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# New Directions in Attitude Measurement

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## 3 Attitude Theory and the Attitude-Behavior Relation

Icek Ajzen

### 3.1 Introduction

Ever since the development of attitude scaling methods, much time and effort have been invested in the construction of instruments designed to assess various social attitudes. Karl Schuessler's (1982) twelve Social Life Feelings Scales provide a nice example of a carefully constructed set of attitude scales. The symposium on which this volume is based was convened to discuss the relevance of measures of this kind for sociology. Apart from the intrinsic interest that responses to attitude scales may hold, the rationale for their construction is the assumption that attitude scores have predictive validity, that they in fact help us explain human social behavior. The empirical relation between verbal attitudes and overt behavior is thus of paramount importance. The present paper begins with a sketch of current thinking about the attitude concept, followed by a discussion of recent developments with respect to the attitude-behavior relation. A widely accepted hierarchical model of attitude is described in which attitudes are made up of cognitive, affective, and conative components. Further, in accordance with an information-processing approach, attitudes are shown to develop as a consequence of salient beliefs formed about the attitude object. Turning to the attitude-behavior relation, the principle of compatibility is introduced. Although the relation of attitudes to behavior can be influenced by a variety of moderating variables, it is shown that accurate prediction of behavior can be attained by assessing attitudes and behavior at compatible levels of generality. Finally, the theory of planned behavior, which incorporates the principle of compatibility, is described, and empirical evidence in support of the theory is presented.

### 3.2 A Hierarchical Model of Attitude

An attitude is an individual's disposition to react with a certain degree of favorableness or unfavorableness to an object, behavior, person, institution, or event – or to any other discriminable aspect of the individual's world. Although formal definitions of attitude vary, most contemporary theorists agree that the characteristic attribute of attitude is its evaluative (pro-con, positive-negative) dimension (see, e.g., Bem 1970; Edwards 1957; Fishbein & Ajzen 1975; Hill 1981; Osgood, Suci & Tannenbaum 1957; Oskamp 1977). This view is strengthened by the fact that virtually all standard attitude scaling techniques result in a score that locates an individual on an evaluative

continuum vis-a-vis the attitude object (cf. Fishbein & Ajzen 1975; Green 1954).

It is also generally acknowledged that attitude is a hypothetical construct. Being inaccessible to direct observation, it must be inferred from measurable reactions to the attitude object. Beyond the requirement that these reactions reflect favorable or unfavorable evaluations of the object, there are virtually no limitations to the kinds of responses that can be considered. To simplify matters it is possible to categorize attitude-relevant responses into various subgroups. The most popular classification scheme goes back at least to Plato and distinguishes between three categories of responses: cognition, affect, and conation (see Allport 1954; Hilgard 1980 and McGuire 1985 for general discussions). Within each of these categories it is also useful to separate verbal from nonverbal reactions. Based on Rosenberg & Hovland's (1960) analysis, Table 1 shows the different types of responses from which attitudes can thus be inferred. The cognitive category contains perceptions of, and information about, the attitude object. Cognitive indicators of attitude thus involve verbal expressions of beliefs or nonverbal perceptual reactions. Affective responses include verbal expressions of feelings toward the attitude object as well as physiological reactions, facial expressions, and other nonverbal indicators of positive or negative feelings. Finally, responses of a conative nature are behavioral inclinations, plans, intentions, and commitments, as well as various overt motor acts involving the attitude object.

Table 1: Responses Used to Infer Attitudes

Response mode	Response category		
	Cognition	Affect	Conation
Verbal	Expressions of beliefs	Expressions of feelings	Expressions of intentions
Nonverbal	Perceptual reactions	Physiological reactions	Motor responses

In the terminology of structural modeling, attitude is a latent variable, and cognitive, affective, and conative reactions, verbal or nonverbal, are manifest indicators of attitude. For many theorists, however, the distinction between cognition, affect, and conation is more than just a system for classifying responses from which attitudes can be inferred. It is usually assumed that each response category reflects a conceptually distinct *component* of attitude (see e.g., Krech, Crutchfield & Ballachey 1962; McGuire 1985). In this view, attitude is a multidimensional construct consisting of cognition, affect, and conation. Although each of these components varies along an evaluative continuum, the evaluations expressed in them can differ (see Breckler 1984; Ostrom 1969). The model of attitude offered by Rosenberg & Hovland (1960), which serves as the starting point of most contemporary analyses, is

a hierarchical model that includes cognition, affect, and conation as a first-order factors, and attitude as a single second-order factor. In this model, the three components are defined independently and yet comprise, at a higher level of abstraction, the single construct of attitude. To extend this line of reasoning, recall that each component is made up of verbal and nonverbal response classes, and that each of these is further comprised of a large number of very specific response tendencies. Attitudes are thus always inferred from specific responses to the attitude object. We can classify these responses into broader categories and assign different labels to those categories, yet we are still dealing with the same evaluative disposition called attitude. The hierarchical three-component model of attitude is shown schematically in Figure 1.

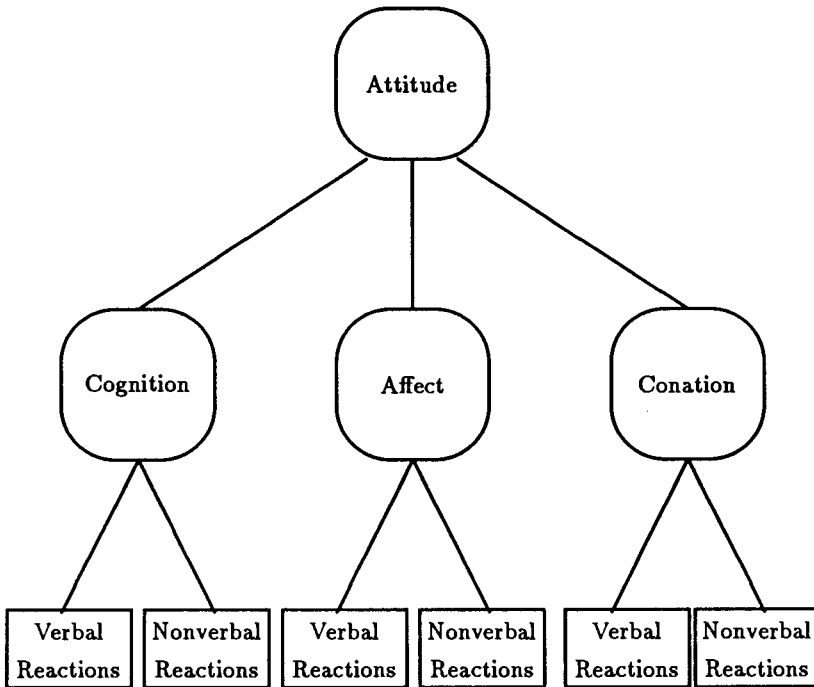


Figure 1: Hierarchical Model of Attitude

The empirical implications of the hierarchical attitude model can be stated as follows. Given that the three components reflect the same underlying attitude, they should correlate to some degree with each other. Yet, to the extent that the distinction between cognitive, affective, and conative response categories is of psychological significance, measures of the three components should not be completely redundant. In combination, these expectations imply correlations of moderate magnitude among measures of the three components. A number of attempts have been made over the years to confirm the

discriminant validity of measures designed to tap the different components, first with the aid of multitrait-multimethod matrices (Kothandapani 1971; Ostrom 1969) and, more recently, by means of confirmatory factor analyses (Bagozzi 1978; Bagozzi & Burnkrant 1979; Breckler 1984; Widaman 1985). Depending on the method used and the assumptions made, the data have variously been interpreted either as supporting a tripartite model or a single-factor model (see the exchange between Dillon & Kumar 1985 and Bagozzi & Burnkrant 1985). The major issue seems to revolve around whether differences between measures of the cognitive, affective, and conative components are to be interpreted as due to differences in the methods used to assess them (i.e., as theoretically uninteresting method variance) or as due to true differences between conceptually independent components. At a general level, however, most of the data reported in the literature is quite consistent with the hierarchical model in that a single factor is found to account for much of the variance in attitudinal responses, and the correlations among measures of the three components, although leaving room for some unique variance, are typically of considerable magnitude.

### 3.3 Attitude Formation

Most contemporary social psychologists take a cognitive or information-processing approach to attitude formation. This approach is exemplified by Fishbein & Ajzen's (1975) expectancy-value model of attitudes. According to this model, attitudes develop reasonably from the beliefs people hold about the object of the attitude. Generally speaking, we form beliefs about an object by associating it with certain attributes, i.e., with other objects, characteristics, or events. Thus, perhaps as a result of watching a television program, we may come to believe that the Communist system (the attitude object) is repressive, inefficient, and outdated (attributes). Although people can hold a great many beliefs of this kind, they can attend to only a relatively small number, perhaps eight or nine, at any given moment (see Miller 1956). It is these *salient* beliefs that are considered to be the immediate determinants of a person's attitude. Any reaction, - whether verbal or nonverbal, whether cognitive, affective, or conative - that reflects a positive or negative disposition toward an object can be used to infer the latent attitude, but only cognitions that come to mind spontaneously (i.e, salient beliefs) provide a picture of an attitude's informational foundation.

Since the attributes that come to be linked to the object are already valued positively or negatively, we automatically and simultaneously acquire an attitude toward the object. In this fashion, we learn to like objects we believe have largely desirable characteristics, and we form unfavorable attitudes toward objects we associate with mostly undesirable characteristics. Specifically, the subjective value of each attribute contributes to the attitude in direct proportion to the strength of the belief, i.e., the subjective probability that the object has the attribute in question. The way in which beliefs combine to produce an attitude is shown in Equation 1.

$$A \propto \sum_{i=1}^n b_i e_i \quad (1)$$

As can be seen, the strength of each belief ( $b$ ) is multiplied by the subjective evaluation ( $e$ ) of the belief's attribute and the resulting products are summed over the  $n$  salient beliefs. A person's attitude ( $A$ ) is directly proportional ( $\propto$ ) to this summative belief index.

### 3.4 Attitudes and Behavior

The expectancy-value model, together with the hierarchical conception of attitude, offer the following account of the way in which attitudes affect behavior. As the result of varied experiences, we form beliefs about an object that combine to produce an attitude toward it, an attitude that remains relatively stable across time and situations. The actual or symbolic presence of the object elicits this attitude in the form of a generally favorable or unfavorable implicit evaluative reaction. The attitude, in turn, predisposes cognitive, affective, and conative responses to the object, responses whose evaluative tone is consistent with the overall attitude. It follows that individuals with positive attitudes toward, say, the medical profession should exhibit various favorable responses with respect to hospitals, doctors, nurses, and so on, whereas individuals with negative attitudes toward the medical profession should exhibit unfavorable responses toward these objects.

Casual observation indeed appears to support consistencies of this kind. We generally associate with people we like and avoid people we dislike, we tend to eat foods we consider tasty and nutritious, we watch television programs we enjoy, and so on. Yet in their empirical research, investigators have often failed to obtain support for attitude-behavior correspondence. The greatest challenge to the utility of the attitude concept was posed by Wicker's (1969) review of attitude-behavior studies in which he summarized, "Taken as a whole, these studies suggest that it is considerably more likely that attitudes will be unrelated or only slightly related to overt behaviors than that attitudes will be closely related to actions. Product-moment correlation coefficients relating the two kinds of responses are rarely above .30, and often are near zero" (p. 65). Wicker concluded, "The present review provides little evidence to support the postulated existence of stable, underlying attitudes within the individual which influence both his verbal expressions and his actions" (p. 75).

### 3.5 Recent Developments

**Moderating variables.** To explain low attitude-behavior correspondence, many theorists have invoked the operation of moderating variables. According to this approach, the extent to which an evaluative disposition is reflected in overt action is subject to various contingencies. Attitudes are thus assumed to interact with other variables in their effects on behavior (e.g.,

Fazio & Zanna 1981; Snyder 1982; Warner & DeFleur 1969). (See also Ajzen 1988 and Sherman & Fazio 1983 for discussions of the moderating variables approach.) The factors that are said to interact with attitudes include personality characteristics, such as self monitoring (e.g., Snyder & Swann 1976) and need for cognition (Cacioppo, Petty, Kao & Rodriguez 1986); secondary characteristics of the attitude, such as its experiential base or the confidence with which it is held (e.g., Fazio & Zanna 1981; Sample & Warland 1973); circumstances surrounding performance of the behavior, such as level of self awareness in the situation (e.g., Carver 1975); and the nature of the behavior selected to represent the underlying disposition (e.g., Fishbein & Ajzen 1974; Sjoeborg 1982).

Considerable effort has been invested in the search for moderating variables, yet the results have been quite disappointing. Several interrelated problems are responsible for the meager payoff. For one, in the absence of a theory or conceptual framework to account for the moderating effects of different variables, the number of identified factors has over the years grown to almost unmanageable proportions. Second, as Cronbach (1975) warned many years ago, variables identified as moderators of the attitude-behavior relation are found to interact with still other variables, thus producing ever higher-order interactions that are difficult to disentangle. Finally, while identifying some subset of individuals, situations, dispositions, or actions for which prediction of behavior from attitude is possible, discovery of a moderating variable at the same time also identifies another subset for which prediction is not possible (Zedeck 1971). As the number of known moderators increases, and as these moderators are found to interact with still other variables, the latter subset increases at the expense of the former. The moderating variables approach has thus been of only limited value in terms of increasing our understanding of the attitude-behavior relation, and, from a practical point of view, it almost seems to preclude the possibility of using attitudes to predict social behavior (see Ajzen 1988 for a more detailed discussion).

**The principle of compatibility.** Before continuing this discussion, it is important to clarify what we mean when we examine the relation between attitude and behavior. We saw that attitudes can express themselves, and can therefore be inferred from, verbal as well as nonverbal responses. This point is often misunderstood. Many investigators assume that verbal responses reflect a person's attitude, whereas nonverbal ("overt") actions are measures of behavior. In point of fact, however, both verbal and nonverbal responses are observable behaviors. Neither is more or less a measure of attitude than the other; both types of behavior can reflect the same underlying disposition (cf. Roth & Upmeyer 1985; Upmeyer 1981). Moreover, the validity of overt behaviors as indicators of a latent attitude cannot be taken for granted, any more so than can the validity of verbal responses to questionnaire items. Both types of behavior must be submitted to standard scaling procedures, and only some responses - verbal or nonverbal - will be found adequate for the assessment of a given attitude (cf. Ajzen & Fishbein 1980; Jackson & Paunonen 1985). Some time ago, Merton (1940, p. 20) made the same point very succinctly.



"The metaphysical assumption is tacitly introduced that in one sense or another overt behavior is 'more real' than verbal behavior. This assumption is both unwarranted and scientifically meaningless... It should not be forgotten that overt actions may deceive; that they, just as 'derivations' or 'speech reactions' may be deliberately designed to disguise or to conceal private attitudes".

Strictly speaking, therefore, most tests of the "attitude-behavior" relation are better conceptualized as tests of the relation between verbal and nonverbal indicators of the same underlying attitude. However, for the sake of simplicity, and consistent with general practice, I will continue to use the attitude vs. behavior terminology.

The important point in the above conclusion is that the verbal and nonverbal measures which are being compared must be indicators of the same underlying attitude. Most of the studies reviewed by Wicker (1969) looked at the relation between the verbal evaluation of a global category or object (e.g., evaluation of Blacks) and a very specific nonverbal behavior (e.g., showing a Black person around the University campus). It may reasonably be argued that verbal and nonverbal indicators of this kind do not reflect the same underlying attitude.

Insight into the problem of attitude-behavior consistency can be gained when it is realized that the object of an attitude is not necessarily a person, group, institution, or policy; it can also be defined in terms of a particular behavior. People hold attitudes not only toward religion but also toward praying in private; toward democracy and toward voting in a given election; toward doctors and toward maintaining a medical regimen. In fact, standard measurement procedures have been used to assess not only very general attitudes but also attitudes toward such specific behaviors as smoking marijuana (Schlegel 1975), using birth control methods (Kothandapani 1971), drinking alcohol (Veevers 1971), and so on.

In their review of research on the attitude-behavior relation, Ajzen & Fishbein (1977) formulated a "principle of compatibility" or correspondence that can be stated as follows: Verbal and nonverbal indicators of a given attitude are said to be *compatible* with each other to the extent that their target, action, context, and time elements are assessed at identical levels of generality or specificity. Further, consistency between two indicators of a disposition is a function of the degree to which the indicators are, in this sense, compatible with each other. Thus, according to the principle of compatibility, the more similar the target, action, context, and time elements of one indicator to those of the other, the stronger the statistical relation between them.

The principle of compatibility is very similar to the contiguity hypothesis in Guttman's (1955, 1957) facet theory. Guttman proposed that any variable can be analyzed in terms of an underlying facet structure. The action, target, context, and time elements of attitudinal dispositions are examples of facets, and their levels of generality or specificity constitute facet elements. Like the principle of compatibility, "The contiguity hypothesis of facet theory states that the correlation between two variables increases with the similarity between the facet elements defining them" (Guttman 1957, p. 130).

Compatibility between verbal and nonverbal measures of attitude can be attained in two ways. First, if the attitude of interest is the evaluative disposition with respect to a general object (a person or category of people, an institution, a policy, an event) we would, on the one hand, construct an attitude scale dealing with the object in question and, on the other hand, aggregate over a number of nonverbal responses to the object. By aggregating different responses to the object, we generalize the measure of behavior to the level of the object addressed in the attitude scale. For example, if we were interested in attitudes toward "energy conservation", we could use a semantic differential scale to assess evaluations of this concept. For a compatible measure of behavior, we would aggregate observations of such activities as lowering the thermostat in one's home, using public transportation in place of driving to work, participating in a car pool, reading books or articles about energy conservation, and so forth. Second, if the attitude of interest is a behavior (participating in a rally, using condoms, smoking marijuana), we assess verbal evaluations of the behavior in question and compare these to actual performance of the behavior. In this case, we reduce the generality of the attitude scale to the level of the behavioral measure.

A large number of empirical investigations have provided support for the compatibility principle (e.g., Ajzen 1971; Ajzen & Fishbein 1970; Fishbein & Ajzen 1974; Kothandapani 1971; Lord, Lepper & Mackie 1984; Weigel, Vernon & Tognacci 1974). These investigations have reported relatively strong attitude-behavior correlations when compatibility is maintained and weak correlations when it is not maintained.

### 3.6 The Theory of Planned Behavior

To predict a specific nonverbal behavior, it is usually not sufficient to consider only verbal attitudes toward the behavior, even though the two indicators are compatible. When we aggregate different behaviors into a multiple-act index, influences other than the underlying attitude tend to cancel out, leaving a relatively pure measure of the behavioral disposition. In contrast, a measure that deals with only one behavior can reflect factors other than evaluation of the behavior, such as social norms, situational demands, required skills or resources, etc. These other factors must also be taken into consideration.

Much of my own work has been devoted to the development and application of a theoretical model, the *theory of planned behavior (TPB)*, which specifies a small set of variables needed for the prediction and explanation of relatively specific behavioral tendencies (Ajzen 1985, 1987; Ajzen & Madden 1986). This model is an extension of Fishbein & Ajzen's (1975; Ajzen & Fishbein 1980) theory of reasoned action to the prediction of behaviors that may not be completely under volitional control. As in the original model, a central factor in the TPB is the individual's *intention* to perform a given behavior. Intentions are assumed to capture the motivational factors that influence a behavior; they are indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior.

The theory postulates three conceptually independent determinants of intention. The first is the *attitude toward the behavior* and refers to the degree to which the person has a favorable or unfavorable evaluation of the behavior in question. The second predictor is a social factor termed subjective norm; it refers to the perceived social pressure to perform or not to perform the behavior. The third and novel antecedent of intention, which was not part of the theory of reasoned action, is the degree of perceived behavioral control. This factor refers to the perceived ease or difficulty of performing the behavior and it is assumed to reflect past experience as well as anticipated impediments and obstacles. As a general rule, the more favorable the attitude and *subjective norm* with respect to a behavior, and the greater the *perceived behavioral control*, the stronger should be an individual's intention to perform the behavior under consideration.

Intention, in turn, is viewed as one immediate antecedent of actual behavior. That is, the stronger people's intentions to engage in a behavior or to achieve their behavioral goals, the more successful they are predicted to be. However, the degree of success will depend not only on one's desire or intention, but also on such partly nonmotivational factors as availability of requisite opportunities and resources (e.g., time, money, skills, cooperation of others, etc.; see Ajzen (1985) for a review). Collectively, these factors represent people's actual control over the behavior. To the extent that people have the required opportunities and resources, and intend to perform the behavior, they should succeed in doing so.

The TPB, however, deals with *perceived*, rather than actual, behavior control. In many situations perceived behavioral control may not be particularly realistic. This is likely to be the case when the individual has relatively little information about the behavior, when requirements or available resources have changed, or when new and unfamiliar elements have entered into the situation. Under those conditions, a measure of perceived behavioral control may add little to accuracy of behavioral prediction. A direct path from perceived behavioral control to behavior is therefore expected to emerge only when there is some agreement between perceptions of control and the person's actual control over the behavior. A structural representation of this model is shown in Figure 2.

The TPB also deals with the antecedents of attitudes, subjective norms, and perceived behavioral control, antecedents which in the final analysis determine intentions and actions. A detailed discussion is beyond the scope of this paper. Suffice is to note that at the most basic level of explanation, the theory postulates that behavior is a function of salient information, or beliefs, relevant to the behavior. We already discussed the expectancy-value model of attitude which can be directly applied to attitudes toward a behavior. In a similar fashion, the theory of planned behavior offers expectancy models of subjective norms and of perceived behavioral control.

Empirical research has provided considerable support for the theory of reasoned action (e.g., Ajzen & Fishbein 1980; Ajzen, Timko & White 1982; Bentler & Speckart 1979, 1981; Fredricks & Dossett 1983; Manstead, Proffitt & Smart 1983; Smetana & Adler 1980) and, more recently, for the theory of planned behavior (Ajzen & Driver 1990; Ajzen & Madden 1986; Schifter

& Ajzen 1985). The behaviors involved have ranged from very simple strategy choices in laboratory games to actions of appreciable personal or social significance, such as having an abortion, smoking marijuana, losing weight, and choosing among candidates in an election. It is beyond the scope of the present paper to review this work (interested readers are directed to Ajzen & Fishbein 1980 and Ajzen 1988). Instead, I will try to illustrate application of the theory of planned behavior by presenting data from a recently completed, and as yet unpublished, investigation by Ajzen & Driver (1990).

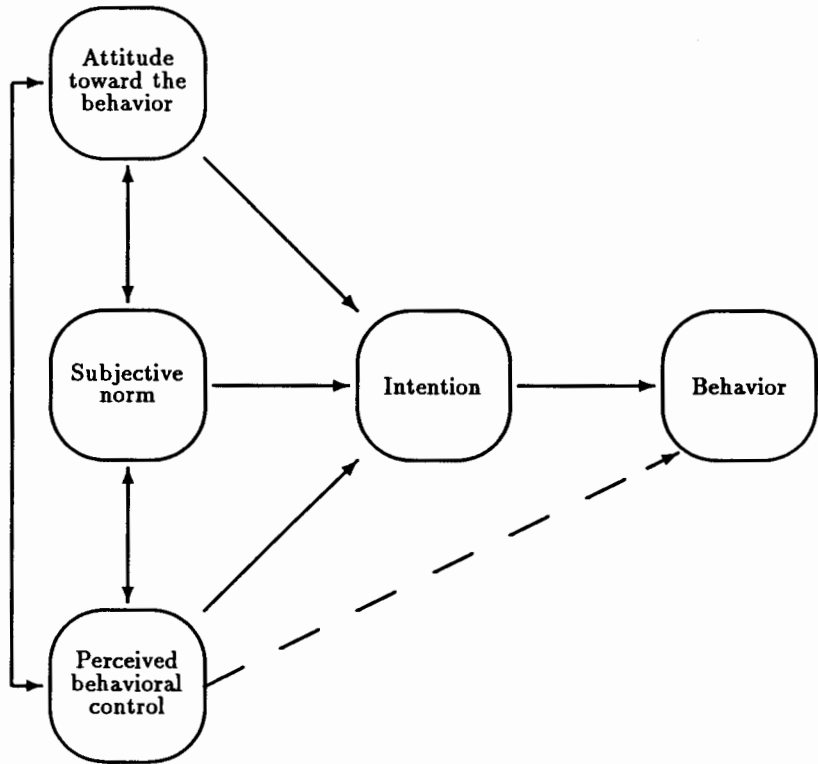


Figure 2: Theory of Planned Behavior

### 3.7 Predicting Leisure Behavior

The study was concerned with the prediction of five leisure activities: spending time at the beach, outdoor jogging or running, mountain climbing, boating, and biking. Behavioral, normative, and control beliefs with respect to each activity were elicited in a pilot study and the most frequently mentioned beliefs were included in the final questionnaire. That questionnaire also contained relatively direct, semantic-differential type measures of atti-

tude, subjective norm, perceived behavioral control, and intentions to engage in each of the five activities. In a follow-up survey one year later, the participants reported the frequency which they had performed each activity in the preceding 12 months.

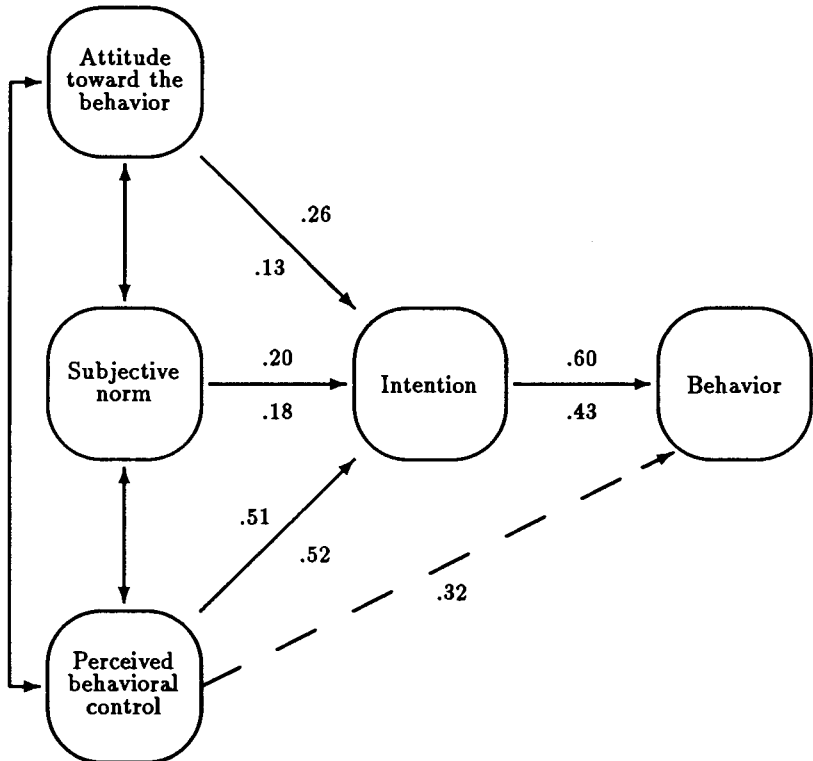
**Table 2: Leisure Behavior - Hierarchical Regression**

	Jogging			Mountain climbing			Within subjects		
	r	b	R	r	b	R	r	b	R
<b>Prediction of intention (n = 143)</b>									
Step 1-Attitude toward the behavior	.63	.48**		.49	.24**		.59	.27**	
Subjective norm	.55	.33**	.70	.57	.43**	.60	.70	.54**	.73
Step 2-Attitude toward the behavior	.63	.26**		.49	.13**		.59	.28**	
Subjective norm	.55	.20**		.57	.18 *		.70	.09	
Perceived behavioral control	.64	.51**	.81	.69	.52**	.72	.80	.62**	.85
<b>Prediction of behavior (n = 102)</b>									
Step 1-Intention	.73	.73**		.65	.65**		.75	.75**	
Step 2-Intention	.73	.60**		.65	.43**		.75	.46**	
Perceived behavioral control	.64	.17	.74	.62	.32**	.69	.73	.37**	.78

Regression techniques were used to analyze the data. Analyses were performed across subjects (separately for each recreational activity), and within subjects (based on the average correlation across the five activities). Between-subjects analyses take advantage of variability across respondents in any of the measures considered. For example, respondents differ in their attitudes toward mountain climbing and in their intentions to climb. Between-subjects analyses examine the covariation (correlation) of attitudes and intentions across individuals. For any pair of variables, we obtain five correlations, one with respect to each recreational activity. By way of contrast, within-subjects analyses rely on variability of responses across activities. Thus, individuals generally hold different attitudes toward different leisure activities and their intentions to engage in them also differ from one activity to the other. Within-subjects correlations reflect covariation, for any given respondent, of attitudes and intentions across leisure activities. It follows that for any pair of variables we obtain as many correlations as there are respondents. Be-

cause we have no substantive interest in any given individual, the results of the within-subjects analyses are averaged across respondents.

Table 2 shows the results of hierarchical multiple regressions for two of the behaviors (jogging and mountain climbing) as well as for the within-subjects analysis. Figure 3 presents the significant paths in the theory of planned behavior that emerged in the between-subjects analyses for jogging (above the arrows) and mountain climbing (below the arrows). In accordance with the theory of planned behavior, attitudes, subjective norms, and perceived behavioral control were regressed on intentions, and intentions and perceptions of behavioral control were regressed on later behavior.



**Figure 3:** Theory of planned behavior: Significant path coefficients for jogging (above arrows) and mountain climbing (below arrows)

It can be seen that the theory permitted quite accurate prediction of intentions to engage in the different leisure activities. This emerged in the between- as well as within-subjects analyses. It is also worth noting that, in each case, perceived behavioral control made a significant contribution to the prediction, thus confirming the importance of including this variable in

the theoretical model. The findings with respect to prediction of behavior also supported the theory. A considerable proportion of variance in behavior was accounted for by the model's predictors. The influence of perceived behavioral control revealed an interesting pattern quite consistent with expectations. The within-subjects analyses show that perceived behavioral control played an important role in predicting relative preferences for the five recreational activities. With respect to jogging and mountain climbing, however, the results differ in predictable ways. Clearly, mountain climbing requires skills and resources than may not be under a person's ready control. In contrast, few issues of control arise in the case of outdoor jogging or running. Consistent with these considerations, perceived behavioral control had a significant effect in the prediction of mountain climbing but not in the prediction of jogging.

### 3.8 Conclusions

Attitude was hailed quite early as the most distinctive and indispensable concept in social psychology (Allport 1935), and despite some ups and downs, it has retained this status ever since. In the course of the ups and downs we have gained an increased understanding of the ways attitudes are formed, of the ways they change through persuasion (cf., Petty & Cacioppo 1986), of their structure and functions (cf., Pratkanis, Breckler & Greenwald 1989), and of their relations to behavior. Research efforts over the past two decades have thus reconfirmed the importance of attitude as the prime theoretical construct in social psychology and they have verified the relevance of attitude measurement as an indispensable tool for our understanding of social behavior.

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