

The Theory of Reasoned Action

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In his exploration of the parameters of persuasion, Miller (1980; see Chapter 1 in this volume) wrote that persuasion was an indirectly coercive process. His position was based on two arguments. First, he suggested that any coercion that accompanied persuasive attempts was a natural part of the social process. For example, by voting for Candidate X in an election, the voter is potentially deprived of any of the benefits of being represented by Candidate Y or Candidate Z. Miller also argued that when persuasion involved more direct coercion, it occurred only after a period of reasoned message exchange. In essence, Miller's position was that persuasion is a process of influencing behaviors that are voluntary and necessarily involve conscious decision making—in other words, volitional behaviors. Over the years, considerable attention has been paid in both academic research and applied communication campaigns to modifying volitional behaviors.

Born largely out of frustration with traditional attitude-behavior research, much of which found weak correlations between attitude measures and performance of volitional behaviors, Fishbein and Ajzen (1975, 1980) developed the theory of reasoned action (TRA). Their work, and the research that it has spawned, is the focus of this chapter. Before proceeding to an evaluation of that body of research, we present a brief explication of the theory and its components.

AN EXPLICATION OF THE THEORY OF REASONED ACTION

The aim of the TRA is to explain volitional behaviors. Its explanatory scope excludes a wide range of behaviors such as those that are spontaneous, impulsive, habitual, the result of cravings, or simply scripted or mindless (Bentler & Speckart, 1979; Langer, 1989).

Such behaviors are excluded because their performance might not be voluntary or because engaging in the behaviors might not involve a conscious decision on the part of the actor. The TRA also excludes from its scope those behaviors that may require special skills, unique opportunities or resources, or the cooperation of others to be performed (Liska, 1984). One may be prevented from performing a behavior because of a skill deficit, lack of opportunity, or lack of cooperation from others and not because of a voluntary decision not to engage in the behavior.

Behavioral Intentions, Attitudes, and Subjective Norms

The TRA posits that the strongest or most proximal predictor of volitional behavior is one's behavior intention. Behavioral intentions are thought to be the result of both an individual influence and a normative influence. The individual influence on intention is a person's attitude toward performing the volitional behavior. The normative influence on intention is what Fishbein and Ajzen referred to as one's subjective norm. In its simplest form, the TRA can be expressed as the following mathematical function:

$$BI = (A_B)W_1 + (SN)W_2,$$

where BI represents one's behavioral intention. The behavioral intention is a function of both A_B (one's attitude toward performing the behavior) and SN (one's subjective norm related to performing the behavior), and the W s represent empirically derived weights.

An attitude, as it relates to the TRA, is an affective or valenced response *toward performing some behavior* and not toward some generalized attitude object. If the object of a communication campaign was to induce people to eat five helpings of fruits and vegetables

a day, then a target person's relevant attitude would be the degree to which he or she felt positively or negatively toward eating five helpings of fruits and vegetables a day. The attitude A_B is weighted (W_1) by the salience or importance of the attitude to the targeted person. A subjective norm is a person's belief about whether significant others feel that he or she should perform the target behavior (e.g., do significant others feel that the target person should eat five helpings of fruits and vegetables a day?). The influence of the subjective norm is also weighted (W_2) by the salience or relative importance of the normative influence to the target person.

Expressed in the form of a causal model as in Figure 14.1, the TRA posits that volitional behaviors are influenced directly by behavioral intentions and that behavioral intentions are the result of both attitudes toward performing the behavior and subjective norms related to the behavior. The TRA, when presented in the form of a causal model, is intuitively appealing because the components of the model represent target points for persuasive appeals. For example, if the object of a communication campaign was to induce young people to engage in safe sex behaviors, then at its most basic level, the TRA suggests that performance of the volitional behavior could be enhanced by targeting adolescent intentions, attitudes, or subjective norms. Persuasive messages could aim to influence the intention of an adolescent to abstain from sex or wear a condom, an adolescent's attitude toward abstaining or wearing a condom, an adolescent's beliefs regarding how significant others would feel about his abstinence or condom use, or some combination of these three components.

While the TRA appears to be uncomplicated on its face, the basic form of the theoretical components poses additional questions and issues that must be addressed.

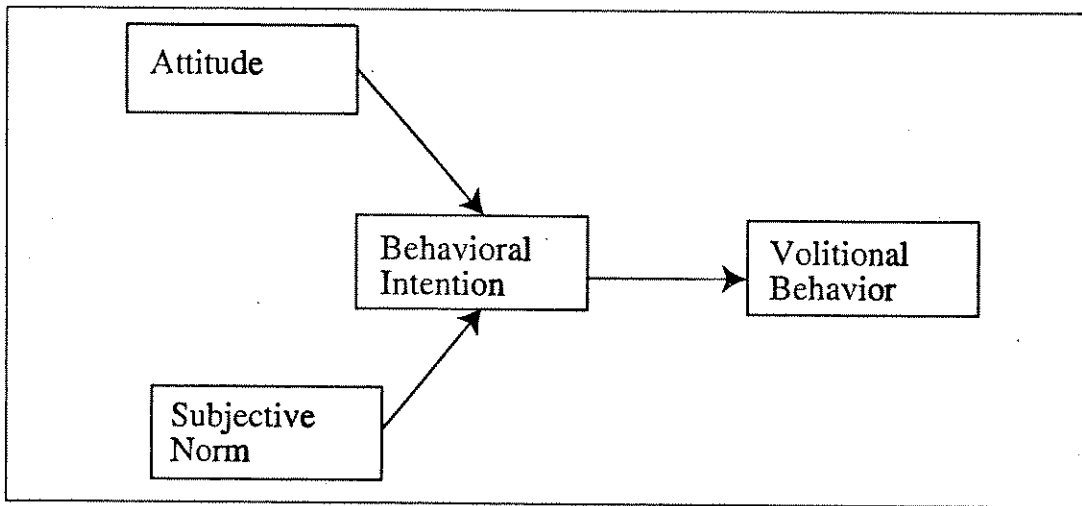


Figure 14.1. Causal Diagram of Basic Components of the Theory of Reasoned Action

Belief Strength and Belief Evaluation

One key component to the TRA is an attitude or valenced response toward engaging in some volitional behavior. While social scientists disagree about the origins of attitudes, Fishbein and Ajzen (1975) suggested that an attitude toward performing some behavior is a function of the beliefs that one holds regarding the behavior. This portion of the TRA is taken from Fishbein's (1967a, 1967b) Summative Model of Attitude. According to the Summative Model of Attitude, and subsequently the TRA, an attitude toward performing some behavior can be mathematically expressed in the following way:

$$A_B = \sum b_i e_i,$$

where A_B is one's attitude toward the behavior and that attitude is the sum of belief strength (b_i) and belief evaluation (e_i).

Beliefs generally link some attribute to a volitional behavior or an attitude. For example, the cognition "Wearing a condom will reduce my risk of HIV" represents a belief insofar as it links some attribute (safe sex) with a volitional behavior (decision to wear a con-

dom). Belief strength is the certainty with which the belief is held—in the preceding example, one's certainty or lack of certainty that wearing a condom will reduce the risk of HIV. Belief evaluation is the extent to which the attribute—in this example, safe sex—is judged to be positive or negative. One frequently cited reason for not insisting on condom use is that the insistence on condom use communicates a lack of trust in one's sexual partner.¹ For the belief "Insisting that my partner wear a condom will communicate that I do not trust him/her," both belief strength (likelihood that mistrust will be perceived) and belief evaluation (is mistrust positive or negative?) may be assessed. One's attitude toward a volitional behavior, then, is a function of the attributes one links to the behavior and whether those attributes are judged to be positive or negative.

Normative Beliefs and Motivation to Comply

A subjective norm is a function of a normative belief and motivation to comply with the normative belief. A normative belief is the

perceived expectation of important others regarding the volitional behavior. Motivation to comply is real or imagined pressure one feels for his or her behavior to match the perceived expectation of others.

Subjective norm is expressed mathematically as follows:

$$SN = \sum b_j m_j,$$

where b_j is the normative belief or perceived expectation of salient others and m_j is one's motivation to comply with the perceived expectation of others. For example, recent research has shown that binge consumption of alcohol is increasing on college and university campuses. With regard to binge drinking, a college student might have a normative belief (e.g., "My friends think that binge drinking is a good thing to do") and a motivation to comply (e.g., "When it comes to drinking, I want to do what my friends think is a good thing"). Normative belief is a perception that is valenced and can be measured continuously. In the same way, one's motivation to comply with the perceived expectation of others can be weaker or stronger and can be measured continuously.

While Figure 14.1 represents the TRA in a very rudimentary form, once the determinants of an attitude toward some volitional behavior or the determinants of a subjective norm are considered, the process for explaining volitional behavior becomes much more complex. A more complete causal diagram of the process for explaining volitional behavior, according to the TRA, is shown in Figure 14.2.

Even in its more complex form, the TRA is intuitively and practically appealing because it identifies specific targets of influence that can more directly or indirectly influence the performance of volitional behaviors. Specifically, the source of a persuasive message may directly target the behavioral intentions of the message recipient. In a more indirect manner,

the source of the persuasive attempt may target the recipient's attitude toward the volitional behavior, the subjective norm, or any of the component parts that influence attitudes or subjective norms.

The TRA has been tested in numerous studies with a variety of volitional behaviors as the action component of the social influence attempt. Volitional behaviors that have been studied testing the TRA include, but are not limited to, reporting alien abductions (Patty & Pelletier, 2001), dieting (Sejwacz, Ajzen, & Fishbein, 1980), using condoms (Greene, Hale, & Rubin, 1997), consuming genetically engineered foods (Sparks, Shepherd, & Frewer, 1995), and limiting sun exposure (Hoffmann, 1999). The question, then, is whether the theory adequately predicted and explained volitional behaviors. In the portion of the chapter that follows, we summarize the results of research testing the TRA.

DATA BEARING ON THE THEORY OF REASONED ACTION

The Relationship Between Behavioral Intentions and Behaviors

Several primary studies have been conducted testing the relationship between behavioral intentions and volitional behaviors. As the body of research investigating the intention-behavior relationship has become more voluminous, several researchers have conducted meta-analyses to summarize the results of the primary studies. At least six meta-analyses of the relationship between behavioral intentions and volitional behaviors have been published. Table 14.1 summarizes the results of those meta-analyses related to the intention-behavior correlation. The mean uncorrected product-moment correlations (r) between intentions and behaviors in the six meta-analyses range from .44 to .53, and

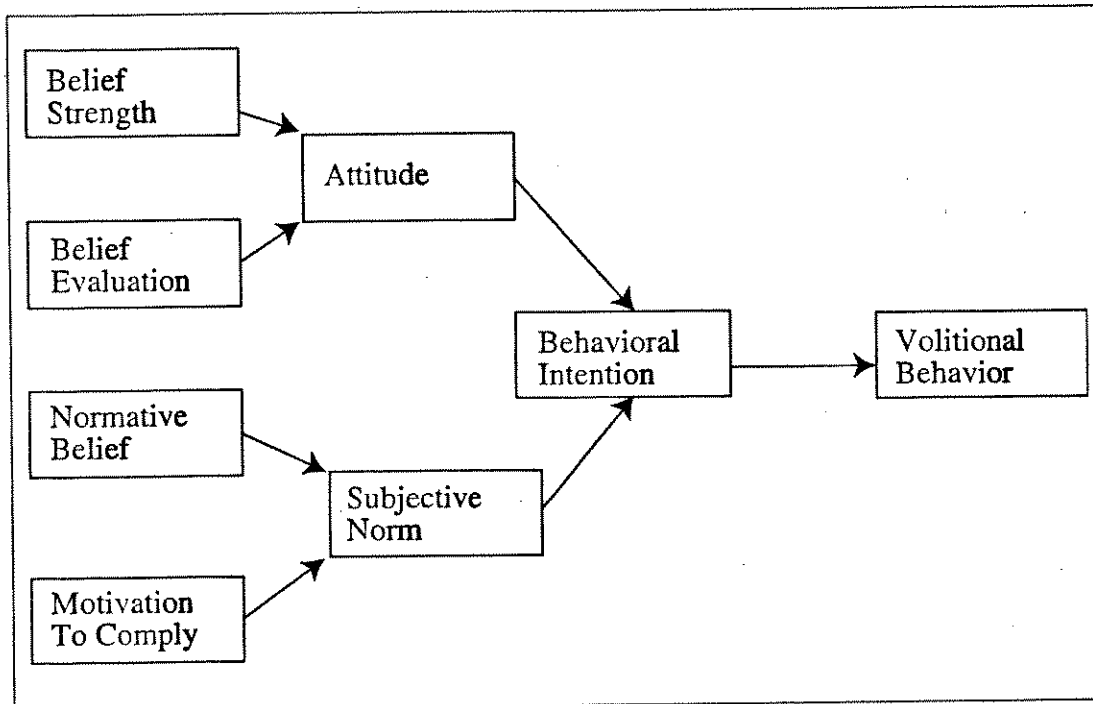


Figure 14.2. Causal Diagram of Complete Components of the Theory of Reasoned Action

mean r^2 values from them range from .19 to .38.

Social influence scholars disagree with regard to the implications of these effect sizes. For example, Marks (1996), commenting on the utility of the TRA to explain health-related behaviors, called the theory a failure, the behavioral intention construct one pursued for the sake of convenience, and a "notoriously poor predictor" (p. 8) of behavior. As Sutton (1998) noted, if the percentage of variance accounted for in volitional behaviors is judged against a standard of 100%, then Marks's appraisal is on point. However, if the percentage of variance accounted for in volitional behaviors is judged against typical levels of variance accounted for in social science research, then intentions predict volitional behaviors quite well (Conner & Armitage, 1998; Sutton, 1998).

It is likely that the intention-behavior relationship is attenuated in research testing the

TRA. Several reasons for an attenuated intention-behavior relationship have been posited.² Some of the reasons for an attenuated intention-behavior relationship concern the nature of the behavioral intention construct, and others relate to the manner in which intentions and/or behaviors are measured.

Intentions Being Subject to Change. Sutton (1998) noted, as have Ajzen and Fishbein (1980), that intentions are subject to change. If, between the time an intention is measured and the time performance of the behavior is assessed, the intention changes, then the intention-behavior relationship will necessarily be attenuated. Ajzen and Fishbein (1980; see also Ajzen, 1985) recommended measuring intentions in close temporal proximity to the measure of behavioral performance to decrease the likelihood that intentions might change during the ensuing time interval.

The evidence regarding the impact of changing intentions is mixed. Randall and Wolff (1994) correlated the length of the time interval between measures of intention and behavior with the strength of the intention-behavior relationship. They grouped primary studies according to the time interval between the intention and behavior measures (less than 1 day, less than 1 week, less than 1 month, less than 1 year, or more than 1 year). Studies were also grouped according to the sort of behavior being studied (sexual/reproductive, food/beverage, political/voting, leisure/exercise, drug/alcohol, school/work/job/career, and other) so that a 5×7 matrix (Time \times Behavior) was created. They found a nonsignificant relationship between the length of the time interval between intention and behavior measures and the strength of the intention-behavior relationship ($r = -.06$).

In 18 cells of the matrix created by Randall and Wolff (1994), there are one or fewer entries, so that time is confounded with behavior type. Even when the effect of time on the intention-behavior relationship is analyzed within behavior types, there are several empty cells in the design. A small number of estimates (k) makes the accuracy of a meta-analytic conclusion—in this case, the impact of time on the intention-behavior relationship—more suspect than a greater number of estimates (Hale & Dillard, 1991).

Sheeran and Oberall (1998) argued that a more accurate picture of the impact changing intentions would be garnered by assessing the effect of temporal contiguity on the intention-behavior relationship within the context of a single behavior as opposed to a context with several behaviors of the same type. They meta-analyzed data from studies solely of condom use and found that the time interval between intention and behavior measures was strongly and negatively correlated with the size of the intention-behavior relationship ($r = -.59$).

Their data lend convincing support to the notion that changing intentions attenuate the intention-behavior relationship.

Intentions Being Provisional in Nature. Sutton (1998) noted that intentions may be provisional in nature. Some participants in research may have formed relevant intentions prior to their research participation. For example, based on previous or impending experiences, a person may intend to wear a condom during sex or to insist that his or her partner wear a condom during sex. For other persons, intentions to use a condom, as expressed on a questionnaire, may be hypothetical or provisional. Sutton noted that the intention-behavior relationship is likely to be stronger when intentions are measured after they are formed and when they are formed within the context of a decision with real consequences.

Violation of the Principle of Compatibility. Intention-behavior relationships are most certainly attenuated because measures frequently violate the principle of compatibility. Fishbein and Ajzen (1975; see also Ajzen, 1988; Ajzen & Fishbein, 1977) suggested that predictive power would be heightened when measures of the predictor (behavioral intention) and the criterion (volitional behavior) matched with regard to the action, the target at which the action was directed, time, and context. Kim and Hunter (1993b) found that increased compatibility of the intention and behavior measures led to significantly stronger attitude-behavior relationships. For studies with low compatibility between the attitude measure and the behavior measure, the attitude-behavior relationship was $r = .28$. For studies with moderate compatibility between the attitude measure and the behavior measure, the attitude-behavior relationship was $r = .41$.

TABLE 14.1 Summary of Findings From Meta-Analyses of the Relationship Between Behavioral Intentions and Volitional Behaviors

Review	<i>k</i>	<i>r</i>	<i>r</i> ²
Ajzen (1991)	17	.45	.20
Godin & Kok (1996)	58	.46	.21
Hausenblaus et al. (1997)	39	.47	.22
Kim & Hunter (1993)	47	.46	.21
Randolf & Wolff (1994)	98	.45	.20
Sheeran & Oberall (1999)	28	.44	.19
Sheppard et al. (1988)	87	.53	.28

For studies with high compatibility between the attitude measure and the behavior measure, the attitude-behavior relationship was $r = .62$.³ Moreover, of the four components identified by Fishbein and Ajzen (1975), Kim and Hunter (1993b) found that compatibility was most important for the action and target components and least important for the context and time components.

Restrictions in Range and Variance. Relationships between predictor and criterion variables are also made smaller by a restriction in the range of the values of either or both variables. When either the intention measure or the behavior measure allows for a small number of responses, the variance in one or both of the variables is restricted and the strength of the observed relationship is smaller than it would otherwise be. Of the 47 studies of the relationship between behavioral intentions and volitional behaviors meta-analyzed by Kim and Hunter (1993b), 5 of the studies dichotomized the behavioral intention measure and 16 studies dichotomized items in

the behavior measure. Recall from Table 14.1 that the uncorrected correlation between behavioral intentions and behaviors in that meta-analysis was .46. When the intention-behavior relationship was corrected for dichotomization, it increased to .54.

Measurement Error in Intention and Behavior Measures. Measurement error has a systematic effect on the relationship between any two variables: It attenuates the effect. Unreliability of intention or behavior measures would necessarily make the observed relationship between the two variables weaker than the true relationship between the same variables. There is a simple formula to correct a product-moment correlation for attenuation (see, e.g., Ferguson, 1976).

In a meta-analysis, the mean correlation between two variables can be corrected for measurement error by correcting the correlation for each individual study or estimate (*k*). When reliability information for measures is not reported in any given study, the reliability may be estimated if the number of items in

a measurement scale is reported (see Hunter, Schmidt, & Jackson, 1982). Kim and Hunter (1993b) demonstrated the impact of measurement error on the relationship between behavioral intentions and volitional behaviors. With the uncorrected intention-behavior relationship of $r = .46$, the intention-behavior correlation, when corrected for measurement error and dichotomization, was $r = .82$.

From the available evidence, which is considerable, it is clear that behavioral intentions are related to the performance of volitional behaviors. Without taking into account any of the factors that might attenuate the relationship, the variance accounted for in volitional behaviors by behavioral intention compares favorably to effect sizes commonly observed in the social sciences. Several meta-analyses have carefully considered the impact of statistical errors and moderator variables on the intention-behavior relationship. When those factors are considered, the relationship between intentions and behaviors is significantly stronger.

The Relationship Between Attitudes and Behavioral Intentions

The TRA posits that behavioral intentions are influenced by attitudes toward the volitional behavior. The attitude-behavioral intention relationship has been investigated in a spate of primary studies. That body of research was quantitatively reviewed in the meta-analysis by Kim and Hunter (1993b), which consisted of 92 estimates (k) of the attitude-intention relationship, with a combined sample size of 16,785. The uncorrected mean correlation for the attitude-behavioral intention relationship was .65. Like the behavioral intention-behavior relationship, the relationship between attitude and behavioral intention is likely to be attenuated by factors such as

lack of compatibility between the measures, dichotomization of the measures, and error of measurement. Kim and Hunter (1993b) investigated the impact of scale compatibility on the attitude-intention relationship. They found that as compatibility of the measures increased, the attitude-intention relationship grew significantly stronger. For studies with low compatibility between the two measures, the attitude-intention correlation was .46. For studies with moderate compatibility between the two measures, the attitude-intention correlation was .62. For studies with a high degree of compatibility between the two measures, the correlation between attitudes and behavioral intentions was .69.

Kim and Hunter (1993b) also corrected the attitude intention correlation for the effects of dichotomization and measurement error. The uncorrected attitude-intention correlation was .65, but when the relationship was corrected for dichotomization and measurement error, the estimate of the strength of the relationship increased to .82.

Sheeran and Taylor (1999) meta-analyzed studies of the relationship between attitudes toward condom use on intentions to wear condoms. The effect sizes they reported were uncorrected for measurement error and dichotomization effects. The meta-analysis consisted of 32 estimates (k) and a sample size of 8,418. The attitude-behavioral intention correlation was .45.

Godin and Kok (1996) meta-analyzed studies of a variety of health-related behaviors. Their meta-analysis included $k = 56$ and reported a mean attitude-intention correlation of .46. There is limited overlap between the studies analyzed by Sheeran and Taylor (1999) and those analyzed by Godin and Kok (1996). The latter meta-analysis included 8 studies concerning HIV/AIDS and 48 studies of other health-related behaviors. Sheeran and Taylor (1999) analyzed studies of condom use (HIV/

TABLE 14.2 Summary of Findings From Meta-Analyses of the Relationship Between Attitudes and Subjective Norms on Behavioral Intentions

Review	<i>k</i>	<i>R</i>	<i>R</i> ²
Ajzen (1991)	17	.71	.50
Godin & Kok (1996)	58	.64	.41
Randolf & Wolff (1994)	98	.45	.20
Sherran & Oberall (1999)	28	.44	.19
Sheppard et al. (1988)	87	.66	.44

AIDS) but also included several studies that were not part of the previous meta-analysis.

The Impact of Subjective Norms on Behavioral Intentions

In addition to an attitudinal influence on behavioral intentions, the TRA includes a normative influence on behavioral intentions. Subjective norms are a function of two components: perceptions of how significant others feel about performance of the volitional behavior and one's motivation to comply with the desires of significant others.

Sheeran and Taylor (1999) meta-analyzed studies of the impact of subjective norms on condom use. The meta-analysis consisted of 32 studies with a total sample size of 8,126. The mean correlation between subjective norms and behavioral intentions was .42. For any volitional behaviors, there may be more than one group of significant others. With condom use, for example, it is possible that the feelings of parents, adults outside the family, peers, and one's sexual partner might form a normative belief. Sheeran and Taylor (1999) found that the strongest normative influence

on intentions to wear condoms was the sexual partner norm ($r = .50$). The meta-analysis conducted by Godin and Kok (1996) also reported the subjective norm-intentions relationship. Where $k = 58$, the mean subjective norm-intentions relationship was $r = .34$.

Combined Effects of Attitudes and Subjective Norms on Behavioral Intentions

Several primary studies and meta-analyses have reported the joint effects of attitudes and subjective norms on behavioral intentions. The multiple correlation (*R*) values have ranged from a low of .63 to a high of .71, with multiple *R*² values ranging from a low of .40 to a high of .50. See Table 14.2 for a summary of meta-analytic results related to the joint effects of attitudes and subjective norms on behavioral intentions. The same arguments made in regard to the behavioral intentions-behaviors effect size may be made with regard to the ability of attitudes and subjective norms to predict behavioral intentions. Skeptics of the TRA may argue that, against an absolute standard of 100%, the percentage of variance

in intentions explained by attitudes and subjective norms is quite small. Proponents of the TRA may quickly counter that, when compared to effect sizes that are typical in the social sciences, attitudes and subjective norms do well in predicting behavioral intentions.

The Relationship Between Beliefs and Attitudes

Several studies have tested the notion that attitudes are a result of belief strength and belief evaluation (e.g., Bagozzi, 1982; Davis & Runge, 1981; Fishbein, Ajzen, & Hinkle, 1980; Holbrook, 1977; Infante, 1971, 1973), and there is little doubt that beliefs influence attitudes. O'Keefe (1990) noted that the correlation between beliefs and attitudes has ranged from between .55 and .80 across a variety of attitude objects.

With regard to the role of beliefs in predicting attitude, two important issues should be considered: the role of belief salience in predicting attitude and the role of belief strength scores in predicting attitude (O'Keefe, 1990).

Including Belief Salience. According to the TRA, attitude is a function of belief strength and belief evaluation. Some scholars have argued that attitudes would be more accurately predicted if, in addition to assessing belief strength and belief evaluation, researchers also assessed the salience of beliefs. However, several studies (e.g., Anderson, 1970; Hackman & Anderson, 1968; Holbrook & Hulbert, 1975) have included a measure of the importance of beliefs and found that adding the additional component did not improve the prediction of attitudes. Holbrook and Hulbert (1975) suggested that measuring the importance of beliefs did not significantly improve the prediction of attitudes because more salient beliefs produce more extreme evalua-

tions. In that case, belief salience and belief evaluation would be confounded so that a measure of one component would indirectly include a measure of the other component. O'Keefe (1990) concluded that the prediction of attitudes is not likely to be improved by adding a belief importance or belief relevance component to the TRA.

Determining Whether Belief Strength Matters. According to the TRA, attitude is a function of both belief strength and belief evaluation. The evidence regarding the role of belief strength in predicting attitude is mixed. There are two common methods for assessing beliefs. One method entails providing individuals with a standardized list of beliefs that is generated by the researcher. An alternative method involves asking individuals to list unique sets of attributes related to a volitional behavior or attitude object. If the former technique is used, then each individual is provided with the same list of attributes and is asked to assess belief strength and belief evaluation based on those attributes. If the latter technique is used to assess beliefs, then each individual generates his or her own list of attributes from which belief strength and belief evaluation are assessed (O'Keefe, 1990).

The importance of measuring belief strength to predict attitude is influenced by the manner in which beliefs are assessed. Belief strength significantly improves the prediction of attitude when a standardized set of beliefs is used, but not when research participants generate unique individualized lists of beliefs (Cronen & Conville, 1975; Delia, Crockett, Press, & O'Keefe, 1975). By their very nature, individualized sets of beliefs include those attributes that the participant feels the volitional behavior or attitude object possesses. By contrast, standardized lists of beliefs may or may not include attributes that any given research participant feels are embodied by a volitional

behavior or attitude object. One should not necessarily conclude that belief strength plays an insignificant role in explaining attitude. Belief strength may be an integral part of one's attitude, and the construct should be measured in research where a standardized belief list is used. The role of belief strength in explaining attitude may be equally important when individualized belief lists are generated, but the individualized lists are composed of attributes that are strongly associated with a volitional behavior or object. Of course, it may also be the case that belief strength does not play a true role in predicting attitude and that belief evaluation is the key to accurate predictions.

O'Keefe (1990) carried the argument regarding belief strength one step further. If variations in belief strength made a significant contribution in predicting attitudes, then individualized lists of beliefs would be a better predictor of attitudes than standardized belief lists. O'Keefe noted that neither procedure for assessing beliefs is significantly better than the other method at predicting attitudes.

Relationships Among Normative Belief, Motivation to Comply, and Subjective Norm

While the evidence concerning the impact of beliefs on attitudes is relatively straightforward, the same cannot be said for research concerning the normative belief and motivation to comply constructs. Correlations among normative belief, motivation to comply, and subjective norm are generally strong (see, e.g., Fishbein & Ajzen, 1981a; Fishbein, Jaccard, Davidson, Ajzen, & Loken, 1980; Hoogstraten, de Haan, & ter Horst, 1985; Riddle, 1980) and range from .50 to .70 (O'Keefe, 1990). Despite seemingly strong relationships between subjective norm and its

determinants, concerns have been raised about the normative component of the TRA. These concerns have led several scholars to question whether the TRA adequately captures the role of normative components in the persuasive process.

Research investigating the impact of normative belief and motivation to comply on subjective norm has reached inconsistent conclusions. Some research has found that normative belief predicts subjective norm better than does the joint function of normative belief and motivation to comply (Budd, North, & Spencer, 1984; Kantola, Syme, & Campbell, 1982; Miniard & Page, 1984). Other studies have found that intentions are more accurately predicted from attitude and normative belief than from attitude and subjective norm (Budd & Spencer, 1984; Chassin et al., 1981; de Vries & Ajzen, 1971; McCarty, 1981; Saltzer, 1981; Schlegel, Crawford, & Sanborn, 1977). So, while the relationship among normative belief, motivation to comply, and subjective norm is generally strong, there is research that calls into question the utility of the motivation to comply construct.

Concerns have also been raised about the specificity of measurement for the motivation to comply construct. Typical measures of motivation to comply ask about the respondent's general desire to comply with the wishes of a particular person or group. O'Keefe (1990) noted that "an act-specific referent" would enhance the ability of motivation to comply to predict subjective norm (p. 87). For example, if one were conducting research on alcohol consumption among college students, a general item assessing motivation to comply might read "It is very important for me to behave as my parents would like me to behave." Alternatively, an act-specific item assessing motivation to comply might read "When it comes to alcohol consumption,

it is very important for me to do what my parents would like me to do.”

CRITICISMS OF THE THEORY OF REASONED ACTION

Critics of the TRA have advanced several points of contention. In general, their criticisms cluster around three issues: the relationship between attitudes and normative beliefs, whether TRA components are sufficient predictors of intentions and behaviors, and the restricted range of meaning encompassed by the theory. We consider each of these issues in turn.

The Relationship Between Attitudes and Subjective Norms

The TRA posits that attitudes and subjective norms will have empirically separate and distinct influences on behavioral intentions. There is some compelling evidence that attitudes and subjective norms are positively correlated (e.g., Bearden & Crockett, 1981; Greene et al., 1997; Miniard & Cohen, 1981; Park, 2000; Ryan, 1982; Shepard & O’Keefe, 1984; Warshaw, 1980). The implication of that positive relationship is clear: Individuals with positive subjective norms toward a volitional behavior are likely to have positive attitudes toward performing the behavior, and those with negative subjective norms are likely to have negative attitudes toward the behavior. Given strong evidence of the relationship between attitude similarity and interpersonal attraction, it is not surprising that attitudes of relevant peer group members are positively correlated with the respondent’s attitude. In most studies where the relationship between attitudes and subjective norms is reported, or where it can be inferred, the correlations be-

tween the two components range between .50 and .70.

Miniard and Cohen (1981) argued that attitudes and subjective norms were correlated because the impact of one’s behavior on others can be stated as either a behavioral belief or a normative belief. For example, a young person might have the belief “Reducing my consumption of alcohol will make my parents happy.” That cognition is a behavioral belief insofar as it ties an attribute (parental happiness) to the performance of a volitional behavior (decreased alcohol consumption). The same general notion could be expressed as a normative belief. The same young person could have the cognition “My parents would like for me to consume less alcohol.” In fact, Miniard and Cohen found that an experimental control that was designed to affect participants’ attitudes also influenced their subjective norms. Conversely, an experimental control that was designed to influence participants’ subjective norms also affected their attitudes. The blurred conceptual distinction between the sorts of beliefs that produce one’s attitudes and those that produce one’s subjective norms means that the two constructs are likely to be correlated.

One proposed solution to conceptual and statistical problems posed by the strong attitude-subjective norm relationship is to represent the preferences of others in terms of behavioral beliefs instead of normative beliefs. That solution would treat the normative component of the TRA as a determinant of attitudes (belief strength and belief evaluation), and indirectly of behavioral intentions, instead of including the normative component as a separate determinant of intentions (Eagly & Chaiken, 1993; Park, 2000; Smetana & Adler, 1980). Most TRA research reports a stronger relationship between attitudes and intentions than between subjective norms and intentions. The difference in the magnitude of the two relationships may reflect the indirect

influence of norms, that is, as a determinant of attitudes and less directly of intentions.

However, using a threefold argument, Fishbein, Ajzen, and their colleagues have advocated treating the attitudinal and normative components of the TRA as distinct entities. First, there is evidence that some experimental controls have had the intended differential impacts on participants' attitudes and subjective norms. That is, controls designed to influence attitudes have done so without affecting subjective norms, and controls designed to affect subjective norms have done so without affecting attitudes (Ajzen & Fishbein, 1972; Fishbein & Ajzen, 1981b). Second, while attitudes and subjective norms may be highly correlated, Fishbein and Ajzen (1981b) noted that both components are strongly related to intentions and are more strongly related to intentions than to each other. Third, some studies indicate that attitudes and subjective norms correlate in different ways with behavioral intentions (Greene et al., 1997; Gur-Arie, Durand, & Bearden, 1979; Miller & Grush, 1986).

It would be theoretically useful to specify the conditions under which attitudes and subjective norms would or would not have distinct influences on intentions. The state of the current TRA literature makes such specification difficult.

TRA Components as Sufficient Predictors of Volitional Behavior

The TRA posits that attitudes and subjective norms are the only meaningful influences on behavioral intentions related to volitional behavior. According to Fishbein and Ajzen (1975, 1980), all other variables influence intentions and behaviors indirectly through antecedent components of the theory. Eagly and Chaiken (1993) discussed this notion as it relates to voting behavior. The TRA focuses

on voting behavior, attitudes toward voting, and subjective norms regarding whether one votes. It does not explicitly include attitudes toward targets (political candidates), party identification, liberalism-conservatism, or some other variables that are routinely part of models of voting behavior. According to the TRA, attitudes toward targets and other potentially relevant variables affect behaviors only through the more proximal components of theory. For example, one's attitude toward Candidate X, or one's political liberalism or conservatism, is thought to influence one's attitude toward voting for Candidate X. Hence, Fishbein and Ajzen (1975, 1980) took the position that all variables that are not explicitly specified by the TRA are thought to be *external* variables that influence volitional behaviors indirectly through attitudes and subjective norms. Nevertheless, critics of the TRA have argued that attitudes and subjective norms are not sufficient predictors of behavioral intentions or indirectly of behaviors. Four variables have been identified as possible predictors of behavioral intentions: moral obligations, self-identity, affect, and prior behaviors. A discussion of each variable, and the supporting evidence for its impact on behavioral intentions, follows.

Moral Obligations and Intentions. Several studies have examined the impact of moral obligations on behavioral intentions (Ajzen & Fishbein, 1969, 1970; Prestholdt, Lane, & Mathews, 1987; Sparks et al., 1995; Warburton & Terry, 2000; Zuckerman & Reis, 1978). Moral obligations address what the individual believes is right or wrong with regard to a volitional behavior. Moral obligations are quite different from perceptions of how others believe one should behave and may be quite different from one's attitude toward the volitional behavior. Prestholdt et al. (1987) tested the impact of attitudes, subjective norms, and perceived moral obliga-

tions to predict voluntary job termination among nurses. They found that all three variables had a significant and direct impact on intentions to terminate employment. Conner and Armitage (1998) meta-analyzed studies of the relationship between moral obligation and intentions ($k = 11$) and reported a mean correlation of .50.

Self-Identity and Intentions. Self-identity has also been recognized as a potential predictor of intentions (Charng, Piliavin, & Callero, 1988; Sparks & Guthrie, 1998; Terry, Hogg, & White, 1999). For example, an environmental activist may participate in a roadside cleanup campaign because environmental action has become a key component of his or her self-concept. Similarly a parent might volunteer to participate in several activities at his or her child's school because doing so is central to how the parent defines himself or herself. In fact, several studies have demonstrated that self-identity variables add significantly to attitudes and subjective norms in predicting behaviors. Terry et al. (1999) conducted one such study. They tested the TRA, adding a measure of self-identity, to explain household recycling behaviors. They found that attitudes and subjective norms predicted intentions to recycle household waste. In addition to the effects of the two TRA components, Terry et al. found that self-identity was significantly related to behavioral intentions ($\beta = .18$). As household recycling was a stronger part of one's self-identity, one had stronger intentions to recycle. In this study, and in others, self-identity at least marginally improved the ability to predict behavioral intentions. Conner and Armitage (1998) meta-analyzed studies of the relationship between self-identity and behavioral intentions. The mean correlation between self-identity and behavioral intentions was .18.

Prior Behavior and Intentions. Whether one has previously performed the behavior in question has also been shown to influence behavioral intentions. The relationship between previous behaviors and behavioral intentions has been examined with regard to blood donation (Bagozzi, 1981; Charng et al., 1988), condom use (Baker, Morrison, Carter, & Verdon, 1996), voting behavior (Granberg & Holmberg, 1990), exercise behavior (Maddux, 1993; Yordy & Lent, 1993), learning behavior (Norwich & Duncan, 1990; Sideridis, Kaissidis, & Padelidu, 1998), seat belt use (Thuen & Rise, 1994), and a variety of other behaviors. For example, Mullen, Hersey, and Iverson (1987) tested the TRA using consumption of unhealthy foods, smoking, and exercise as the volitional behaviors being predicted. They found that previous consumption, smoking, and exercise behaviors were significant predictors of behavioral intentions and behaviors, independent of components of the TRA.

Conner and Armitage (1998) conducted a meta-analysis related to the TRA and past behaviors. With $k = 16$, they reported that the product-moment correlation between previous behavior and behavioral intentions was .51. Previous behavior correlated more strongly with behavioral intentions than with attitudes or subjective norms. Only the previous behavior-future behavior relationship was stronger ($r = .68$) than the relationship between past behavior and intentions.

The precise role of previous behaviors in influencing behavioral intentions or future behaviors is subject to speculation of at least three sorts. First, it may be that past behavior has some causal effect on behavioral intentions (e.g., one may intend to wear a seat belt because he or she has done so in the past) (O'Keefe, 1990). Reasoning of this sort equates past behavior with habit, where the future performance of the behavior is automatic and occurs for no reason other than

having been performed in the past (Tesser & Shaffer, 1990). Second, it is also possible that previous behavior reflects the influence of other components of the TRA. When an individual's past behavior includes seat belt use, the past behavior would presumably influence, or have been influenced by, his or her attitude toward wearing a seat belt. In the same way, past seat belt use may influence, or have been influenced by, a subjective norm regarding wearing a seat belt. In that sense, past behaviors may be residues of attitudes and subjective norms (Ajzen, 1991; Conner & Armitage, 1998). Third, either past or future behaviors may be influenced by variables such as perceived moral obligation and self-identity. If an individual participates in household recycling at Time 1 because his or her self-identity is strongly tied to stewardship of natural resources, then recycling of household items at Time 2 might be similarly influenced. In the same way, if an individual donates blood at Time 1 because he or she feels a moral obligation to do so, then a blood donation at Time 2 is also likely to be the result of a perceived moral obligation. Unfortunately, very few studies parse out the effects of these potential influences on behavior over time. Whether they reflect habitual responses or mediated effects, past behaviors exert the strongest impact on intentions and future behaviors of any variable not originally included in the TRA.

Affect and Intentions. As noted in an earlier chapter of this handbook, affect has profound effects on social influence. One way in which affect has an impact is via anticipated affective outcomes (Manstead & Parker, 1995; Triandis, 1977; van der Pligt & de Vries, 1998). Several recent studies have focused on the impact that anticipated regret has on behavior (e.g., Parker, Manstead, & Stradling, 1995; Richard, van der Pligt, & de Vries, 1996). In general, if an individual anticipates feelings of regret related to a behavior, then he

or she is less likely to perform the behavior. For example, if an individual anticipates feelings of regret over consuming alcohol, then he or she is less likely to intend to do so than a person who does not anticipate feelings of regret over the behavior.

There is some reason to doubt the robustness of the effect for anticipated negative outcomes. The effect for anticipated negative outcome has been found with regard to junk food consumption, drug use, and alcohol use (Richard et al., 1996). Other studies, including ones predicting safe driving behaviors (Parker et al., 1995), safe sex behaviors (Richard, van der Pligt, & de Vries, 1995), and consumer behaviors (Simonson, 1992), have failed to replicate the effect for anticipated negative affect. The impact of anticipated affect may depend on the perceived salience of the anticipated negative affect. Parker, Stradling, and Manstead (1996) tested four videotaped interventions designed to decrease intentions to violate the speed limit. Three of the interventions focused on altering attitudes, subjective norms, or perceived behavioral control related to driving behaviors. The content of the fourth intervention focused on anticipated regret for violating speed limits. The impact of anticipated negative affect increased as the salience of the negative affect increased.

Affect may also influence the TRA via one's mood state. In two studies, Armitage, Conner, and Norman (1999) investigated the impact of a mood induction, as opposed to anticipated affect, on intentions. In the first study, they examined the impact of mood and TRA components on intentions to use condoms. When a negative mood was induced, the attitude-intention relationship was strong and greater than when a positive mood was induced. The subjective norm-intention relationship was nonsignificant. When a positive mood was induced, there was a strong correlation between subjective norm and intention. That

relationship was greater than the same relationship with a negative mood induction, and the attitude-intention relationship was non-significant.

In the second study, Armitage et al. (1999) examined dietary choices over a 1-week period, following either a positive or a negative mood induction. Intentions to consume healthy foods were significantly and positively related to dietary choices regardless of the mood induction. However, when a negative mood was induced, intentions to eat healthy foods were significantly predicted by attitudes and self-identity. When a positive mood was induced, only self-identity predicted intentions.

It is clear that anticipated negative affect, specifically anticipated regret, diminishes intentions to behave for some behaviors. Advocates extending or modifying the TRA would argue that anticipated affect is another variable that adds to the ability to predict intentions and behaviors beyond attitudes and subjective norms. Proponents of the TRA in its original form would most likely argue that anticipated negative affect is a residue of attitudes and subjective norms. It is easy to imagine how attitudes might influence, or be influenced by, anticipated negative affect. One can also imagine that subjective norms would influence anticipated negative affect (e.g., "I will regret disappointing my parents"). Induced mood states appear to moderate relationships between TRA components (i.e., to change the strength and/or direction of the relationships) but do not appear to enhance the ability to predict intentions or behaviors independently of TRA components.

Range of Meaning and the TRA

Miller and Nicholson (1976) suggested that useful theories were those that possessed "proper range of meaning." That is, theories ought to be of sufficient universality to

encompass a broad scope of human activities. Theories should be sufficiently broad so that they neither confirm the obvious nor address socially trivial activities. Conversely, they should avoid being so general that they cannot be applied to behaviors that occur with regularity in everyday life. The range of meaning issue may be raised with regard to the TRA in two distinctive forms: one related to the inclusion of the behavioral intention construct and one criticizing its narrow application to volitional behaviors.

Range of Meaning and Behavioral Intentions. The range of meaning and behavioral intention criticism relates to whether the TRA merely confirms the obvious. To learn that people do what they say they intend to do should neither be surprising nor thought of as theoretically significant. This criticism suggests a tension among adequately describing, predicting, and explaining the cognitive processes that produce volitional behaviors and parsimony. Parsimony is logical simplicity, and the usual notion is that if two explanations for some phenomenon (e.g., volitional behavior) are equally valid, then the simplest or most parsimonious is thought to be preferable. Dubin (1978) made the point a bit differently when he argued that if parsimony is a desirable goal, then theories should include a minimal number of intervening or mediating variables.

The argument for parsimony concerns whether the behavioral intention construct is necessary to predict or explain volitional behaviors. A good deal of research has found that attitudes are strong predictors of behaviors. In studies that have path modeled social influence processes, results often show a direct effect for attitudes on behaviors and/or fail to find a significant intention-behavior relationship (e.g., Bagozzi & Warshaw, 1993; Bentler & Speckart, 1979, 1981). Eagly and Chaiken (1993) suggested that those results be viewed cautiously because either error of mea-

surement or poor statistical power may account for small intention-behavior relations in those studies. However, the issue can be framed in a slightly different manner, that is, by asking what is gained by including the intention construct.

Proponents of the TRA would argue that, at the very least, by including behavioral intentions when modeling volitional behaviors, one gains a more accurate representation of the cognitive processes that produce the behaviors. Moreover, TRA proponents suggest that including the intention construct significantly improves the prediction of volitional behaviors.

Kim and Hunter (1993a) meta-analyzed the attitude-behavior literature. They found, after correcting for measurement error and dichotomization, a mean attitude-behavior relationship of $r = .79$. Moreover, when they grouped studies according to the compatibility of the attitude and behavior measures on the dimensions of action, target, context, and time (Fishbein & Ajzen, 1975), the mean attitude-behavior correlation was .86 when there was high compatibility between the intention and behavior measures.

A strong attitude-behavior correlation may tempt some to argue that behaviors are predicted well enough from attitudes without a mediating effect of behavioral intentions. However, a second meta-analysis (Kim & Hunter, 1993b) found a mean attitude-behavior relationship of $r = .87$ and a mean intention-behavior correlation of $r = .82$. If intention mediates the attitude-behavior relationship, then the attitude-intention relationship should be stronger than the attitude-behavior relationship because attitudes are more proximal to intentions in the causal chain than they are to behaviors. Indeed, the attitude-intention relationship ($r = .87$) is larger than the attitude-behavior relationship ($r = .79$). That the attitude-intention is stronger than the attitude-behavior relationship

supports the notion that intentions serve a mediating role between attitudes and behaviors. That finding also lends credence to Eagly and Chaiken's (1993) argument that the failure to find significant intention-behavior relationships in some studies is probably the result of measurement error, dichotomization of measurement, or low power in the statistical tests.

A convincing case can be made that including the behavioral intention construct when modeling volitional behaviors provides a more accurate description of the cognitive processes underlying those behaviors. Kim and Hunter (1993a, 1993b) also presented convincing evidence that including the intention construct improves the ability to predict behaviors beyond the contributions made by attitudes. With regard to the issue of parsimony, it is the case that omitting behavioral intentions would be more simplistic than including intentions in models of volitional behavior, but those models would predict behaviors significantly worse than the TRA.

Range of Meaning and Volitional Behaviors. The TRA has also been criticized for limiting its scope to volitional behaviors. As was noted earlier in this chapter, previous behaviors, or habits, are strong predictors of behavior (see, e.g., Tesser & Shaffer, 1990). Habitual behaviors are thought to be nonvolitional or outside of the individual's control.

Other research indicates that many behaviors are mindless or carried out without exerting cognitive effort in deciding how to behave. Langer and others (Bargh & Chartrand, 1999; Langer, 1978) have indicated that mindless behaviors are enacted using behavioral scripts. Scripts are cognitive schemata that contain expected sequences of behaviors used to achieve certain goals. Individuals may have scripts for routine or mundane behaviors (e.g., a grocery shopping script, a drive to work script) or for socially meaningful behaviors.

Recent research supports the idea that individuals have scripts for a wide variety of social behaviors including sexual one-night stands (Monahan, Miller, & Rothspan, 1997), sexual aggression (Krahe, 2000), negotiations (O'Connor & Adams, 1999), consumer behaviors (Rook, 1985), medical diagnoses (Charlin, Tardif, & Boshuizen, 2000), and interactions with disabled persons (Langer & Chanowitz, 1988). Differentiating habitual behavior and scripted behavior can be difficult, and indeed, Eagly and Chaiken (1993) suggested that scripts provide a model for cognitively representing habitual behaviors.

Regardless of the relationship of scripts to habits and vice versa, there is a wide range of socially meaningful behaviors that are either mindlessly performed or not under the control of the social actor. Going back to very early research on the attitude-behavior relationship, scholars questioned the value of explaining nonrepetitive behaviors. Tittle and Hill (1967) were critical of theories that had as their goal predicting or explaining singular responses to constructed circumstances unlikely to recur in everyday life. The range of meaning criticism of the TRA suggests that the boundary conditions of the theory exclude socially meaningful and repetitive behaviors in favor of a smaller set of less meaningful behaviors that are completely volitional in nature.

In addition to excluding behaviors that are habitual or scripted, the TRA excludes behavior that requires special skills, resources, opportunities, and/or the cooperation of others in order to be completed (Liska, 1984). Liska (1984) argued that limiting the TRA to behaviors that require no special skills, no unique opportunities, and/or no cooperation by others restricts the range of meaning of the theory to relatively simple behaviors such as voting, donating blood, and avoiding exposure to the sun. While those behaviors may be socially significant in their own right, Liska argued that

the theory omitted a broader range of behaviors that were at least as socially salient.

Fishbein and Ajzen (1975) did speak to criticisms related to the need for resources, skills, and/or cooperation from others. They contended that the need for resources would not alter the basic form of the TRA but would change the relationship between behavioral intentions and attitudes. For example, if a consumer intended to buy a big-screen television but discovered that he or she lacked the money to do so, then it is likely that the consumer would change his or her purchasing intention at least temporarily.

The response that a resource deficit would change intentions is problematic for two reasons. First, lack of resources needed to engage in a behavior means that the behavior is not truly volitional. The consumer may desire to own a big-screen television, but without the financial resources to buy one, the purchasing decision is not truly voluntary. Second, the TRA specifies that intentions are the result of attitudes toward the behavior and subjective norms related to the behavior. It is quite conceivable that the consumer would continue to have a positive attitude toward purchasing a big-screen television and that his or her friends or family members would have positive feelings about such a purchase. The lack of resources, which is not explicitly included in the model, could predict intentions where attitudes and subjective norms would not do so. At the very least, omitting a resource variable from the model would introduce considerable error of prediction.

Fishbein and Ajzen (1975) made similar arguments related to behaviors that require the cooperation of others and those that require special skills. They argued that if cooperation from others is lacking, then an individual's intention toward performing a behavior will change. If special skills are required to complete some behavior, and if one is lacking in those skills, then the individual's intention

to perform the behavior will be different from that if he or she possessed the requisite skills. These responses are no more satisfying for behaviors requiring cooperation or special skills than they are for behaviors requiring resources. The behaviors still will not be truly volitional in nature, and one's intentions to perform or not perform the behaviors will be influenced by factors other than those specified in the theory. Hence, the best response is that behaviors that require resources, cooperation of others, and/or special skills to perform are not truly volitional and fall outside the parameters of the TRA. However, that position fuels the range of meaning argument made by TRA critics.

THE THEORY OF PLANNED BEHAVIOR

In an effort to expand the range of behaviors encompassed by the TRA, Ajzen (1985) proposed the theory of planned behavior (TPB). Ajzen insisted that the TRA predicted and explained volitional behaviors quite well, but Ajzen presented the TPB to predict and explain behaviors that were not completely under the volitional control of the actor. The components of the TPB mirror those of the TRA, except that *perceived behavioral control* is added to the TPB. Perceived behavioral control is "one's perception of how easy or difficult it is to perform the behavior" (Eagly & Chaiken, 1993, p. 185).

Ajzen (1991) differentiated perceived behavioral control from related constructs such as locus of control (Rotter, 1966) and control as a general dispositional quality (Atkinson, 1964). The perceived behavioral control construct is most closely akin to Bandura's self-efficacy construct. Bandura (1982) described self-efficacy as "judgments of how well one can execute courses of action required to deal with prospective situations" (p. 122).

Bandura's (1982, 1991) research shows that self-efficacy influences the activities individuals choose, their preparation for the activities, and the amount of effort that is expended when completing the activities. In a similar vein, the TPB includes perceived behavioral control as a predictor of behavioral intentions and directly of behaviors.

Just as attitudes are a function of belief strength and belief evaluation, or subjective norms are a function of normative beliefs and motivation to comply, perceived behavioral control is posited to be a function of control beliefs and perceived power. Control beliefs are ones related to presence or absence of the resources and opportunities required for performance of the behavior. Perceived power is the ability of the control attribute to facilitate or inhibit the performance of the behavior. For example, a woman may reason that she has the knowledge or skill necessary to perform breast self-examination (a control belief) and that having that knowledge or skill will facilitate breast self-examination (perceived power). Perceived behavioral control can be expressed mathematically as follows:

$$PBC = \sum c_i p_i$$

where c is a control belief (a perceived resource or opportunity) and p is perceived power or the perceived ability of the belief to facilitate or inhibit performance of the behavior. Figure 14.3 expresses the TPB in the form of a causal model.

DATA BEARING ON THE THEORY OF PLANNED BEHAVIOR

Much of discussion of data bearing on the TRA is relevant to the TPB. This discussion focuses on the perceived behavioral control and its component parts because those variables are unique to the TPB. This discussion

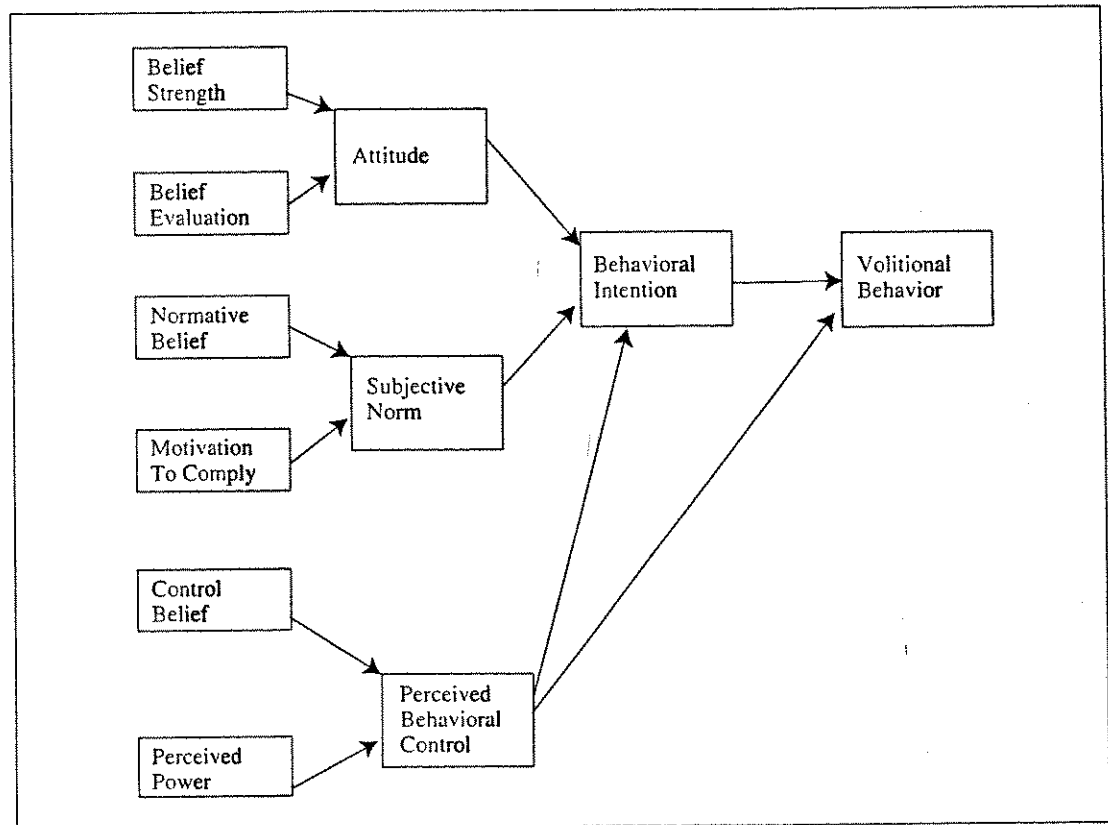


Figure 14.3. Causal Diagram of the Theory of Planned Behavior

also describes the effects of attitudes and subjective norms in combination with perceived behavioral control to predict intentions and the combined effects of behavioral intentions and perceived behavioral control to predict behaviors.

The Relationship Between Perceived Behavioral Control and Intentions

There have been a handful of meta-analyses of TPB studies. Two of the meta-analyses have been limited to studies of single classes of behaviors (i.e., studies of exercise-related behaviors) (Hausenblas, Carron, & Mack, 1997) and studies of condom use (Sheeran & Taylor, 1999). The meta-analysis conducted by Godin

and Kok (1996) was less restrictive and included studies of several classes of health-related behaviors (e.g., eating, exercise, oral hygiene, HIV/AIDS). Ajzen's (1991) meta-analysis was not class specific. The mean correlation between perceived behavioral control and intentions ranged from .35 to .53. A summary of the results of the three meta-analyses is shown in Table 14.3.

The Relationship Between Perceived Behavioral Control and Behaviors

Ajzen (1985, 1987) indicated that perceived behavioral control influenced behaviors directly in addition to the mediated effect via behavioral intentions. Of the TPB meta-analy-

TABLE 14.3 Summary of Findings From Meta-Analyses of the Theory of Planned Behavior

<i>(a) Perceived Behavioral Control and Intentions</i>			
<i>Review</i>	<i>k</i>	<i>r</i>	<i>r²</i>
Ajzen (1991)	17	.53	.28
Godin & Kok (1996)	58	.35	.12
Hausenblas et al. (1997)	11	.43	.18
<i>Attitudes, Subjective Norms, and Perceived Behavioral Control on Intentions</i>			
<i>Review</i>	<i>K</i>	<i>R</i>	<i>R²</i>
Ajzen (1991)	17	.71	.50
Godin & Kok (1996)	58	.64	.41
Sheeran & Taylor (1999)	24	.65	.42

ses cited previously, two analyzed the impact of perceived behavioral control on behaviors. In the meta-analysis of exercise behaviors, Hausenblas et al. (1997) reported a mean perceived control-behavior correlation of .45. Godin and Kok (1996) found a mean perceived behavioral control-behavior relationship of .39. Ajzen (1991) reported a mean perceived control-behavior correlation of .39. In these meta-analyses, perceived behavioral control had a statistically significant and substantial impact on behaviors.

Attitudes, Subjective Norms, Perceived Behavioral Control, and Intentions

The TPB can also be judged by the ability of the attitudes, subjective norms, and perceived behavioral control to predict intentions. Three meta-analyses related to the TPB reported the combined effects of the three predictors on intentions (Ajzen, 1991; Godin & Kok, 1996; Sheeran & Taylor, 1999). The results show

that attitudes, subjective norms, and perceived behavioral control account for between 40% and 50% of the variance in behavioral intentions. The findings of the three meta-analyses are shown in Table 14.3.

Meta-analysts have argued that inclusion of the perceived behavioral control construct significantly improves the ability to predict intentions. For example, Hausenblas et al. (1997) posited that the "results of the present study clearly support a conclusion that TPB is superior to TRA for predicting and explaining exercise intentions and behaviors." Sheeran and Taylor (1999) found that perceived behavioral control accounted for an additional 5% of the variance in condom use intentions compared to the TRA.

Control Beliefs, Perceived Power, and Perceived Behavioral Control

Only a very few studies have measured perceived behavioral control as a function of con-

trol beliefs and perceived power (Ajzen, 1991). Most studies of the TPB measure have perceived behavioral control using a global measure without measuring the control belief and perceived power components of the global construct. Ajzen (1991) reported correlations ranging from .40 to .70 in the handful of studies that have assessed weighted control beliefs and a more global measure of perceived behavioral control.

CRITICISMS OF THE THEORY OF PLANNED BEHAVIOR

Eagly and Chaiken (1993) concluded that the TPB was quite successful "in those domains in which the TRA is less appropriate" (p. 189). However, they noted that several issues related to the TPB warranted closer examination. We consider three issues related to the TPB: the causal relationship between perceived behavioral control and intentions, the sufficiency of the TPB to predict and explain behaviors, and the role of "planning" in planned behavior.

The Causal Relationship Between Perceived Control and Intentions

The TPB posits a positive causal relationship between perceived behavioral control and intentions. The implication of that position is that individuals form intentions because they have control over the behaviors. That notion is a reasonable one for positively valenced behaviors. For example, losing weight may involve changing one's diet and engaging in increased exercise. If an individual is positively disposed toward losing weight and perceives that he or she has control over diet and exercise, then the perceived control may cause

the individual to change his or her intentions to diet and exercise.

The idea that perceived behavioral control and intentions are causally related makes less sense for a behavior that is negatively valenced. For example, if a male is negatively disposed toward condom use, then even if he believes that condom use is completely under his control, the individual might not intend to use a condom during sex. Eagly and Chaiken (1993) noted that perceived behavioral control might interact with other variables (e.g., the desire to engage in a behavior or to attain a goal) to determine intentions, but interaction effects involving perceived behavioral control have not been investigated.

The TPB as a Sufficient Explanation for Behavior

Earlier in this chapter, we discussed four variables that significantly influence intentions and/or behaviors: moral obligation, self-identity, habit or prior behavior, and affect. Others (and we) were skeptical of Fishbein and Ajzen's (1975, 1980) claim that all other variables are residues of TRA components. If some combinations of moral obligations, self-identity, prior behaviors, and/or affect are significant predictors of intentions or behaviors, then their omission from the TPB is as serious as their omission from the TRA. While Fishbein and Ajzen argued that the TRA is a sufficient explanation of volitional behaviors, Ajzen (1991) discussed the possibility that moral obligation, affect, and past behaviors might also predict intentions and/or behaviors. He concluded that it is premature to draw conclusions about the sufficiency of the TPB, and he called for additional research to determine whether additional predictors should be added to the theory.

The Role of Planning in the TPB

Eagly and Chaiken (1993) also noted the irony of a theory of "planned" behavior that did not address the notion of plans. Dillard (1990) observed that "planning consists of producing one or more schemes for goal attainment, evaluating their overall effectiveness, and choosing among them" (p. 48). The TPB does not address the issue of how individuals formulate, evaluate, and/or act on plans. This omission would seem especially serious for behaviors that are less directly under the actor's control. If special skills, resources, and/or the cooperation of others were needed to perform a behavior, then formulating and evaluating plans about obtaining the requisite skills, resources, and/or cooperation would be particularly important.

CONCLUSION

The TRA is an attempt to explain volitional behaviors. Criticisms of the theory focus more on what the theory omits (e.g., additional predictors, nonvolitional behaviors) than on what it includes or the support for the hypothesized relationships. In an effort to expand the explanatory domain of the TRA, Ajzen (1985) formulated the TPB. He maintained that the TRA was a valid explanation for volitional behaviors but advocated the TPB, with its inclusion of perceived behavior control, to explain behaviors of a less volitional nature. The evidence supporting the TRA and the TPB is considerable. Together, the two theories provide a useful framework for explaining social influence outcomes that are thoughtful in nature.

Both the TRA and TPB identify natural targets of social influence attempts. When attempting to influence behaviors, one may construct persuasive messages that attempt to

modify any of the components of the theories. Starting most proximally to behaviors, persuasive messages may target the message recipient's behavioral intentions. In the same vein, because intentions are a function of attitudes, subjective norms, and perceived behavioral control, persuasive messages whose content modified one or more of those components would also lead to changes in intentions and behaviors. Finally, the content of persuasive appeals can aim at the components that are least proximal to behaviors. Persuasive appeals may attempt to modify belief strength, belief evaluation, normative beliefs, motivation to comply, control beliefs, or perceived power. The theoretical and practical appeal of both the TRA and TPB is that the theories clearly direct researchers and practitioners toward proven strategies for successful influence.

NOTES

1. Research by Hocking, Turk, and Ellinger (1999) found that judgments of a partner who insists on condom use are quite positive.
2. Sutton (1998) presented nine reasons for attenuated relationships between intentions and behaviors. We chose to highlight four.
3. Kim and Hunter (1993b) reported that "virtually no studies have used time and context among their attitudinal and behavioral elements" (p. 341).

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