

Disentangling Behavioral Intention and Behavioral Expectation

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Social psychologists have extensively researched behavioral intention and its relation to future behavior, usually within the framework of M. Fishbein and I. Ajzen's (1975, *Belief, attitude, intention and behavior: An introduction to theory and research*, Reading, MA: Addison-Wesley) theory of reasoned action. However, the field has confounded two separate constructs while investigating intention: behavioral intention (BI) and what P. R. Warshaw, B. H. Sheppard, and J. Hartwick (in press, in R. Bagozzi (Ed.), *Advances in marketing communication*, Greenwich, CT: JAI Press) have coined behavioral expectation (BE), which is the individual's self-prediction of his or her future behavior. In this paper we define both constructs and explain how they differ in terms of the processes by which they are formed, their roles in determining behavior, and their utilities as behavioral predictors. We propose that behavioral expectation is the more accurate overall predictor since many common behaviors are unreasoned (i.e., mindless or habitual) behaviors, goal-type actions, or behaviors where the individual expects his or her intention to change in a foreseeable manner. These are all cases where present intention (BI) is not the direct determinant of behavior but where the individual may be capable of appraising whatever additional determinants exist and of including them within his or her behavioral expectation. A study ($N = 197$) is reported in which student subjects received either a BE ($n = 113$) or a BI ($n = 84$) version of a questionnaire pertaining to their performance of 18 common behaviors. Overall, behavioral expectation was the better predictor of self-reported performance. © 1985 Academic Press, Inc.

The ball player steps up to bat, eyes Fernando Valenzuela on the mound, and nervously awaits his first pitch. If we stopped play and questioned the batter, our dialogue might be as follows:

We. Do you intend to hit the ball?

He. Of course!

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We. But will you hit the ball?

He. Probably not.

Although this example illustrates that intention and expectation regarding future behavior are distinct constructs, easily separable in people's minds, social psychologists have unknowingly lumped them together under the intention rubric, most frequently in research on Fishbein and Ajzen's theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975).

This confounding of intention and expectation was recently discovered by Warshaw, Sheppard, and Hartwick (in press), who observed that Fishbein and others sometimes measure intention by asking subjects whether they *intend to perform* a behavior and at other times by asking them whether they *will perform* it. Warshaw et al. (in press) argue that the latter is targeting behavioral expectation (BE), not behavioral intention (BI). We carry this analysis further here by substantively defining intention (BI) and expectation (BE), examining the processes by which they are formed and their roles as behavioral determinants, claiming that expectation (BE) should outpredict intention (BI), and presenting a study that supports this claim.

THEORETICAL DISTINCTION BETWEEN BEHAVIORAL INTENTION AND BEHAVIORAL EXPECTATION

Defining Behavioral Intention

Surprisingly, most research on intention does not define the construct. Rather, intention is usually presented as though its meaning were self-evident (e.g., Ajzen & Fishbein, 1973; Miniard & Cohen, 1981; Ryan, 1982). When it is explicitly defined, the construct is framed more like an expectation (BE) than an intention (BI) (e.g., "A behavioral intention, therefore, refers to a person's subjective probability that he will perform some behavior," Fishbein & Ajzen, 1975, p. 288; "people's expectancies about their own behavior in a given setting, that is, their intentions," Anderson, 1983, p. 294). Hence, the need for a precise definition of intention that researchers can agree upon is clear. In this spirit, we propose that behavioral intention be derived from the standard dictionary meaning of *intend*: "to have in mind as a purpose; plan to do, use, give, etc." (Webster, 1972). From this perspective, *we define intention (BI) as the degree to which a person has formulated conscious plans to perform or not perform some specified future behavior.*

We consider intention (BI) to be a continuous variable on the 0–1 interval. A BI value close to 1 implies that the individual has consciously formulated a plan to perform the given behavior. If BI is close to 0, the individual has consciously decided not to perform the act, while values near 0.5 indicate that no well-defined plan has been consciously formed

either way. Thus, the closer that intention (BI) is to 1 (or 0), the greater the behavioral commitment to perform (or not perform) the behavior.

Defining Behavioral Expectation

We define behavioral expectation as the individual's estimation of the likelihood that he or she actually will perform some specified future behavior. Like intention (BI), we treat expectation (BE) as a continuous variable over the 0–1 interval. A BE value close to 1 implies high perceived likelihood of performing the behavior, whereas a value close to 0 means that performing the behavior is judged as quite unlikely by the individual. Values of BE close to 0.5 reflect uncertainty about whether the behavior will be performed.

Comparing Intention (BI) and Expectation (BE)

There are two important distinctions between the processes by which intention (BI) and expectation (BE) are formed. First, whereas intention (BI) involves making a behavioral commitment to perform (or not perform) an action, expectation (BE) is one's estimated likelihood of performing the action, whether or not a commitment has been made. This parallels the distinction between choice and judgment drawn by Einhorn and Hogarth (1981), wherein choice is seen as involving greater psychological conflict (Janis & Mann, 1977). Second, in forming expectation (BE) judgments, subjects may consider a variety of factors that could influence their behavior over and above their present intention (BI), such as anticipated changes in intention, noncognitive habits, ability limitations, and possible environmental facilitators and/or constraints. Because it may incorporate more potential behavioral determinants, we argue that expectation (BE) should more accurately predict future behavior than intention (BI) alone. Let us now examine how expectations (BE) may encompass these additional determinants of behavior.

In most applied research, intention measures must be administered well in advance of the target behavior (Fishbein & Ajzen, 1975). Events causing a change in intention may occur between the measurement of intention and the observation of behavior, reducing the predictive accuracy of the measured intention (Davidson & Jaccard, 1979; Fishbein & Ajzen, 1975; Sejwacz, Ajzen, & Fishbein, 1980; Warshaw et al., in press). In forming expectation (BE) judgments, subjects may consider the possible occurrence of such events and their potential impact on intentions (BI). For example, a woman presently intending (BI) to buy a house within a year may realize there is some chance she will soon be transferred to another city, in which case she imagines she would hold off at least another year before buying. Her expectation (BE) judgment could reflect the possible change in intention (BI) that she foresees.

In addition to changes in intention (BI), expectation (BE) may con-

ceptually incorporate nonintentional determinants of behavior such as habits and impediments to performance. This fact would not be very significant if most behaviors of interest to social scientists were fully under one's volitional control, as Fishbein and Ajzen have often claimed (e.g., 1975, pp. 371, 380; Ajzen & Fishbein, 1980, p. 5). However, the field is increasingly rejecting this position. First, many researchers now argue that numerous important human behaviors are unreasoned, determined not by conscious intentions (present or future) but by factors such as noncognitive habits (e.g., Bagozzi, 1981, 1982; Triandis, 1977, 1979; Wittenbraker, Gibbs, & Kahle, 1983) and mindless scripts (e.g., Abelson, 1976; Langer, 1978; Langer, Blank, & Chanowitz, 1978). Although subjects may not form intentions (BI) to perform such behaviors, they may still be able to assess accurately the likelihood of performing them (BE), perhaps basing such judgments upon cognitive generalizations of their own past behavior (e.g., Markus, 1977; Smith, 1984).

Second, the performance of future behavior is increasingly being viewed and modeled as a goal (Ajzen, *in press*; Sheppard & Buning, *in press*; Warshaw et al., *in press*), with measured intention (BI) treated as the determinant of behavioral attempt, environmental and/or personal impediments possibly preventing the behavior from being enacted. Individuals appear to be able to judge the degree to which behaviors are under their volitional control, which in turn moderates how accurately their intentions predict subsequent behavior (Saltzer, 1981). Therefore, subjects may consider their degree of volitional control as well as various factors bearing on their successful completion of a behavior when asked to give an expectation (BE) judgment (Warshaw et al., *in press*). For example, a man who has occasional impotency may strongly intend (BI) to perform sexually tonight, but adjusts his expectation (BE) to account for the possibility that he may later find himself unable to carry out this intention.

Clearly, factors other than present intention (BI) are often major determinants of future behavior. In forming expectation (BE) judgments, individuals may use their present intention (BI) as an anchoring point (e.g., Tversky & Kahneman, 1974), making adjustments to reflect the possible impact of nonvolitional factors and/or foreseeable changes in intention (BI). Anderson (1983) found that expectation (BE) judgments are influenced by the availability of causal scripts within which subjects can imagine performing the target behavior. (In this sense, expectation (BE) judgments are similar to other kinds of judgmental processes (e.g., Carroll, 1978; Tversky & Kahneman, 1973.) Anderson's work suggests that adjustments may be governed in part by how easily subjects can imagine themselves performing a behavior under various possible future scenarios. In imagining their behavior in such scenarios, subjects may draw from implicit theories they hold about themselves (e.g., Markus, 1977; Nisbett & Wilson, 1977; Wegner & Vallacher, 1977, Chap. 6). This

would imply that the predictive accuracy of expectations (BE) should be sensitive to how accurate people's self-theories are. Warshaw and Davis (1984a) found support for this idea by showing that general self-understanding moderates the expectation (BE)-behavior relationship. Thus, evidence consistent with the anchoring and adjustment account of expectation (BE) formation has begun to accumulate.

Although we are in the very beginning stages of understanding the underlying processes, it is clearly plausible that behavioral determinants over and above intention (BI) become psychologically incorporated into expectation (BE) judgments. Given that such additional determinants are prevalent in a wide range of behaviors of interest to social psychologists, we expect expectations (BE) generally to predict future behavior more accurately than intentions (BI).

The Constructs as Behavioral Determinants

Intention (BI) is widely viewed as the major determinant of reasoned behavior (e.g., Fishbein, 1979; Fishbein & Ajzen, 1975). While expectation (BE) is a cognitive judgment, it can also determine behavior, as when it serves as a self-fulfilling prophecy (e.g., Jones, 1977) for unreasoned behaviors (e.g., a gymnast who expects to stumble may, as a consequence, stumble).

Expectation (BE) can also influence someone's effort level during an attempt to carry out a behavioral goal (Atkinson, 1958) (e.g., lifting 300 pounds), thereby serving as a determinant of performance. This is especially likely when the individual expects (BE) that he or she will fail to enact an intended behavioral goal. Whatever expectation (BE) does exist here can also influence one's performance of behaviors which are antecedent to successfully completing the goal by influencing one's intention (BI) or effort toward them. For example, someone who intends to lift 300 pounds but expects to fail might not train as strenuously as one who both intends and expects to lift the weight.

BEHAVIORAL INTENTION AND BEHAVIORAL EXPECTATION HAVE BEEN CONFOUNDED IN THE LITERATURE

Fishbein and Ajzen have repeatedly confounded expectation (BE) and intention (BI) in their theoretical and empirical research. When theorizing about intention, they typically do not define the construct explicitly (e.g., Fishbein, 1979), or else they define it as we define expectation (BE) (e.g., Ajzen & Fishbein, 1980, p. 42; Fishbein & Ajzen, 1975, pp. 12, 288). Under the banner of investigating intention, their experimental research alternates between measuring intentions (BI) and measuring expectations (BE) (without defining them as such). For example, they used expectations (BE) in Ajzen (1971), Ajzen and Fishbein (1972, 1974) (intention to comply), and Fishbein and Coombs (1974), measuring subjective probabilities for

statements like "I will do behavior X," "If event y occurred, I would do behavior X," or "I am going to do behavior X." These measures are clearly asking for self-predictions or expectations (BE) and not intentions (BI). Other research by Ajzen and Fishbein used intention (BI)-oriented scales as indicants of intent (e.g., Ajzen & Fishbein, 1970, 1974—intention to communicate; Bowman & Fishbein, 1978; De Vries & Ajzen, 1971; Fishbein & Ajzen, 1980; Fishbein, Ajzen, & Hinkle, 1980; Fishbein, Bowman, Thomas, Jaccard, & Ajzen, 1980; Loken & Fishbein, 1980; Sejwacz et al., 1980; Sperber, Fishbein, & Ajzen, 1980). These studies measured subjective probabilities for statements like "I intend to do behavior X" or "I plan to do behavior X."

Fishbein and Ajzen's confounding of the constructs is best exemplified in Ajzen and Fishbein (1974), where both intention (BI) and expectation (BE) were used, each to measure a separate "intention": "As a measure of intentions to communicate, the subject indicated the *percentage of messages he intended to send* to each co-worker. Intentions to comply were measured by asking the subject to indicate *the number of times he would follow a co-worker's instructions if he received 10 messages* from that co-worker," (p. 6). Clearly, the second "intention" measure was an expectation (BE).

Reflecting the confusion surrounding this issue, research by other scholars on Fishbein and Ajzen's model shows the same lack of clarity regarding intentions. For example, Albrecht and Carpenter (1976), Bagozzi (1981—BI 1, BI 3), Davidson and Morrison (1983), Gorsuch and Ortberg (1983), Jaccard, Hand, Ku, Richardson, and Abella (1981), Kothandapani (1971), Lacy (1981), Miniard and Cohen (1981), Schwartz and Tessler (1972), Smetana and Adler (1980), Stutzman and Green (1982), Warshaw (1980a), and Wurtele, Roberts, & Leeper (1982) all measured expectations (BE), while Bagozzi (1981—BI 2), Bentler and Speckart (1979, 1981), Brinberg and Durand (1983), Davidson and Jaccard (1975, 1979), Jaccard (1981), Jaccard and Davidson (1972), Manstead, Proffitt, and Smart (1983), Saltzer (1981), Songer-Nocks (1976), Vinokur-Kaplan (1978), Wittenbraker et al., (1983), and Zuckerman and Reis (1978) measured intentions (BI). Further afield, Sheppard, Warshaw, and Hartwick (1983), reviewing 49 studies of Fishbein and Ajzen's model in the consumer behavior literature, found that in the 24 studies for which the "intention" scale was reported, 19 actually measured expectations (BE) rather than intentions (BI) (e.g., Ryan & Bonfield, 1980; Warshaw, 1980b, 1980c).

The confounding of intention (BI) and expectation (BE) is not restricted to research on Fishbein and Ajzen's model. For example, in Anderson's (1983) work on the role of behavioral scripts in intention formation, he equates expectation (BE) with intention (BI). Similarly, research on Triandis' (1977, 1979) theory of interpersonal behavior utilizes both expectations (BE) and intentions (BI) to investigate its intention construct

(e.g., Adamopoulos & Brinberg, 1975 (BE); Brinberg, 1979 (BI); Jaccard & Davidson, 1975 (BI); Landis, Triandis, & Adamopoulos, 1978 (BE); Triandis, Malpass, & Feldman, 1976 (BE)).

Elsewhere, Jaccard and King's (1977) specification of Wyer's (1974; Wyer & Goldberg, 1970) subjective probability model in terms of intentions both defines and measures its conditional intention constructs as we would conditional expectations (i.e., they define $P_{I|B}$ as "the person's perceived probability of performing the behavior given that it does lead to the outcome in question," p. 328). Moreover, research on the unconditional intention variable within this paradigm (P_i) has also confused intention (BI) with expectation (BE). That is, Brinberg and Durand (1983) measured BI, Jaccard and King (1977) measured BI in Experiment 1 and BE in Experiment 2, and Jaccard, Knox, and Brinberg (1979) measured BE, all studies purporting to measure intention (BI/ P_i).

Although the field has clearly used BI and BE interchangeably, we have argued on theoretical grounds that they are separate constructs and that BE should outperform BI in predicting future behavior. The following study was designed to test the latter assertion, comparing the ability of BI and BE to predict whether or not students perform each of 18 behaviors (B) that students commonly perform on weekends (e.g., eat some junk food, take a nap).

METHOD

Subjects

The subjects were 197 student volunteers (45% female) enrolled in eight separate sections of an undergraduate marketing course at a large eastern university. Of the 197 subjects, 84 (44% female) received the intention (BI) treatment and 113 (46% female) the expectation (BE) treatment.

Procedure

Every subject completed a questionnaire on each of two separate occasions. The first questionnaire had two versions. One, containing behavioral intention scales, was distributed to students in four of the eight course sections, which were randomly selected. Since students had been assigned to their section of the course in a random manner by the university, we assumed the eight classes contained equivalent groups. The second version, containing behavioral expectation scales, was distributed to students in the remaining four sections. Both versions concerned the subjects' performance of 18 behaviors during the upcoming weekend: eat only nonfattening foods; go to a party Saturday night; take a walk; eat an apple; watch something good on TV; eat some junk food; go to one's weekend job; go out with friends Saturday night; take a nap; smoke some cigarettes; study a few hours each day; drink a soft drink; converse with some new attractive stranger one might want to date; write someone a letter; eat a good meal; make oneself a sandwich; go out for dinner; and take vitamins. The questionnaires were administered on a Wednesday and Thursday; subjects were not informed that they would later be asked whether or not they actually performed the behaviors.

The second questionnaire was a behavioral self-report (B), administered to all subjects the following Monday and Tuesday, asking whether or not they performed each of the 18 behaviors during the prior weekend.

The expectation (BE), intention (BI), and behavior (B) questionnaires had spaces for subjects to indicate the last four digits of their home telephone number and sex. This information was requested so we could match the first and second rounds of questionnaires.

Questionnaire Format

The intention (BI) questionnaire had the following format:

Please indicate whether you *presently intend* to perform the given behavior sometime *next weekend*: (Circle the most appropriate number for each behavior.)

		NO, DEFINITELY DO NOT INTEND					YES, DEFINITELY DO INTEND				
1.	Eat only nonfattening foods	1	2	3	4	5	6	7	8	9	
2.	Go to a party Saturday night	1	2	3	4	5	6	7	8	9	
:											
18.	Take vitamins	1	2	3	4	5	6	7	8	9	

The expectation (BE) questionnaire had the following format:

All things considered, *how likely* is it that you *actually will perform* the given behavior some time *next weekend*: (Circle the most appropriate number for each behavior.)

		EXTREMELY UNLIKELY						EXTREMELY LIKELY		
1.	Eat only nonfattening foods	1	2	3	4	5	6	7	8	9
2.	Go to a party Saturday night	1	2	3	4	5	6	7	8	9
:										
18.	Take vitamins	1	2	3	4	5	6	7	8	9

The behavioral self-report (B) questionnaire had the following format:

Please indicate whether you *actually did perform* the specified behavior sometime *last weekend*: (Place a check mark in the appropriate box.)

		DID PERFORM	DID NOT PERFORM
1.	Eat only nonfattening foods	[]	[]
2.	Go to a party Saturday night	[]	[]
⋮			
18.	Take vitamins	[]	[]

RESULTS

The experimental procedure yielded 84 behavioral intention and 113 behavioral expectation measurements and their corresponding behavioral self-reports (B) for each test behavior. Both across- and within-subjects analyses were performed on the data.

For the across-subjects analysis, BI-B and BE-B Pearson correlations were computed across subjects for each behavior (see Table 1). A paired *t* test on differences between Fisher *z* transformations of these correlations

TABLE 1
COMPARISON BETWEEN CORRELATIONS OF INTENTIONS WITH BEHAVIORS (BI-B) AND
EXPECTATIONS WITH BEHAVIORS (BE-B)

Behaviors	Correlations		BE-B > BI-B? ^a
	BI-B (n = 84)	BE-B (n = 113)	
Eat only nonfattening foods	.25	.33	Yes
Go to a party Saturday night	.65	.56	No
Take a walk	.38	.58	Yes*
Eat an apple	.46	.51	Yes
Watch something good on TV	.42	.46	Yes
Eat some junk food	.29	.41	Yes
Go to your weekend job	.86	.83	No
Go out with friends Saturday night	.51	.57	Yes
Take a nap	.38	.52	Yes
Smoke some cigarettes	.71	.88	Yes***
Study a few hours each day	.23	.33	Yes
Drink a soft drink	.39	.62	Yes**
Converse with some new attractive stranger you may want to date	.49	.28	No*
Write someone a letter	.36	.53	Yes
Eat a good meal	.29	.24	No
Make yourself a sandwich	.51	.45	No
Go out for dinner	.40	.47	Yes
Take vitamins	.67	.78	Yes*
Mean	.46	.52	

^a Significant differences between BI-B and BE-B correlations are based on two-tailed Fisher *z* transformation tests.

* $p < .10$.

** $p < .05$.

*** $p < .001$.

indicated that the BE-B correlations were significantly greater than the BI-B correlations across the 18 behaviors ($t(17) = 2.148$, $p < .05$, two tailed). Individual BI-B correlations ranged from .25 to .86 with a mean value of .46, while BE-B ranged from .24 to .88 with a mean of .52. All correlations in the study were significantly greater than 0 at $p < .05$ or better. Using two-tailed Fisher *z* transformation tests, BE-B was the significantly better predictor for four behaviors: take a walk ($z = 1.82$, $p < .10$), smoke some cigarettes ($z = 3.64$, $p < .001$), drink a soft drink ($z = 2.06$, $p < .05$), and take vitamins ($z = 1.65$, $p < .10$). BI-B outperformed BE-B for conversing with some new, attractive stranger ($z = 1.71$, $p < .10$).

For the within-subjects analysis, the BI-B or BE-B Pearson correlation (depending upon treatment group) was computed for each subject, across

the 18 behaviors. Fisher z transformations of these individual correlations were averaged across all subjects in each treatment group. The BE group predicted their own behavior significantly better than did the BI group ($t(195) = 2.228, p < .05$). Transforming the average z scores back into correlation coefficients gave an average BI-B correlation of .61 and an average BE-B correlation of .67.

DISCUSSION

Limitations

Across a wide array of common, everyday behaviors, expectation (BE) generally outpredicted intention (BI) in our study. However, two factors suggest caution in interpreting the results. One issue concerns the non-comparable formats of the BI and BE questionnaires. First, expectation (BE) questions began with the phrase "all things considered" while the intention (BI) questions did not. This phrase provided a different cognitive set for the expectation (BE) than the intention (BI) subjects and may have made the expectation (BE) subjects more thoughtful while completing the measure. Second, the expectation (BE) subjects were asked to indicate whether they "actually will perform" whereas the intention (BI) subjects were asked if they "presently intend to perform" the given behavior. If the formats were comparable, such that the intention (BI) subjects were asked whether they "actually intend to perform," their thoughtfulness might have been enhanced. Third, the response adjectives for the expectation (BE) and intention (BI) questions were different. Perhaps the expectation (BE) group should have been provided with the alternatives "definitely will perform" and "definitely will not perform." While the procedural differences between the questionnaires may have been trivial, removing them could perhaps enhance or eliminate the difference between the correlations.

A second issue is that behavioral self-reports were employed, and these could have been biased in favor of our hypothesis. Namely, expectation (BE) subjects might have been more likely to (erroneously) infer that the experiment concerned their being "good predictors of behavior" and then bias their self-reports accordingly. A better approach would have been to use observer reports of behavior or a longer time interval between the measure of BE/BI and behavior. In the latter, subjects would be less likely to distort their self-reports to match what they said earlier, presumably because they could not remember.

Even Intention Scales Might Not Measure Intentions

Perhaps the most surprising result of our study was that the differences between the BE-B and BI-B correlations, though statistically significant, were relatively small. We think this resulted from two factors. First, the time span between the BE/BI and behavior measures was quite short.

The longer the interval, the less likely are subjects to have formed intentions (BI) toward simple future behaviors like those studied here (e.g., go out to dinner). At the same time, subjects probably could provide reasonably accurate expectations (BE) by considering their habits and general behavior patterns.

Second, and more importantly, we think that subjects in the intention (BI) treatment frequently gave expectation (BE) responses to intention (BI) questions, thereby biasing upward the BI-B correlations. In response to our present data, we tested this proposition (Warshaw & Davis, 1984b). Subjects filled out intention scales of the form suggested by Ajzen and Fishbein (1980). After marking each scale, subjects wrote an explanation of their answer. Scorers rated whether the explanation indicated that an intention (BI) or expectation (BE) response had been given to the intention scale. Results clearly showed that subjects often gave expectation (BE) responses, particularly for trivial acts (e.g., drink a soft drink) and acts where no present intent could have existed (e.g., intent to "accidentally spill food or drink sometime next weekend"). Seemingly, faced with an intention (BI) scale, subjects gave their intention (BI) if they had formed one and did not expect it to change. However, if they had no intention or expected a change in the one they had, subjects frequently provided an expectation (BE) rather than specifying their true present intent. Similar misresponses were probably at work in the present study, since many test behaviors were acts for which intentions are unlikely to have been formed several days in advance of behavior (e.g., make a sandwich, take a nap).

Need for a new intention measure. Clearly, the field needs a revamped, multiitem scale for specifically measuring intention (BI), one that picks up intention (BI) but not expectation (BE), as validated by tests of convergent and discriminant validity (e.g., Campbell & Fiske, 1959).

Once we have proper scales, it would be desirable to replicate the study reported here as well as examine more socially important issues, with observed behaviors rather than self-reports of behavior and with longer delays between the BI/BE measures and those of behavior.

Additional Future Directions

Investigating the formation and determinants of expectation (BE) judgments are important next steps. Warshaw et al. (in press) theorized about these issues, but there are still unmet needs for measurement procedures regarding the determinants of expectation (BE) and for validated model(s) of the process(es) by which these determinants are cognitively integrated. For example, how should we measure and combine an individual's perceptions of noncognitive habits, impediments, and changes in intention?

Fleshing out the role of expectation (BE) in determining behavior is another potentially fruitful direction, linking up nicely with the field's

recent interest in unreasoned and goal-type behaviors, both instances where expectation (BE) might be a determinant.

Regarding intention (BI), the most promising area for conceptual development is with respect to behavioral and nonbehavioral goals. Warshaw et al. (in press) have proposed that goal pursuit intentions are determined by six constructs: attitude toward trying and succeeding (A_s), attitude toward trying and failing (A_f), attitude toward trying per se, independent of success or failure (A_t), expectation of success given an attempt (E_s), expectation of failure given an attempt (E_f), and social norms regarding trying (SN). Warshaw et al. further argue that attitude toward pursuing a goal (A_{pg}) differs from attitude toward performing a behavior (A_B), with A_{pg} defined as

$$A_{pg} = w(E_s A_s + E_f A_f + A_t) \quad (1)$$

where w is a scalar constant. Ajzen (in press) subsequently agreed with this formulation, though speculating that A_t effects might be subsumed within A_s and/or A_f . Deleting A_t , he then adopted the remainder of Warshaw et al.'s A_{pg} formulation as the attitudinal component in his theory of planned behavior (Ajzen, in press). However, initial empirical tests have supported the Eq. (1) version (Grenier & Hartwick, 1984; Hartwick & Sheppard, 1984; Sheppard & Buning, in press). Clearly, the investigation of goal-related intentions is in its infancy and offers social psychologists exciting avenues for researching intentions and attitudes.

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