentic event in the respondents' everyday life.

Third, to detect whether any superiority in the prediction of behavior with attitudes at T2 was confounded by the effects of measurement at T1, groups in which attitudes were assessed only once, either at T1 or at T2, were included

in the current research. Finally, this research used a behavioral act that subjects had not performed previously—volunteering to tutor blind children. The use of nonrecurrent behaviors can be expected to reduce the relation between attitudes and behavior (Tittle & Hill, 1967), but it serves two purposes here. Since respondents could not base their attitudes on self-perceptions of past behavior, one can have more confidence in the inference that the attitude is causally related to the behavior rather than merely correlated with it (Schwartz, 1977). Furthermore, attitudes toward novel behaviors are likely to show more temporal instability than attitudes that are already grounded in experience.

Hypotheses

The first hypothesis tested was that the correlation of attitudes with behavior is stronger the shorter the time interval between attitude measurement and subsequent behavior. The second, less intuitively obvious hypothesis is concerned with attitude stability at the individual level. It was derived from the following theoretical view of attitude-behavior relations: Attitudes are conceptualized as hypothetical underlying variables that partly determine both verbalized questionnaire responses and behavioral choices. Individuals may hold specific attitudes toward particular acts on the basis of past experience with such acts or ones similar to them. Our conjecture, however, is that people typically construct specific attitudes on the basis of their general values and attitudes when they confront interviewers, questionnaires, and behavioral choices. This view emphasizes active retrieval, organization, and transformation of information from past experience in the light of current contingencies, rather than direct retrieval from a store of concrete available attitudes (cf. Mischel, 1973; Schwartz, 1977). A possible implication of this view is that we should be concerned with the stability of the general set of relevant values from which specific attitudes are constructed, rather than with the stability of the specific attitudes themselves.

Specific attitude questions predict specific behavior better than general attitudes do (Ajzen & Fishbein, 1977; Heberlein & Black,

1976), probably because specific attitude questions draw attention to more of the contingencies that become salient in the action situation, when the behavioral plan takes shape. A specific attitudinal variable was therefore used to predict behavior here—the strength of moral obligation people expressed to agree to tutor blind children. This type of attitudinal variable, called a “personal norm” by Schwartz (1977), is an evaluation of an act in terms of its moral worth to the self. To represent the primary set of *general* values and attitudes from which this specific attitude was likely to be constructed, an index based on expressed moral obligation to perform this and six other altruistic acts was formed.

The second hypothesis tested was that the correlation between attitudes and behavior is stronger the more stable the individual's attitudes across time. Our view of how attitudes are situationally constructed suggests that this hypothesis applies to stability in the general set of attitudes and values. It might, of course, also hold for stability in the specific attitude, but from our point of view, the latter effect merely reflects stability in the general set of attitudes and values. This hypothesis does not presume that attitudinal stability is a general characteristic of individuals, like self-monitoring (Snyder & Tanke, 1976) or responsibility denial (Schwartz, 1973), which also moderate attitude-behavior relations. For each person, there are probably domains in which his or her attitudes are stable and other domains in which they are unstable.

Method

Overview

Four groups of Israeli college students received a mailed appeal for volunteers to tutor blind children from the Jewish Institute for the Blind in Jerusalem. Group 1 had completed a questionnaire that included the relevant attitudinal items once 6 months earlier and again 3 months earlier. Group 2 had completed the questionnaire only once—6 months earlier; and Group 3, only three months earlier. Group 4 had not received the questionnaire at all. (Table 1, below, elucidates the design.)

Procedure

During the first few weeks of the fall 1972 semester (T1), Hebrew University undergraduates were ap-

proached in classroom buildings by student research assistants who offered them a token payment equivalent to approximately \$1 to fill out a questionnaire dealing with “various social issues.” Those 277 students who agreed were taken to designated rooms and given instructions individually. Questionnaire completion took 20–30 minutes.

Approximately 3 months later (T2), the research assistants went to the dormitory rooms of a randomly selected subsample of the previous respondents. These students (Group 1, $n = 153$) were told that we were interested in “checking the effects of the last few months of university experience on their views,” and they were urged to respond “as they now felt, regardless of their earlier answers.” For later use, the presence in the dormitory of the remaining respondents who had completed the questionnaire at T1 was also verified at T2, but these students (Group 2, $n = 63$) were not contacted at this time. The research assistants also drew a matching sample, which completed the questionnaire for the first time at T2 (Group 3, $n = 53$), by contacting the dormitory resident who lived three doors away from every third member of Group 1 or 2. These students received the same explanation given during the fall administration. All those contacted at T2 were also offered a \$1 payment for participation, and all completed the questionnaire. An additional 40 students were randomly sampled from the dormitory lists at T1, to be contacted only in the appeal for volunteers; but their presence in the dormitories was not verified at T2 (Group 4).

Approximately 3 months later (T3), a letter was sent by the Director of the Jewish Institute for the Blind to the students in all four groups for whom addresses were available ($n = 309$). This letter, on the official letterhead, described the Institute's work with blind children and appealed for student volunteers. The following excerpts convey the key points in the letter:

Our Institute tries to teach techniques to enable the blind to overcome the barriers that pile up in their path. One of the most inhibiting barriers is the fact that most texts and school books have yet to be translated into Braille . . . It is essential to give [blind pupils] the opportunity to broaden their reading and to grapple with more advanced materials that are not available in Braille.

We are turning to you as a student to request that you visit our Institute several afternoons to read various texts with one of our pupils. You may be flexible in terms of the number of visits, their length, and the days of the week you choose.

Enclosed with this letter is a stamped postcard. On the postcard you will find four alternative responses. Please weigh your response and indicate it in the appropriate place. If your response is positive, don't forget to indicate the days and hours when you wish to come to the Institute. Likewise, indicate the address where we should contact you to arrange your meeting with the blind child.

Please return the stamped postcard to us in all events and as soon as possible.

It is important to note that the Institute is a well-known and highly respected private institution located within half a mile of the University.

The alternatives appearing on the postcard are listed below. To form an index of volunteering behavior, each response was assigned the score indicated by the number preceding it. The percentage of all subjects who gave a response is indicated in the parentheses following it:

- (0) I am not prepared to read. (51%)
- (1) I am not prepared, but if you are short on volunteers please contact me again. (22%)
- (2) I may be prepared. I am interested in receiving additional information before I decide. (10%)
- (3) I am prepared to come once for 2 hours and to give a final answer after that. (Indicate on which day at what hour.) (11%)
- (4) I am prepared to come ____ times per week each month. (Indicate the days and hours.) (6%)

A reminder card was sent to all subjects 2 weeks later, and a short letter including a second response postcard was sent 3 weeks later to those who still had not answered. Those who could not be reached because they no longer had a Jerusalem mailing address were dropped from the analysis (7%). Students who failed to answer the appeal were treated as refusals and assigned a score of 0. Volunteers were subsequently contacted by the Institute to fulfill their commitment. Since these contacts were not made systematically, however, follow-through could not be considered as an additional dependent variable.

A sharper behavioral criterion, though one with less variance, is provided by dichotomizing respondents into those who explicitly stated they would come in (3, 4) and those who did not (0, 1, 2). All results reported below were essentially the same whether volunteering score or dichotomized behavioral commitment was used as the dependent variable. The two indexes of behavior correlated .92. The dichotomous index yielded no variance in some cells of the analyses of variance, however, thereby violating an important statistical assumption. In order to maintain consistency in the analysis, the results presented in the text are all based on volunteering scores.

Questionnaire

The questionnaire was presented as sponsored by researchers from the School of Education on behalf of a University committee interested in the views of undergraduates. It began with 12 background and demographic questions, followed by 8 attitudinal items tapping moral obligation to perform different altruistic acts on behalf of others (e.g., volunteering to collect clothes for the needy, to play with a neglected, institutionalized child, to work as a youth leader in an impoverished neighborhood, to give up one day's pay as a contribution for struggling border settlements).

The key attitudinal item for this study was the third: "The Institute for the Blind asked (you) to come and read texts with blind pupils a few times each week in the afternoon or evening hours. How much of a moral obli-

gation, if any, would you feel?" Responses were given on a 5-point scale with 1 negative point (obligation to refuse), a neutral point (no obligation), and 3 positive points ranging up to "strong obligation to agree." Responses to this item were the specific attitudinal predictor used in this study.

An index of the general set of attitudes and values relevant to volunteering for altruistic acts was constructed for subjects in Group 1 by summing responses to 7 of the moral obligation items (theoretical range, -7 to 21; actual range, 0 to 21). Evidence that this set of items was largely determined by a single underlying general attitude is the fact that Cronbach's alpha coefficient of homogeneity for the combination of the 7 items was .77 at T1 and .82 at T2.² An index of *temporal stability* in the underlying general altruistic attitude was constructed by summing the absolute differences between responses at T1 and T2 to each of the 7 items.

The attitudes toward altruistic acts were followed by a 20-item version of the action potential scale (Rosen & Komorita, 1971) and a 25-item version of the responsibility denial scale (Schwartz, 1977). The questionnaire ended with 7 items tapping attitudes toward controversial public policy issues.

Sample

The sample for the dependent variable consisted of 286 students, of whom 60% were male. The sizes of the different groups reflected the relative statistical power required for the analyses to be carried out with each: Group 1 (T1, T2, T3), $n = 141$; Group 2 (T1, T3) $n = 59$; Group 3 (T2, T3), $n = 51$; Group 4 (T3), $n = 35$.³ Since Group 3 was matched with Groups 1 and 2, rather than randomly sampled from the pool of those who had completed the questionnaire at T1, it is important to note that the three groups did not differ with regard to their distributions on attitudes, personality scales, or background characteristics (e.g., age, sex, birth order, country of origin, marital status, employment, year in school, major). Subjects who had completed the questionnaire at T1 but whose addresses could not be located at T2 did not differ on any of the measured variables from those whose addresses were found. The proportion who had moved from Jerusalem by T3 was similar in Groups 1, 2, and 3 (6%), but higher in Group 4 (12.5%). This was undoubtedly because the addresses for Group 4 were not verified together with the others at T2. In sum, neither biased sampling nor selective attrition appear to have distorted the comparability of the groups.

² An eighth item, concerned with a public demonstration protesting changes in the Jerusalem skyline, was excluded both because its content was inappropriate and because it was uncorrelated with all the other items and reduced the homogeneity coefficients.

³ Group 1 was largest because it was to be divided into three parts to investigate moderating effects. Groups 2 and 3 were of a size sufficient to permit correlation comparisons. Group 4 was smallest because it was needed only to compute the mean volunteering score.

Results

Effects of Questionnaire Completion

Several questions that could affect interpretation of the results are considered before addressing the two hypotheses. First, did completing the questionnaire itself influence behavior? The mean volunteering score for those who completed the questionnaire (Groups 1, 2, and 3) was marginally higher than for those who did not (Group 4), $F(1, 284) = 3.70$, $p < .06$ (see the last column of Table 1). Those who completed the questionnaire once, however, volunteered just as much as those who completed it twice. Thus, some attention to the issue prior to behavioral choice may have enhanced responsiveness, but additional attention had no incremental effect.

A comparison of responses at T1 and T2 in Group 1 revealed that completing the same questionnaire twice had no effect on the means and standard deviations of any of the specific attitude items or of the index of the underlying general attitude. A comparison of mean attitudes in Group 2 with those in Group 3 also revealed no differences, indicating that there were no relevant historical effects associated with the particular 3-month period between T1 and T2. The attitude responses of individuals did change, of course: The test-retest correlations between responses at T1 and T2 in Group 1 were .58 for the item on volunteering to tutor blind children and .65 for the 7-item index of the underlying general attitude.

Unreliability Versus Real Change in Attitudes

The following procedure was adopted to determine whether these test-retest correlations reflected—in addition to unreliability of measurement—real change in individuals' attitudes. For the general attitude index, the test-retest correlation was corrected for attenuation by unreliability, using the available Cronbach alpha coefficients of internal consistency to estimate reliability. The corrected test-retest correlation was then compared with 1.00 (Forsyth & Feldt, 1969). It was concluded that real change had occurred in the general attitude index, because the corrected correlation, which is presumably uncontaminated by mea-

Table 1
Attitude-Behavior Correlations for Specific Attitude and Mean Volunteering Scores by Experimental Group

Group	n	Attitude-behavior r for specific attitude			M volun- teering score: behavior
		0 months (T1)	3 months (T2)	6 months (T3)	
1	141	.13	.26*	1.65	
2	59	.13	—	1.64	
3	51	—	.47**	1.75	
4	35	—	—	1.26	

* $p < .01$, one-tailed.

** $p < .001$, one-tailed.

surement error, was significantly less than 1.00 ($p < .01$).⁴

No estimate of reliability was available for the specific attitude item.⁵ It was possible, however, by generating confidence intervals using various possible reliability estimates, to determine the lowest reliability for this item that would still yield a corrected test-retest correlation that differed significantly from 1.00. All reliabilities of .52 and above were found to yield corrected test-retest correlations significantly different from 1.00 ($p < .05$). Given the magnitudes of the various correlations with the specific attitude in this research, .52 would appear to be a low estimate of its reliability. It therefore seems likely that real change was also tapped by this item.

Effects of Time Interval

Two comparisons were relevant for testing the hypothesis that attitudes are more strongly

⁴ Since Cronbach's alpha is a lower bound to the reliability, the correction procedure used undoubtedly led to an overestimate of the true test-retest correlation (Heise & Bohrnstedt, 1970). Because our interest is in the difference of this correlation from 1.00, however, this procedure yielded a conservative test.

⁵ For the case where attitudes are measured at three rather than two points in time, Achen (1975) has developed a statistical model for estimating the stability of single-item attitudes uncontaminated by measurement error.

related with behavior the shorter the time interval between attitude measurement and subsequent behavior. Pertinent data are displayed in Table 1. Three months passed from questionnaire to behavioral appeal for Group 3, whereas 6 months elapsed for Group 2. The correlation between the specific attitudinal measure—moral obligation to volunteer to tutor blind children—and subsequent behavior was .47 ($p < .001$) in Group 3, but only .13 (*ns*) in Group 2. These correlations differed significantly in the direction predicted by the hypothesis ($z = 1.92$, $p < .05$, one-tailed).

Group 1 provided the second relevant comparison. The correlation with behavior was .13 ($p < .10$) for the specific attitude measured at T1 and .26 ($p < .01$) for the attitude measured 3 months closer to the behavior at T2. These correlations also differed significantly in the hypothesized direction ($z = 1.71$, $p < .05$, one-tailed, for dependent samples). Note that the two attitude-behavior correlations based on attitudes from T1 (Groups 1 and 2) were virtually identical. Had attitudes been crystallized as a result of measurement at T1, we would have expected T2 attitudes to predict behavior better in Group 1 than in Group 3. Surprisingly, the correlation for attitudes from T2 was higher in Group 3 than in Group 1, though not significantly ($z = 1.44$, $p > .10$). These results suggest that double measurement of attitude in Group 1 had little effect on the attitude-behavior relationship.

Any single item used to measure attitudes, such as the one specific item used here, is likely to reflect substantial measurement error. A more reliable index might be constructed by

combining both the T1 and T2 responses to this same item. The correlation of this index with behavior (.21, $p < .01$) was smaller, however, than the correlation for T2 alone. This reinforces the inference drawn above that at least some of the individual differences in response to the key attitude item at T1 and T2 reflected real change in attitude rather than unreliability of measurement. The summary index based on all seven attitudes toward altruistic acts might also be expected to be more reliable than any single item. Nonetheless, the correlations of this index with behavior were not stronger than those of the single item: Group 1 (T1), $r = .10$; Group 1 (T2), $r = .09$; Group 2, $r = .14$; Group 3, $r = .04$. Apparently, whatever the summary index added to reliability was counterbalanced by its lack of relevance to the specific contingencies in the particular behavioral choice.

Effects of Attitude Stability

General attitude. Data from Group 1 were used to test the second hypothesis, that the more stable the individual's *general* attitudes across time, the stronger the attitude-behavior relationship. Those exhibiting an absolute change of 0-3 on the index of temporal stability in their general set of altruistic attitudes and values (see "summary index" above) were classified as highly stable ($n = 51$), 4-5 as moderate ($n = 45$), and 6-15 as low in stability ($n = 45$). Correlations between the specific attitude and behavior were then computed for each stability subsample. The findings reported in Table 2 support the hypothesis.

Table 2
Attitude-Behavior Correlations for Specific Attitude Within Levels of Temporal Stability of the General Attitude

Time from attitude to behavior measurement	Total sample ($N = 141$)	Temporal stability of general attitude			r comparison (high vs. low)
		High ($n = 51$)	Moderate ($n = 45$)	Low ($n = 45$)	
3 months (T2)	.26**	.47***	.26*	-.03	$z = 2.53$, $p < .01$
6 months (T1)	.13	.32*	.01	.07	$z = 1.20$, $p < .12$

* $p < .05$, one-tailed.

** $p < .01$, one-tailed.

*** $p < .001$, one-tailed.

Consider first the correlation of behavior with specific attitude measured at T2. This correlation grew progressively weaker the more unstable the general attitudes of the sample. The specific attitude correlated with behavior significantly more for those with highly stable than for those with unstable general attitudes. Even when attitudes were measured a full 6 months prior to behavior, the attitude-behavior correlation was significantly positive among those with stable general attitudes, but it did not differ from 0 for the rest.⁶

While the correlation findings support the hypothesized moderating effect of temporal instability in the underlying general attitude, it is useful to examine the means reflected by these correlations in order to pinpoint *how* the moderating effect operated. For this purpose, the sample was divided into three parts on strength of specific attitude, and a 3×3 (Stability of General Altruistic Attitude \times Strength of Specific Attitude) unweighted-means analysis of variance in volunteering scores was performed. Those who expressed a "strong obligation" to volunteer were classified as having a high positive attitude; those who expressed "some obligation" were classified as moderate; and those who expressed a "weak obligation" or "no obligation" were classified as low.⁷

The analysis of variance using specific attitudes from T2 yielded a main effect for specific attitude, $F(2, 132) = 4.17, p < .05$; no effect for stability alone, $F(2, 132) = 2.32, p > .10$; and an interaction between specific attitude and stability, $F(4, 132) = 2.75, p < .05$. The means on which the analysis was based are portrayed in Figure 1. They are consistent with the following interpretation: Those with highly stable general attitudes tended to construct similar specific attitudes in response to the questionnaire and to the behavioral decision 3 months later and to act on these attitudes. This tendency was present in a weaker form among those with moderately stable general attitudes. Among those with unstable general attitudes, however, the specific attitudes constructed in response to the questionnaire and the behavioral choice were unrelated.

The parallel analysis of variance using specific attitudes from T1 yielded neither main nor interaction effects. Examination of the means

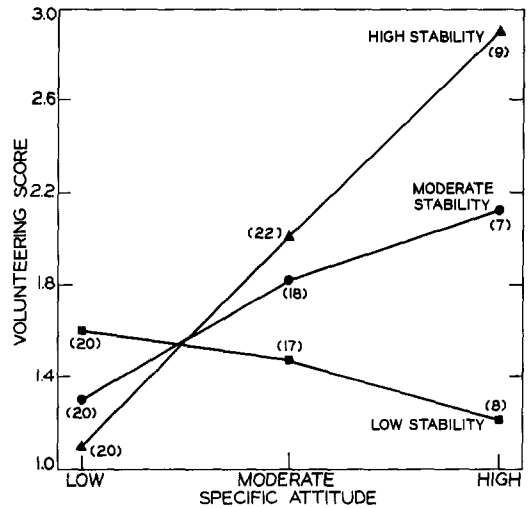


Figure 1. Mean volunteering as a function of specific attitude and stability of the general altruistic attitude. (Number of subjects for each mean indicated in parentheses.)

revealed the pattern one would expect, given the correlation results reported in Table 2. There was a positive linear association between specific attitude and behavior for those with stable general attitudes ($M_s = 1.29, 1.93,$ and 2.57 for those with low, moderate, and high specific attitudes, respectively) but no association for those with moderately stable or unstable general attitudes. This pattern did not contradict the moderating effect found with the data from T2, but it was too weak to attain statistical significance.

Specific attitude. Did temporal instability in the specific attitude item also moderate the relation of that attitude to behavior? To answer this question, the sample was dichotomized into those whose response to the item either remained unchanged from T1 to T2 ($n = 73$) or changed up or down ($n = 68$). The attitude-behavior correlations were then computed for each subsample. For those whose specific attitude response remained unchanged, the correlation was .19. For those whose specific attitude response changed, the correlation was .04 for

⁶ The same patterning of correlations was found using the dichotomized behavior index: The respective correlations were .41, .19, and $-.08$ for T2 and .30, .01, and .12 for T1.

⁷ No one expressed an obligation to refuse.

T1 and .32 for T2.⁸ Neither of these correlations differed significantly from .19. Moreover, the appropriate analyses of variance for T1 and T2 revealed no moderation of the attitude-behavior relationship by stability in the specific attitude. Thus, in contrast to temporal instability in the *general* attitude, temporal instability in the *specific* attitude did not undermine the association between attitude and behavior. Not only did the specific and the general indexes of temporal instability function quite differently but they shared only 15% of their variance.

It should be noted that for those whose specific attitude did change, the correlation at T2 ($r = .32$) was significantly higher than at T1 ($r = .04$); $z = 1.83$, $p < .05$, one-tailed, for dependent samples. This adds to the evidence cited above that real change in individual attitudes did occur over time and that it was at least partly picked up by the single-item index.

Generality of Attitudinal Stability

The data for Group 1 also permitted an examination of whether level of attitudinal stability is a general characteristic of individuals or whether it varies from domain to domain. Using the seven attitudes toward controversial public policy issues that were also measured at T1 and T2, an index of attitudinal stability in the public policy domain was constructed for each person. If the indexes of attitudinal stability in the policy and in the altruism domains were highly correlated, and if the specific altruistic attitude item predicted volunteering better among those with stable rather than unstable *general policy attitudes* too, we could conclude that attitudinal stability was a general characteristic of individuals here. Such general stability might be a trait variable, or it might simply reflect a tendency to respond conscientiously rather than randomly to the questionnaire in this study. The data, however, refute this view.

The correlation between the indexes of stability in the two domains was only .17. Moreover, the specific altruistic attitude item predicted volunteering slightly *less* well among those with highly stable than unstable *policy attitudes* (.13 vs. .17 for T2). These findings indicate that level of attitudinal stability was

domain-specific. The findings also reinforce the view that the stability scores reflected real stability or change in individuals' underlying attitudes rather than conscientiousness or randomness of response. Further evidence against random responding is the fact that only 7% of the responses to single attitude items shifted as much as 2 scale points between T1 and T2, and .01% shifted more.

Discussion

Attitude Stability as a Moderator

Underlying general attitudes. The current findings support the theoretical view of attitudes as underlying variables that partly determine both verbalized questionnaire responses and behavioral choices. Those whose underlying general attitude was stable were likely to construct similar specific attitudes in questionnaire and behavioral choice situations, so that the attitudes they verbalized and those that subsequently influenced their behavior were often similar. For this group, specific attitude accounted for 22% of the variance in volunteering 3 months later. Considering errors of measurement, the time elapsed, and the influence of other individual difference and situational variables on volunteering, this figure supports the notion that for some people, attitudes can be important determinants of behavior.

Specific attitudes. The fact that attitude did not predict behavior better for those whose specific attitude response remained stable rather than changing suggests that concretely stored, directly retrievable, specific attitudes were not important determinants of volunteering. The total failure of stability in the specific attitude to moderate the attitude-behavior relationship was, nonetheless, puzzling, given the predictive validity of this attitude and the other evidence for the effects of temporal instability.

Closer examination of the data suggests that stability in the specific attitude may have been operationalized inadequately. The dichotomous

⁸ The magnitude of the correlations for those whose attitude changed was unaffected by whether the change was toward a more or a less favorable attitude.

split on stability was based on an extremely truncated distribution of attitude change scores: 52% were stable, 42% changed 1 scale point, and 6% changed 2 scale points. Thus, 94% of the respondents were classified on the basis of variation of only 1 scale point, doubtlessly producing numerous errors of placement. The data are, in fact, entirely compatible with the notion that this placement was completely unreliable (i.e., equivalent to a random split).⁹ In the absence of a measure of specific attitude exhibiting sufficient variance to permit more reliable placement in stability subsamples, firm conclusions regarding moderation by stability in specific attitudes appear to be unwarranted.

Correlates of attitudinal stability. To clarify further how stability of general attitudes may function to moderate attitude-behavior relations, consider how it relates to two other characteristics of attitudes, the certainty and the intensity with which attitudes are held. Sample & Warland (1973) found that the certainty respondents attached to their attitudes moderated the relation between students' attitudes and their voting behavior. If we interpret the response that one has no attitude as indicating uncertainty, the current data suggest that temporal stability and certainty are weakly related. Those with unstable general attitudes reported more frequently that they had no attitude than did those with highly stable attitudes (20% vs. 13% of their responses to the 7 items). Peterson & Dutton (1975) reported that the intensity with which an attitude is held may moderate its relation to behavior. Since actual responses to the specific predictor attitude in the current study ranged from no attitude to strongly positive, they reflected the intensity with which that attitude was held. The relation of stability with intensity is therefore revealed by the correlation between general attitudinal stability and responses to the specific attitude. This correlation was .06 for T1 and -.04 for T2, indicating that stability and intensity were not related. Nor was stability related to the tendency to give extreme responses on the specific attitude item.

Another possibility is that persons with insight regarding their attitudes provide stable answers that predict their behavior, whereas those lacking insight answer more randomly or

in reaction to perceived social expectations. Since attitude stability was shown to be domain-specific, however, any self-insight on which stability might be based would also have to be specific to attitude domains.

Specific Attitudes as Predictors

This study replicated the finding that specific attitudes predict specific behavior better than general attitudes do. Our results suggest, however, that specific attitude items are *not* superior because they do a better job tapping any underlying general *attitudinal* orientation that later influences behavioral choices. They may well be poorer indexes of relevant underlying attitudes than general indexes would be. Rather, specific items are superior because they enable individuals, when they construct their responses, to take account of the variety of particular contingencies in the situation over and above those related to any single underlying attitude.

Although the findings of this study have been interpreted as illustrating the operation of attitudes, it is important to recall that the attitude measures used here were not the usual Likert scale items or semantic differential evaluations of objects or acts. Rather, they were items tapping the strength of moral obligation people thought they would feel to perform various specific acts. We see no immediate reason to believe that this type of attitudinal variable functions differently from others with respect to temporal instability. Nonetheless, the possibility that the present results cannot be generalized to other attitudinal variables should be recognized.

Conclusions

This study provides empirical support for the oft repeated contention that temporal instability in attitudes weakens the attitude-behavior relation. The significant increase in

⁹ If the subsample classified as having a stable specific attitude were chosen randomly, the value one would intuitively expect for the correlation of attitude with behavior in that subsample would be midway between the correlations observed at T1 and T2 in the total sample, that is, $r = .19$, the very correlation observed for the stable subsample! The correlations for the unstable subsample would then be constrained by the values found in the total sample at T1 and T2 to yield values very close to those actually observed.

the attitude-behavior correlation for those whose specific attitudes changed from T1 to T2 indicates that the change in predictive validity was due to individual shifts in attitude. It is evident that the increased predictive validity was not due to increased integration or crystallization in the underlying attitude over time, since the homogeneity coefficients for the summary index of the general altruistic attitude were about equally high at T1 and T2.

The most interesting finding of the study is that the magnitude of association between the specific attitude and behavior was moderated by stability in the general set of relevant attitudes. Further research is needed to establish whether this moderating effect occurs in domains other than altruism.

The finding that the behavior of people with more stable general attitudes is more predictable from questionnaire responses may have practical value for those who use attitudes in estimating the probability of future behavior. Behavior estimates used by government and private organizations in policy planning, for example, might be enhanced by information on attitude stability. The stability of the general attitudes on which a behavior estimate is based could serve as a clue to how much confidence to place in the estimate. Moreover, if stability subsamples differ on characteristics relevant to a planning issue (e.g., age, income), more accurate group-specific and overall estimates of behavior could be computed. Attitudes could be weighted differentially in predicting behavior, according to the attitude stability in the group from which they were drawn.

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