

Reasoned Action Theory

Persuasion as Belief-Based Behavior Change

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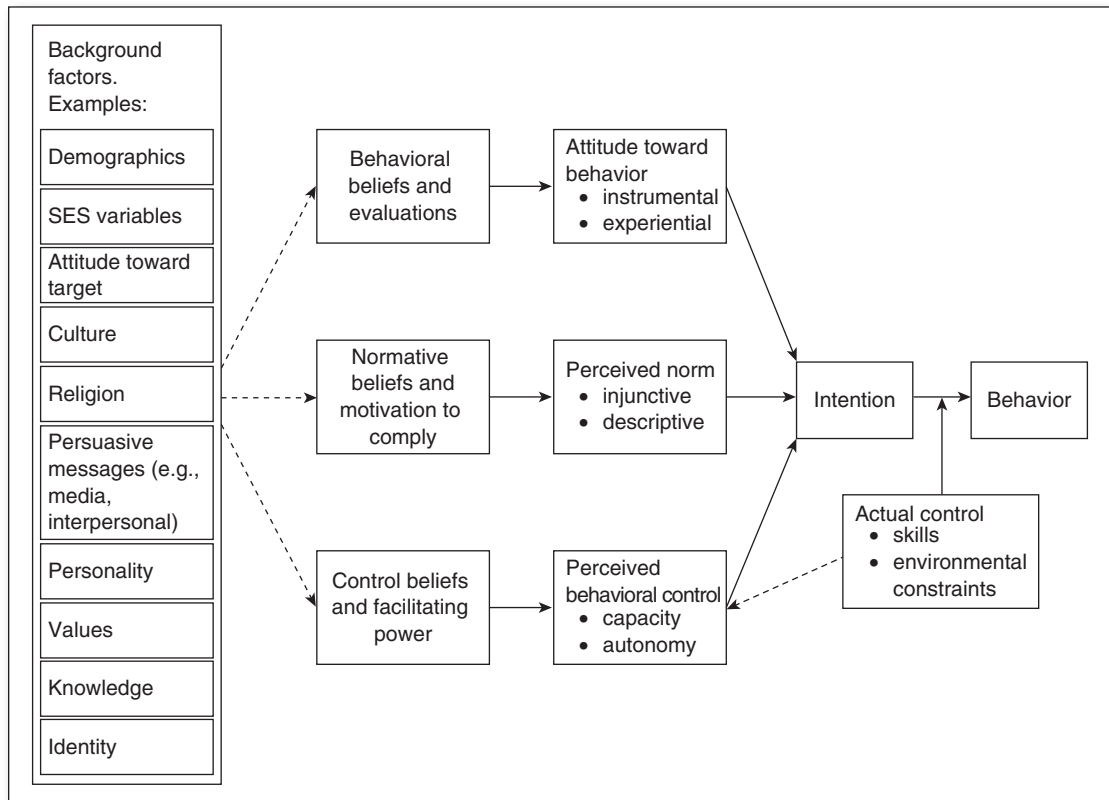
Introduction

Almost 50 years after its inception, reasoned action theory continues to serve as a foundation for persuasion research. The popularity of the theory lies in its direct applicability to the question of how exposure to persuasive information leads to behavior change. Despite its wide use and long history, reasoned action is a dynamic theory with a number of unresolved issues. As this chapter will show, some of these issues reflect misconceptions of theoretical propositions or misuse of research recommendations, whereas others indicate opportunities for theoretical advancement.

Reasoned action theory explains behavior by identifying the primary determinants of behavior and the sources of these determinant variables, and by organizing the relations between these variables. The theory is marked by a sequence of reformulations that build on one another in a developmental fashion. These are the theory of reasoned action (Fishbein & Ajzen, 1975), the theory of planned behavior (Ajzen, 1985), and the integrative model of behavioral

prediction (Fishbein, 2000). The theory's current formulation, graphically displayed in Figure 8.1., is described as the reasoned action approach to explaining and changing behavior (Fishbein & Ajzen, 2010). In this chapter I use the term reasoned action theory to refer to the current formulation of the theory and to propositions that apply to all formulations of the theory.

The objectives of this chapter are to make clear how reasoned action theory contributes to a better understanding of persuasion processes and outcomes, and to identify accomplishments of and opportunities for research in the reasoned action tradition. Because of its relevance for persuasion scholarship, I will first highlight the reasoned action hypothesis that behavior change originates from beliefs about the behavior. Next I will discuss key propositions within the historical context in which they were developed, issues related to conceptualization and operationalization of the theory's components, and opportunities for future research. The range of issues included in this review addresses the decades-long time frame during which persuasion scholars have explicitly used core reasoned action

Figure 8.1 Components of Reasoned Action Theory and Their Relations

concepts. The research I review here is illustrative rather than exhaustive, by necessity, as few other behavioral theories have generated more research.

The Reasoned Action Perspective on Persuasion

Beliefs that people hold about a behavior play a central role in reasoned action explanations of behavior. In Fishbein and Ajzen's (2010) words, "human social behavior follows reasonably and often spontaneously from the information or beliefs people possess about the behavior under consideration. These beliefs originate in a variety of sources, such as personal experience, formal education, radio, newspapers, TV, the Internet and other media, and interactions with family

and friends. . . . No matter how beliefs associated with a given behavior are acquired, they serve to guide the decision to perform or not perform the behavior in question" (p. 20).

When people act on beliefs that they have formed about a behavior, they engage in a reasoned, but not necessarily rational process. For example, someone suffering from paranoid personality disorder may lock the door of his office because he believes that his colleagues are conspiring against him. This person acts in a reasoned manner on a belief, even though others would deem his belief irrational. Regardless whether beliefs are irrational, incorrect (because based on false information), or motivationally biased, once beliefs are formed they are the cognitive basis from which behavior reasonably follows (Blank & Hennessy, 2012; Fishbein & Ajzen, 2010).

Beliefs affect behavior through a sequence of effects. Specific beliefs about a behavior inform attitude, perceived norm, and perceived behavioral control regarding the behavior, which in turn determine intention to perform the behavior. If one has the necessary abilities to perform the behavior and if there are no situational obstacles that impede behavioral performance, then intention should lead to behavior. The conceptualization of behavior formation as a process makes clear that a persuasive message cannot directly change behavior. Although the ultimate objective of persuasive messages is to reinforce or change a particular behavior, persuasive messages at best create or change beliefs. When beliefs are appropriately selected, changes in those beliefs should affect attitude, perceived norm, or perceived behavioral control, which in turn should affect intention and behavior. Those beliefs that most strongly discriminate between people who do and do not (intend to) perform a particular behavior, are the choice candidates to address in persuasive messages (Fishbein & Ajzen, 2010; Fishbein & Yzer, 2003).

In terms of reasoned action theory, persuasion thus concerns the effects of exposure to a persuasive message on beliefs about performing a behavior, and through effects on those beliefs on behavior. Clearly, then, the precision with which one can predict behavior is directly relevant for persuasion scholarship. The remainder of this chapter will therefore be used to review the ability of reasoned action theory to predict behavior. For this purpose it is useful to first discuss the historical context in which reasoned action theory was developed.

Historical Context

In the early 20th century there was widespread consensus that attitude should matter as a basis for human behavior. For example, most contemporary definitions emphasized attitude as a tendency to act (for an overview see Allport, 1935). By the 1960s, however, accumulated empirical

support for the hypothesis that people act on their attitude was inconsistent at best, with many studies reporting no effect of attitude on behavior at all. As a result, many scholars questioned the usefulness of attitude for behavioral prediction. Most widely cited in this regard is Wicker (1969), who, on a review of studies that correlated self-reported attitude with lagged observations of behavior, concluded that it is unlikely that people act on their attitude. In counterpoint, others argued that measurement issues were at least in part responsible for weak correlations between attitude and behavioral data. Particularly pertinent is Triandis's (1964) finding that the prediction of behavior from attitude improved when measures of attitude and behavior represented the same dimensions.

The debate on the question whether attitude predicts behavior helps understand the origins of reasoned action propositions. In effect, what was under discussion was whether contemporary attitude theory offered valid hypotheses about how thoughts, feelings, and behavior regarding an object are associated. Fishbein observed that the confusion surrounding the attitude-behavior relation had to do with the wide range of different variables that were included under the umbrella label of "attitude." Similar to Thurstone (1928), Fishbein (1967) viewed attitude as "a relatively simple unidimensional concept, referring to the amount of affect for or against a psychosocial object" (p. 478). Building on Dulany's (1968) theory of propositional control over verbal responses, he argued that attitude should be separated from its antecedents and consequences. Moreover, in order to improve prediction of behavior, he urged scholars to focus on the relations between these variables, that is, beliefs, attitude, behavioral intention, and behavior (Fishbein, 1963, 1967).

A number of principles have been developed to aid such inquiry (e.g., Ajzen & Fishbein, 1973). A first holds that prediction of behavior (e.g., running) is more precise than prediction of behavioral categories (e.g., exercise) or goals (e.g., losing weight). Exercise includes many different

behaviors, and each of these behaviors may be associated with quite different beliefs. From the author's perspective, for example, running is fun but swimming is not. Whether or not I will report to like and engage in exercise therefore depends on whether I think about running, swimming, or both when asked about my exercise. Similarly, losing weight is a goal that can be achieved by many different behaviors, and one may hold positive beliefs about losing weight yet in fact not achieve that goal because necessary dieting and exercise behaviors are not performed due to negative beliefs about those behaviors.

Second, prediction of specific behaviors is more precise than prediction of general behaviors. Levels of specificity vary by the extent to which a behavioral definition includes each of four components, that is, action (e.g., running), target (e.g., at a 9-minute per mile pace), context (e.g., on a treadmill at the YMCA), and time (e.g., twice a week). Clearly, "running" can be interpreted more broadly than "running twice a week at a 9-minute pace on a treadmill at the YMCA." When two people think about "running," they may therefore think about quite different behaviors, each associated with different, behavior-specific beliefs. It is for this reason that persuasive messages are more effective when they promote a specific behavior and its underlying beliefs than a general, more broadly interpretable behavior (Fishbein, 2000).

Third, and known as the compatibility principle, prediction of behavior improves when behavior is measured at the same level of specificity as beliefs, attitude, and intention (cf. Triandis, 1964). For example, intention to recycle hazardous materials may not correlate with frequency of recycling batteries, because people may intend to perform the more general behavior of recycling hazardous materials but not intend to perform the specific behavior of recycling batteries.

Adherence to these principles should improve the precision of behavioral prediction, and consequently, the effectiveness of persuasive efforts. Remarkably, however, although these principles are as relevant for the prediction of behavior

today as when they were first introduced, they continue to be violated in research that applies reasoned action theory (Hale, Householder, & Greene, 2002; Trafimow, 2004). This has important implications. For example, it has been shown that measurement in accordance with the compatibility principle strengthens relations among reasoned action variables, which suggests that studies that do not adhere to this principle underestimate the ability of reasoned action variables to explain intention and behavior (Cooke & Sheeran, 2004; van den Putte, 1993).

Key Components and Their Relations

Reasoned action theory has three structural parts that together explain behavior formation: (a) the prediction of behavior from behavioral intention; (b) the explanation of intention as a function of attitude, perceived norm, perceived behavioral control, and their underlying beliefs; and (c) the exposition of beliefs as originating from a multitude of potential sources. I will use this partition to structure a discussion of issues related to each reasoned action component and the proposed relations between components.

Behavior

The precision with which behavior can be predicted improves when specific behaviors rather than behavioral categories or goals are measured, and when the behavior that one wants to predict is measured at the same level of specificity as the variables that are used to predict it. Another noteworthy measurement issue has to do with the question whether behavior should be observed or assessed with self-report measures.

Whereas for pragmatic reasons most reasoned action research uses self-reports of behavior, observed behavior has an intuitive appeal because it does not, or at least to a lesser extent, suffer

from validity issues known to affect self-reports of behavior (Albarracín et al., 2001). Key among those is that self-reports of behavior can be exaggerated (e.g., male's reports of sexual activity; Brown & Sinclair, 1999) or understated (e.g., reports of at-risk health behavior; Newell, Girgis, Sanson-Fisher, & Savolainen, 1999). Regardless of whether these biases are deliberate or reflect fallible cognitive estimation processes (Brown & Sinclair, 1999), they render behavioral self-reports less than perfectly accurate. This does not mean that prediction of observed behavior is always more precise than prediction of self-reported behavior.

Consider, for example, Armitage's (2005) study of physical activity among members of a gym. Armitage measured attitude, perceived norm, perceived control, and intention at baseline with items framed in terms of "participating in regular physical activity." At a three-month follow-up he assessed behavior by both asking gym members enrolled in his study "How often have you participated in regular physical activity in the last 3 months?" and by electronically logging gym entrance. Clearly, baseline measures were more compatible with the self-report behavior measure than with the observed behavior measure. As just one example, when people think about regular physical exercise, they may think about activities outside the gym that are not reflected in records of gym attendance, but that likely are reflected in self-reports of physical exercise. In support of this contention Armitage found a stronger correlation of intention to participate in regular physical exercise with self-reported regular physical exercise, $r = .51$, than with records of gym attendance, $r = .42$. This finding has been corroborated in meta-analytic research (Armitage & Conner, 2001; but see Webb & Sheeran, 2006).

A moment's reflection shows that the attitude, perceived norm, perceived control, and intention measures that Armitage used would have been more compatible with, and thus more predictive of, the self-report behavior measure used three months after baseline if the former would have

asked about "participating in regular physical activity *in the next three months*." This is an issue that affects many prospective studies. Interestingly, however, discussions about improving behavioral prediction predominantly focus on variables that possibly moderate effects of reasoned action variables on self-reported behavior, and remain largely silent on measurement of behavior itself (for a notable exception, see Falk, Berkman, Whalen, & Lieberman, 2011). To be sure, moderator analysis has important potential for determining when the theory's propositions are particularly likely to apply, which not only directs investigators to appropriate application but also suggests areas for further theory development (Weinstein & Rothman, 2005). Even so, the scarcity of work that tests the validity of self-report behavior measures, for example, by assessing compatibility between behavioral determinant and behavior measures, is striking (Albarracín et al., 2001).

Behavioral Intention

Behavioral intention is the most immediate determinant of behavior. It is defined as people's readiness to perform a 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" (Ajzen, 1985, p. 181). Intention is indicated by the subjective probability of behavioral performance, that is, by people's estimate of how likely it is that they will or will not perform a particular behavior. Examples of widely used intention items are *How likely is it that you . . .* (followed by the definition of the behavior under investigation; scale anchors *I definitely will not—I definitely will*) and *I intend to . . .* (scale anchors *I completely disagree—I completely agree*).

The intention concept and its operationalization have not been universally accepted, however. Concerned about the sufficiency of intention as

the only variable that directly determines behavior, investigators have proposed several alternative intention concepts and measures. This section reviews three such measures.

Warshaw and Davis (1985) proposed that behavioral expectations, or people's self-predictions regarding their behavior, are superior to behavioral intention in predicting behavior, because behavioral expectations take possible barriers to behavioral performance into account more so than intention. Items such as *I expect to . . .* and *I will . . .* (scale anchors *highly unlikely to highly likely*) are commonly used to measure behavioral expectation. Empirical findings suggest that behavioral expectation measures do not outperform intention measures (Armitage & Conner, 2001; Fishbein & Stasson, 1990; Sheeran & Orbell, 1998; but see Sheppard, Hartwick, & Warshaw, 1988), and it is not uncommon to combine the two types of measures into a single intention scale (e.g., Fielding, McDonald, & Louis, 2008).

Gibbons, Gerrard, Blanton, and Russell (1998) proposed behavioral willingness as another alternative for intention. Gibbons and colleagues argued that an intention to act implies rational deliberation, whereas behavior often is irrational and triggered by situational factors. Developed in the context of health-risky behavior, the behavioral willingness hypothesis holds that people may intend to engage in safe behavior, but be willing to engage in risky behavior if the situation would offer opportunities for doing so. For example, someone may intend to have no more than three drinks at a party, but drink more when at the party an attractive person offers a fourth drink. Similar to this example, behavioral willingness measures ask whether people would be willing to engage in a particular behavior given a particular scenario, that is, under specified circumstances. It is therefore unclear whether behavioral willingness is truly different from intention or simply a more specific intention (Fishbein & Ajzen, 2010).

Gollwitzer's (1999) concept of implementation intentions offers a greater contribution to

behavioral prediction. Implementation intentions are highly specific plans people make about when, where, and how to act on a motivation to act, that is, on their intention to act. There is evidence that implementation intentions improve the prediction of behavior (e.g., Ziegelmann, Luszczynska, Lippke, & Schwarzer, 2007), but not always (e.g., Budden & Sagarin, 2007; for a review, see Gollwitzer & Sheeran, 2006). Instead of a viable alternative to the intention variable, implementation intentions are perhaps better interpreted as a useful moderator, such that people who formed positive intentions are more likely to act on their intentions if they have also thought about how to implement their plans.

Predicting Behavior From Intention

Reasoned action theory has been able to account for behavior with a good measure of success. For example, meta-analyses of studies that prospectively examined behavior found intention-behavior correlations to average around $r = .45$ (e.g., Albarracín et al., 2001; Armitage & Conner, 2001; Cooke & Sheeran, 2004; Hagger, Chatzisarantis, & Biddle, 2002; Sheeran & Orbell, 1998; Sheppard et al., 1998). Whereas these average correlations usefully indicate the theory's general ability to account for behavior, it is important to understand which factors increase or decrease the strength of association between intention and behavior. Before discussing two such factors, I first address an important methodological implication of the hypothesis that intention predicts behavior.

Testing Prediction

To test the hypothesis that intention *predicts* behavior, behavior should be measured some time after the variables that theoretically predict it were measured. Because behavior assessed at a certain time point indicates what people did at that same time (for observed behavior) or have done prior to that time (for self-reported behavior), correlating

cross-sectional intention and behavior data produces a causal inference problem (Huebner, Neilands, Rebchook, & Kegeles, 2011; Webb & Sheeran, 2006; Weinstein, 2007). A cross-sectional intention-behavior correlation indicates the extent to which intention is consistent with people's past behavior, and should not be interpreted as prediction of future behavior. Unfortunately, intention-behavior correlations obtained from cross-sectional designs are still being published as tests of behavioral prediction (e.g., de Bruijn, Kremers, Schaalma, Van Mechelen, & Brug, 2005; Keats, Culos-Reed, Courneya, & McBride, 2007; Kiviniemi, Voss-Humke, & Seifert, 2007).

Lagged measurement is challenging, both for methodological and budgetary reasons. It is therefore not surprising that cross-sectional studies greatly outnumber prospective studies. For example, Albarracín and colleagues (2001) collected 96 samples for their meta-analysis, but of these, only 23 could be used to test the theory's ability to predict behavior. Similarly, Armitage and Conner (2001) obtained correlations from 185 samples, yet only 44 of these provided lagged intention-behavior correlations, and of the 33 samples that Cooke and French (2008) analyzed, 19 could be used to test intention effects on behavior (but see Hagger et al., 2002, for a higher ratio). This means that although reasoned action theory was designed to predict behavior, it is primarily used to explain intention. This gives pause for reflection: Despite the thousands of reasoned action studies now in existence, only a fraction provides a convincing test of this key aspect of the theory.

Moderators of Intention Effects on Behavior

At least two factors determine the strength of intention-behavior relations. To begin, intention should affect behavior to the extent that intention is temporally stable. If between assessments of intention and behavior nothing happens that might change someone's intention, then intention data should predict behavioral data. However, if intention changes between assessments

because, for example, someone is exposed to a persuasive message, then the behavior data reflect an intention formed after intention data were obtained. The longer the gap between assessments of intention and behavior, the more likely it is that intention changes, thereby attenuating the intention-behavior correlation. Sheeran and colleagues (Sheeran & Orbell, 1998; Sheeran, Orbell, & Trafimow, 1999) found empirical support for this idea. For example, in a meta-analysis of 28 prospective condom use studies, Sheeran and Orbell (1998) found that intention-behavior relations were stronger when the time between measurement of intention and behavior was short rather than long. Note, however, that there is no gold standard for the optimal time lag between intention and behavior assessments, in part because it is near impossible to predict when people will be exposed to factors that influence their intention.

The relation between intention and behavior is also conditional on actual control over behavioral performance (Ajzen, 1985; Fishbein & Ajzen, 2010). People are thought to have actual control over behavioral performance when they have the necessary skills and when the situation does not impose constraints on behavioral performance. Thus, when despite positive intentions people do not perform a behavior, behavioral nonperformance is not a motivational problem but a problem of competence (i.e., deficient skills or abilities) and means (i.e., presence of environmental constraints). It is here where the aforementioned implementation intentions prove useful; actual behavior is more likely when people plan how and when to act on their intention (Norman & Conner, 2005; van Osch et al., 2009), possibly because planning requires people to consider the skills it takes and the obstacles they are up against when they would perform a particular behavior.

Attitude and Behavioral Beliefs

Attitude is an evaluation of performing a future behavior in terms of "favor or disfavor,

good or bad, like or dislike” (Fishbein & Ajzen, 2010, p. 78). Although attitude is typically analyzed with a single composite scale, attitude is thought to have two aspects, namely an instrumental (or cognitive) aspect, indicated by perceptions of, for example, how foolish or wise, useful or useless performing a behavior is, and an experiential (or affective) aspect, indicated by how unpleasant or pleasant, unenjoyable or enjoyable performing the behavior is perceived to be. The relative importance of instrumental and experiential aspects of attitude as determinants of intention have clear implications for persuasive messages; if instrumental attitude matters most, a message should emphasize the usefulness of the recommended behavior, but if experiential attitude is more important, a message should emphasize how enjoyable the behavior is. Unfortunately, however, because published reports often do not make clear whether attitude was measured with instrumental, experiential, or both types of items, inferences about when instrumental and experiential attitude contribute to behavioral prediction cannot be made with full confidence. The question whether differential impact is predictable thus deserves more systematic inquiry than it has received thus far.

According to reasoned action theory, attitude formation is the process by which a potentially large set of specific beliefs, which has associated with a behavior over time, informs an overall sense of favorableness toward the behavior. Consistent with expectancy-value perspectives, attitude is a multiplicative combination of behavioral beliefs, which are perceptions of the likelihood that performing a particular behavior will have certain consequences, and an evaluation of those consequences in terms of good or bad. For example, two persons may both believe that if they use a tanning bed, they will get a tan. In addition, person A thinks that being tanned is good, but person B does not. In this single belief example, both person A and person B think that using a tanning bed will give them a tan, but because their opposite evaluations of being tanned person A's attitude toward using a tanning bed is positive

and person B's attitude is negative. This makes clear that both beliefs about behavioral consequences and evaluations of those consequences need to be considered to determine favorableness toward a behavior. It also makes clear that to change attitude, persuasive messages can address beliefs about the likelihood of particular consequences of a behavior but also address evaluations of those consequences. For example, suppose that people already believe that unprotected sex may lead to gonorrhea but do not evaluate gonorrhea as a very serious disease. In this case, a message does not need to argue that unprotected sex can lead to gonorrhea, but can improve attitude toward using condoms if a message convinces that gonorrhea is quite serious.

Although belief-evaluation product terms have been found to correlate strongly with attitude (Albarracín et al., 2001), they typically do not explain much more variance in attitude than the separate behavioral beliefs (e.g., Armitage, Conner, Loach, & Willetts, 1999). For this reason, most investigators only assess behavioral beliefs, or the perceived likelihood of behavioral consequences. Note, however, that for statistical reasons product terms are unlikely to be associated with large effects in regression analysis, which is the method commonly used to test reasoned action (Ajzen & Fishbein, 2008; Yzer, 2007). We should be careful not to abandon conceptual ideas on the basis of empirical results if those results reflect statistical artifacts.

Perceived Norm and Normative Beliefs

To capture the influence of people's social environment on their intention to perform a particular behavior, Fishbein and Ajzen (1975; Ajzen & Fishbein, 1973; Fishbein, 1967) proposed the concept of subjective norm as a second determinant of behavioral intention. In the theory of reasoned action (Fishbein & Ajzen, 1975) subjective norm is the extent to which I believe that other people think that I should or

should not engage in a particular behavior. Other scholars refer to subjective norm as injunctive norm (Cialdini, Reno, & Kallgren, 1990), and in recent years, reasoned action theorists have used “injunctive norm” rather than “subjective norm” to indicate expected approval or disapproval from others (Fishbein, 2000; Fishbein & Ajzen, 2010).

The question whether subjective norm is able to capture all relevant perceived social influence has been controversial. This question in large part stemmed from empirical findings in which subjective norm contributed little to the explanation of intention (Albarracín et al., 2001; Cooke & French, 2008; Hagger et al., 2002). Note, however, that there is evidence that subjective norm matters in collectivistic populations (Giles, Liddell, & Bydawell, 2005; Lee & Green, 1991), in younger samples (Albarracín, Kumkale, & Johnson, 2004; van den Putte, 1993), and for behaviors that have salient social aspects (Cooke & French, 2008; Finlay, Trafimow, & Moroi, 1999), which implies that normative messages can have strong persuasive potential for some identified segments and behaviors. Even so, because much work found relatively small subjective norm effects, many investigators have tested alternative normative measures, including, among others, personal norm, verbal approval, social support, and descriptive norm (e.g., Larimer, Turner, Mallett, & Geisner, 2004; van den Putte, Yzer, & Brunsting, 2005).

In recognition of a need to expand the scope of the normative component, reasoned action theory currently posits a perceived norm component that is the composite of injunctive and descriptive norms (see also Fishbein, 2000). The descriptive norm indicates the extent to which I believe that other people perform a particular behavior themselves (Cialdini, Reno, & Kallgren, 1990). A meta-analysis of 14 correlations showed that descriptive norms explained variance in behavioral intention that subjective norms did not, supporting the discriminant validity of the descriptive norm variable (Rivis & Sheeran, 2003). In addition, injunctive and descriptive

norms can have differential effects (Larimer et al., 2004), not only in magnitude but also in direction (Jacobson, Mortensen, & Cialdini, 2011). Thus, although in the context of reasoned action theory, injunctive and descriptive norms can be analyzed with a composite perceived norm scale, it may prove useful to also examine the effects of these variables separately.

Injunctive and descriptive norm measures tap normative perceptions regarding “most people who are important to me.” Perceived norm thus reflects perceived social pressure to perform or not to perform a behavior that is generalized across specific referents. It is a function of beliefs about particular individuals; whether particular individuals think I should perform a behavior (injunctive normative beliefs) or whether those individuals perform the behavior themselves (descriptive normative beliefs). However, believing that a particular individual prescribes a certain behavior will not matter if one does not care what that individual thinks, that is, if one is not motivated to comply with that individual. For example, someone affected by diabetes may expect that her doctor will approve her injecting insulin, but also believe that her friends will disapprove, or believe that her insulin-dependent friends do not self-inject. If it is more important for her to do what her peers want her to do than what her doctor wants her to do, then she will experience an overall sense of pressure against injecting insulin.

In more general terms, perceived norm is a function of normative beliefs about particular individuals weighed by the extent to which someone wants to comply with those individuals. However, as discussed in the context of multiplicative composites of behavioral beliefs and their evaluations, effects of product terms are hard to demonstrate in regression analysis. Reasoned action research often relies on regression analysis, which explains why there is not much evidence to support multiplicative composites of normative beliefs and motivation to comply (Fishbein & Ajzen, 2010). The usefulness of normative beliefs and motivation to comply should

not be rejected if a lack of empirical support for these measures is caused by a statistical artifact. For example, Giles and colleagues (2005) examined both normative beliefs and motivation to comply regarding condom use in a sample of Zulu adults. Their analysis allowed them to identify important sources of influence, which in turn could inform decisions about who to target in behavior change interventions.

Perceived Behavioral Control and Control Beliefs

Concerned that the theory of reasoned action's focus on volitional behavior unnecessarily restricted the scope of the theory, Ajzen (1985) argued that the theory could also predict non-volitional behavior if it would address perceptions of control over behavioral performance. His inclusion of a perceived behavioral control variable as an additional determinant of intention and behavior established the theory of planned behavior (Ajzen, 1985, 1991). Perceived behavioral control was initially defined as "... people's perception of the ease or difficulty of performing the behaviour of interest" (Ajzen, 1991, p. 183), and "compatible with ... perceived self-efficacy" (p. 184). Consistent with this definition, items widely used to measure perceived behavioral control ask how much control people believe they have over performing a behavior, how easy or difficult they believe performing the behavior will be, or how confident they are that they can perform the behavior.

The proposed equivalence of perceived control, perceived difficulty, and self-efficacy has been the subject of considerable debate. Arguments in that debate for the most part are based on empirical tests of the dimensionality of perceived behavior control. A common finding from such tests is that confidence-framed items and control-framed items load onto separate factors (e.g., Armitage & Conner, 1999; Kraft, Rise, Sutton, & Røysamb, 2005). Importantly, these two factors are often interpreted as indicating "perceived behavioral

control" and "self-efficacy," suggesting a theoretical distinction between the two (Norman & Hoyle, 2004; Terry & O'Leary, 1995). Building on this idea, investigators have used the two item clusters to explore whether perceived behavioral control or self-efficacy offers a better explanation of intention or behavior (e.g., Pertl et al., 2010; Rodgers, Conner, & Murray, 2008).

The contention that perceived behavioral control and self-efficacy are theoretically distinct is unconvincing, however, if based solely on empirical criteria (such as proportions of variance explained) and without careful consideration of what these concepts are supposed to mean. For example, Terry and O'Leary (1995) purported to contrast perceived control and self-efficacy, but only used easy-difficult items to measure self-efficacy. It is not clear, however, why easy-difficult items are best seen as self-efficacy. Indeed, there is evidence that at least in some behavioral domains, easy-difficult is more closely related with attitude (Kraft et al., 2005; Yzer, Hennessy, & Fishbein, 2004) or intention (Rhodes & Courneya, 2003) than with control. Thus, whereas control items often load on two separate factors, this by itself does not irrefutably confirm the conceptual separation of perceived control and self-efficacy. Rhodes and Courneya (2003) warn in this regard against backward theorizing: "... items should be created to indicate theoretical concepts; theoretical concepts should not be created to indicate items!" (p. 80).

Fishbein and Ajzen (2010) similarly observe that "... although there is good empirical evidence that items meant to assess perceived behavioral control can be separated into two factors, identifying them as self-efficacy expectations and perceived control is misleading and unjustified" (p. 165). They argue that self-efficacy (Bandura, 1997) and perceived behavioral control are conceptually similar; both center on people's perception of whether they can carry out a particular behavior. Consistent with this, reasoned action theory posits that perceived behavioral control/self-efficacy is a latent variable that has two aspects, namely capacity and autonomy. Capacity is indicated by items asking

people how certain they are that they can perform a behavior. Autonomy is indicated by items asking people how much they feel that performing a behavior is up to them. Capacity and autonomy can be congruent, but there are situations in which they are not. For example, someone may believe that the decision to climb a tall building is up to him, but feel certain that he cannot do so because he is afraid of heights. Depending on the purpose of the investigation, capacity and autonomy thus can be combined or analyzed separately. Similarly, to enhance perceived behavioral control over a behavior, persuasive messages can focus on skill building, emphasize autonomous decision-making, or do both. The appeal of a multiaspect interpretation of perceived behavioral control is that it clarifies its conceptual definition, and refocuses our attention to the possibility of additive contributions of capacity and autonomy to behavioral prediction rather than superiority of one over the other. It also is a new idea, and thus should be a priority in future research.

The belief basis of perceived behavioral control consists of control beliefs (i.e., the perceived likelihood of having particular resources and opportunities for behavioral performance) and perceived power (i.e., the extent to which those resources and opportunities facilitate or obstruct behavioral performance). Perceived behavioral control is proposed to be the sum of the control beliefs-perceived power product terms. The belief basis of perceived behavior control has received curiously little research attention (see, e.g., Armitage & Conner, 2001). Therefore, and also considering the recent reconceptualization of perceived behavior control, systematic tests of control beliefs offer good opportunities for theoretical advancement.

Explaining Intention

Reviews of studies on determinants of intention have found multiple correlations in the $R = .55-.70$ range (e.g., Albarracín et al., 2001; Armitage & Conner, 2001; Hagger et al., 2002; Rivas &

Sheeran, 2003; van den Putte, 1993). These results are impressive, particularly considering that they are based on studies that differ considerably in inclusion and measurement of predictor variables. At the same time, it should be noted that these multiple correlations reflect the effects of direct measures of attitude, perceived norm, and/or perceived behavioral control on intention. Relatively few studies have examined the role of beliefs in intention formation. Van den Putte (1993), for example, reports that of the 150 independent samples he analyzed, only 18 measured both behavioral beliefs and attitude, and only 13 measured both normative beliefs and subjective norm. The curious neglect of beliefs is disconcerting, because beliefs are the basis of persuasive messages that seek to change behavior.

A possible explanation for this phenomenon is that because of the availability of attitude, perceived norm, perceived behavioral control, and intention measure templates (e.g., Fishbein & Ajzen, 2010), designing measures of these four variables is a fairly straightforward affair. However, determining which beliefs are salient in a particular population is not as straightforward: "... although an investigator can sit in her or his office and develop measures of attitudes, perceived norms and [perceived behavioral control], she or he cannot tell you what a given population (or a given person) believes about performing a given behavior. Thus one must go to members of that population to identify salient outcome, normative and [control] beliefs" (Fishbein, 2000, p. 276). Recommendations for belief elicitation procedures are also available, however, (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 2010), and there thus is no good reason for disregarding beliefs if one seeks to explain intention.

Background Factors and the Question of Sufficiency

Beliefs originate from a large number of sources. Interaction with other people, engagement with

media messages, growing up in a particular culture, membership of a religious community, and even gender and personality, for example, can all play a role in forming and shaping beliefs about a particular behavior. In the language of reasoned action theory, these variables are background factors, which are possibly but not necessarily related with beliefs. Similarly, background factors do not affect intention and behavior directly, but indirectly through beliefs. Thus, for example, if gender is empirically associated with intention or behavior, gender also should be correlated with beliefs, that is, men and women should hold different beliefs (Fishbein, 1967; Fishbein & Ajzen, 2010). Such findings can usefully inform decisions about which beliefs to target in different gender segments.

The conceptualization of background factors is directly relevant for a persistent debate on the question whether reasoned action variables are sufficient for explaining intention and behavior (for review, see Fishbein & Ajzen, 2010, chapter 9). Relevant for the present discussion of background factors is a substantial body of research that proposed an extension of the theory to better account for intention. Specifically, a number of different variables have been suggested as a fourth determinant variable in addition to attitude, perceived norm, and perceived behavioral control, including, among many others, gender, self-identity, and culture. Such research efforts are commendable to the extent that they promote theoretical development. However, many recommendations for extending reasoned action theory do not start from compelling conceptual arguments, but instead rely on empirical markers such as change in proportion of explained variance. The logic that if a particular variable explains variance in intention, it must be an important predictor has important statistical problems (Trafimow, 2004). A correlation between a particular variable and intention therefore does not conclusively prove that the variable is a predictor of intention and not a background factor.

New Directions and Opportunities for Future Research

The thousands of reasoned action studies now in existence address only a limited number of questions and use only a limited number of methodologies. For example, studies that explain intention far outnumber studies that prospectively examine behavior and studies that examine beliefs; and studies that use survey methodology far outnumber experimental studies. Although survey-based tests of intention usefully show whether in a particular population intention to perform a particular behavior is guided by attitude, perceived norm or perceived behavioral control, belief-based and behavioral analyses are at least as interesting to persuasion scholars. In addition, there are other questions that should appear more prominently on research agendas than they have thus far. Two of these have to do with developing hypotheses about when reasoned action variables will predict which behaviors, and how reasoned action can inform message design.

Predicting Prediction

Reasoned action theory proposes that to predict intention and behavior only a small number of variables need to be considered. Because each behavior is substantively unique, which of these variables most critically guide a particular behavior in a particular population is an empirical question. Clear research recommendations have been developed for identifying those critical variables (e.g., Fishbein & Ajzen, 2010; Fishbein & Yzer, 2003), and there is evidence that interventions that follow these recommendations can effectively change behavior (e.g., Albarracín et al., 2005).

Although the basic assumption of the uniqueness of each behavior is true in principle, the implication that identification of a behavior's

critical predictor is an empirical question is not altogether satisfactory. Both for scholarly and intervention purposes, it would be more advantageous if prediction could be predicted, that is, if it would be possible to hypothesize which reasoned action variable will predict a particular behavior in a particular population. There is some evidence that this is a realistic objective. For example, experimental work has corroborated behavior and population features that determine the predictive power of perceived norm (Jacobson, Mortensen, & Cialdini, 2011; Trafimow & Fishbein, 1994).

One can turn to other theory to derive principles that can help understand when specific reasoned action variables will explain behavior (Fishbein & Ajzen, 2010; Weinstein & Rothman, 2005). For example, Lutchyn and Yzer (2011) used construal level theory (Trope & Liberman, 2003) to test the implications of changing the time component of behavioral definitions for the relative importance of behavioral and control beliefs. Construal level theory proposes that people use abstract terms to construe behaviors that are to be performed some time in the future. Construals of such distant behaviors emphasize the “why” aspects of behavior, and describe behavior in terms of the value or desirability of a behavioral outcome, or in reasoned action terms, behavioral beliefs. In contrast, construals of near future behaviors are more concrete and represent the “how” aspect of the behavior. They reflect feasibility of the behavior, or in reasoned action terms, control beliefs. Lutchyn and Yzer (2011) found that the salience of beliefs is a function of time frame, such that when the time component in a behavioral definition moves from the near to the distant future, the salience of behavioral beliefs increases and the salience of control beliefs decreases. These findings have implications for message design. To motivate distant behavior, messages need to address behavioral consequences. For example, a message sent in September to motivate people to get a flu shot right before the flu season’s expected onset

in December can emphasize the benefits of getting a flu shot. To affect near future behavior, for example, getting a flu shot this week, messages should include references to control beliefs, for example, information about where one can get free flu shots.

Moving Beyond Message Content

Interventionists can use reasoned action theory to identify the behavioral, normative, and/or control beliefs that guide people’s behavior. It is these beliefs that messages should address. The theory thus is a tool for informing message *content*. It was not designed to inform the next necessary question in the message design process; which audiovisual, narrative, duration, and other stylistic message features will change the beliefs addressed in the message? Fishbein and Ajzen (2010) commented thus on the boundaries of reasoned action theory: “Selection of appropriate primary beliefs is perhaps our theory’s most important contribution to behavior change interventions. The theory offers little guidance as to the specific strategies that will most effectively bring about the desired changes in behavioral, normative, or control beliefs. Such guidance must come from outside our theory” (p. 367).

Some guidance is available. The literature on communication campaigns, for example, offers excellent overviews of components and design steps of successful campaigns (Rice & Atkin, 2009). Similarly, scholars have addressed the complementary nature of behavior change and message effects theories for the purpose of improving cancer prevention (Cappella, 2006). Such work highlights that message development involves decisions about both content and creative design, and that different theories are to be used to inform each of these decisions. Which theories in particular complement reasoned action theory is a relatively unexplored question, but one that if answered can greatly advance understanding of persuasive messages.

Conclusion

Seen through a reasoned action lens, persuasion is belief-based behavior change. Therefore, the better one understands which beliefs cause behavior by what process, the better able one is to design successful messages. The review presented in this chapter discussed that if used correctly, reasoned action theory can identify the beliefs that explain why people do or do not perform a particular behavior. It also identified a number of issues that if addressed can deepen our understanding of behavioral prediction. Akin to how reasoned action theory was first conceived, to address these issues, an outward-looking strategy that draws on complementary theory will generate greatest progress. The challenge for future research is twofold; more precise predictions about how and when reasoned action variables predict intention and behavior are needed, and in addition, message design strategies that can change these variables need to be identified. These are challenges that promise exciting research, significant theoretical advancement, and effective practical application.

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