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ATTITUDEVINAL AND NORMATIVE PROCESSES IN HEALTH BEHAVIOR

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Given the importance of the distinction between attitudes and subjective norms for a variety of theories and interventions in social cognition and in the psychology of health, the present article presents a review of the relevant literature. Criticisms raised against the distinction include conceptual arguments, large correlations between attitudes and subjective norms, crossover effects, and methodological issues. Points in favor of the distinction include discriminant validity data, individual differences in the weights placed on attitudes and subjective norms, experimental manipulations of attitudes and subjective norms, and cognitive clustering of the beliefs presumed to underlie attitudes and subjective norms. Finally, implications of the distinction for recent research on interventions, social identity theory, and the self are considered.

KEY WORDS: Attitudes, subjective norms, health behavior.

Given that one of the major goals of psychologists is to understand and predict behavior, it is not surprising that many theories have been proposed to do so. What is more surprising, however, is that most of these theories assume a distinction between attitude and subjective norm. An attitude is an evaluation of the behavior under consideration and a subjective norm is a person's opinion about what his/her important others think he/she should do. This distinction was first assumed by Fishbein (Fishbein, 1967; Fishbein and Ajzen, 1975; Fishbein, 1980) as a component of what eventually became the "theory of reasoned action." According to this theory (e.g., Ajzen and Fishbein, 1980; Fishbein, 1980), behaviors are determined by intentions to behave which, in turn, are determined by attitudes and subjective norms. Attitudes are determined by beliefs about the consequences of performing the behavior and subjective norms are determined by beliefs about the opinions of specific others. More recently, some researchers have added variables to the theory. For example, Triandis (1980) added affect and habit, Ajzen (1988) added perceived behavioral control, and Fazio (1990) added a spontaneous process to the more "reasoned" one proposed by Fishbein (1980). But suppose, as Miniard and Cohen (1981) and Liska (1984) have argued, that this distinction is not a correct one. In that case, the various theories that assume the distinction (e.g., Ajzen, 1988; Fazio, 1990; Fishbein, 1980; Taylor and Todd, 1995; Triandis, 1980 and others) would be invalid. Further, the intervention programs that have been based on these theories would be similarly invalid. Consequently, one important task for researchers has been to definitively support or

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2Actually, these are only a few of the additions people have suggested. Others include moral values (Gorsuch and Orberg, 1983), previous behaviour (Bentler and Speckart, 1981; Fredricks and Dossett, 1983), behavioral norms (Grube, Morgan and Mcgree, 1986), confidence in the correctness of normative perceptions (Trafimow, 1994), and reasons theory (Westaby and Fishbein, 1996).
disconfirm the distinction. However, although the first criticisms against the distinction were leveled over 15 years ago, it was not until recently that they were dealt with in a satisfactory manner. And, congruent with the theme of this Special Issue, some of the crucial contributions were rooted in basic social cognition research. Thus, the goal of this article is to review the relevant research, with emphasis on important experiments derived from the social cognition tradition.

EVIDENCE AGAINST THE DISTINCTION

There are four kinds of arguments that have been used to criticize the attitude–subjective norm distinction. Firstly, there is a conceptual issue. Theoretically, the supposed determinants of attitudes and subjective norms are beliefs about the consequences of the behavior (hereafter, behavioral beliefs) and beliefs about the opinions of particular others (hereafter, normative beliefs), respectively (e.g., Fishbein, 1980). However, Miniard and Cohen (1981) argued that behavioral and normative beliefs are not really different. For example, the normative belief that “My father thinks that I should not perform the behavior” is not very different from the behavioral belief that “Performing the behavior will cause my father to disagree with me.” More generally, if behavioral and normative beliefs are not different from each other, then there is no justification for assuming that attitudes are distinguishable from subjective norms.

A second criticism is based on the fact that researchers who have studied attitudes and subjective norms have used correlational paradigms. Not only does correlation generally fail to prove causation, but, in addition, a large correlation has often been obtained between attitudes and subjective norms. This large correlation suggests that “attitude” and “subjective norm” are really different names for the same underlying construct (but see Fishbein and Ajzen, 1981).

A third criticism stems from findings of “crossover” effects between attitudes and subjective norms (Grube, Morgan, and McGree, 1986; Oliver and Bearden, 1985; Shimp and Kavas, 1984; Vallerand, Deshaies, Cuerrier, Pelletier, and Mongeau, 1992). These crossover effects refer to the fact that arrows connecting attitudes and subjective norms to each other often result from “causal modeling” approaches. Such data can be interpreted in a variety of ways. One interpretation is that attitudes and subjective norms affect each other (or that whatever affects attitudes affects subjective norms and/or vice versa). In contradiction to the attitude–subjective norm distinction, however, an alternative interpretation is that attitudes and subjective norms are really the same construct. Consequently, they are highly correlated with each other even when other variables are statistically taken into account.

Finally, Budd (1987) found that the strengths of the relationships between attitudes, subjective norms, and other variables they are supposed to predict, change depending on the order in which they are measured. Thus, previously obtained support for the distinction (to be presented shortly) might be eliminated simply by changing the order of the measures.

EVIDENCE IN FAVOR OF THE DISTINCTION

Despite the previous arguments, there are several kinds of evidence in favor of the attitude–subjective norm distinction. One kind of evidence is based on patterns of correlations. For example, attitudes and subjective norms have often been found to correlate more highly with intentions under the NC condition (Miller and Davidson, 1972). Thus, if predicting intentions involves using the NC as a base rate, then “in general, the more highly subjective norms are correlated with intentions, the more accurately intentions can be predicted using the NC as a base rate” (Taylor and Todd, 1986).

A second kind of evidence involves objective–subjective norm differences. For example, Miller and Winter (1986) found that consciousness and local collective consciousness, but people who had been primed to think about leaders’ intentions would be positively associated with leaders’ intentions (Taylor and Todd, 1986).

A third way to approach the issue is by using manipulations of attitudes and subjective norms. Evidence for the distinction can be obtained directly from manipulations of attitudes and subjective norms (e.g., words, if some behaviors are labeled as normative behaviors) and some of the attitudes and subjective norms would be especially easy to measure. The beta weights obtained from these studies are especially valuable because beta weights give a measure of the contribution a variable should have a greater contribution to future behavior than on intent alone. Further, analogous effects have been obtained in other studies.

It is interesting to note that in the case of self-reported NC behaviors has been that attitudes, which are not until recently thought to be predictive of behavior, that it is difficult and sometimes impossible to predict the behavior, which people are most likely to do. Some work has focused on statistically significant ways in which people can change some of these behaviors and are manipulated in such a way that the manipulation should increase compliance with NC behavior than under the NC condition. A social cognitive approach to change people’s
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The distinction between the attitude–subjective norm distinction has endured because of the supposed determinants of behavior. However, with particular important others (e.g., parents, peers), the attitude may not really differ. For example, if the behavior is to perform the behavior, the subjective norm determining the behavior will not be significantly different, and normative beliefs will be higher when assuming that attitudes are the same.

The studied attitudes and subjective norms correlation generally has been found to be quite high, suggesting that “attitude” may be a genuine underlying construct (but see, for example, Morselli and Buscaglia, 1978).

The distinction between attitudes and subjective norms to varying degrees in research data can be interpreted as evidence that subjective norms affect each of the former (as well as the latter, and/or vice versa). In addition, there is evidence in favor of this interpretation of the construct. Consequently, the factors that influence the variables are statistically independent.

The distinction between attitudes, subjective norms, and intentions may change depending on the conditions of the study. More specifically, the distinction (to some extent) is a function of the underlying measures.

There is evidence in favor of the distinction. The pattern of correlations is often found to correlate more highly with intentions than with attitudes (Bowman and Fishbein, 1978; Ajzen and Fishbein, 1972). Attitudes and subjective norms have also sometimes been shown to predict intentions independently of each other (Shepherd, 1987). Further, attitudes are generally more strongly correlated with behavioral beliefs than subjective norms, and the reverse is true for normative beliefs (Fishbein, 1980; Fishbein and Ajzen, 1975; Trafimow and Miller, 1996). Finally, for some behaviors, intentions have been shown to be positively associated with attitudes, but negatively associated with subjective norms (Taylor and Todd, 1995).

A second kind of evidence concerns variations in the size of attitude–intention and subjective norm–intention correlations as a function of individual differences. For example, Miller and Grush (1986) found that people who were both high in private self-consciousness and low in self-monitoring displayed high attitude–behavior correspondence, but people with other combinations of these traits displayed high subjective norm–behavior correspondence. Arie, Durand, and Bearden (1979) performed a study using American employees at a large southeastern university as subjects. They found that opinion leaders (those whose opinions others seek for advice about products and services) intentions to patronize credit unions were under attitudinal control, but nonleaders’ intentions were under normative control. Finally, Bagozzi, Baumgarter, and Yi (1992) found a greater attitude–intention than subjective norm–intention correlation for action-oriented subjects, but the reverse was true for state-oriented subjects.

A third way to address this problem is to use a paradigm involving experimental manipulations of attitudes and subjective norms for different types of behaviors. Evidence for the distinction would be obtained if the importance of attitudinal and normative manipulations in affecting intentions changed depending on the behavior. In other words, if some behaviors could be shown to be primarily under attitudinal control (AC behaviors) and some could be shown to be under normative control (NC behaviors), then the attitude–subjective norm distinction would receive strong support. This support would be especially strong if the AC and NC behaviors used were chosen on the basis of beta weights obtained from previously performed multiple regression paradigms. If such beta weights give a valid picture of the AC–NC distinction, then the attitude manipulation should have a greater effect on intentions to perform the AC (large attitude beta weight) behavior than on intentions to perform the NC (large normative beta weight) behavior. Further, analogous effects should result if subjective norms are manipulated.

It is interesting to note that although the problem of distinguishing between AC and NC behaviors has been with us for a long time (e.g., Morselli and Buscaglia, 1978), it was not until recently that the solution described above was explored. One possible reason is that it is difficult and/or time consuming to manipulate attitudes towards behaviors with which people are familiar (possibly because they already have well-formed attitudes towards such behaviors). In addition, such attitude change is likely to be small (even if statistically significant) and ephemeral. Fortunately, a social cognition perspective suggests some ways around this difficulty. For example, attitudes towards extremely unfamiliar behaviors can be easily manipulated. Further, the concept of an AC or NC behavior can be primed (made cognitively accessible). The AC–NC distinction implies that if attitudes are manipulated in the presence of either an AC behavior prime or NC behavior prime, the manipulation should have a greater effect on intentions under the AC behavior prime than under the NC behavior prime.

A social cognition perspective implies an additional experiment. Even if it is difficult to change people’s actual attitudes towards a familiar behavior, it is easy to request them...
to imagine that they had a different attitude. According to the AC–NC distinction, if subjects are asked to imagine that they had a positive or negative attitude towards performing an AC or NC behavior (seat belt use in a safe or risky situation, see Stasson and Fishbein, 1990), the manipulation should have a greater effect on intentions to perform the AC than the NC behavior. In fact, Trafimow and Fishbein (1994a) performed all of these experiments and obtained findings that supported the validity of the distinction. Further, Trafimow and Fishbein (1994b) performed a set of analogous experiments where subjective norms towards AC or NC behaviors were manipulated, and they obtained analogous effects. In sum, the distinction between AC and NC behaviors has received strong support.

Finally, Trafimow and Fishbein (1995) performed a test based on research in the person memory and event memory areas indicating that when people consider items in relation to each other, associations tend to get formed between the items (Snell, 1981; Trafimow and Wyer, 1993; Wyer and Snell, 1989). More specifically, they argued that if behavioral beliefs are compared with each other in order to form an attitude, and normative beliefs are compared with each other to form a subjective norm, then behavioral beliefs should become associated with each other and normative beliefs should become associated with each other. However, because behavioral and normative beliefs tend not to be compared with each other, associations between the two types of beliefs should be unlikely to get formed. When people retrieve their beliefs, the order in which the beliefs are retrieved should be a function of the associations that had been previously formed. Therefore, during retrieval, people can traverse associative pathways from behavioral beliefs to other behavioral beliefs, and from normative beliefs to other normative beliefs, but not from behavioral to normative beliefs, nor from normative to behavioral beliefs. Consequently, behavioral beliefs should tend to be retrieved together and normative beliefs should likewise tend to be retrieved together. Thus, people’s recall protocols should be cognitively clustered by belief type. In fact, Trafimow and Fishbein (1995) performed a set of three experiments that strongly supported this prediction. In addition, similar methodology has been recently employed to distinguish between evaluative and affective beliefs (Trafimow and Sheeran, 1997) and between positively and negatively valenced behavioral beliefs (Duran and Trafimow, 1997).

Overall, then, the evidence seems to favor the distinction. Two of the findings against the distinction were (1) large attitude–subjective norm correlations and (2) crossover effects. Note that although each of these findings suggests that “attitudes” and “subjective norms” are different names for the same construct, they do not prove that this is the case. It is possible to argue (Fishbein and Ajzen, 1981) that attitudes and subjective norms are different constructs that are correlated with and/or affect each other.3 This brings us to the criticism by Miniard and Cohen (1981) that the distinction is philosophically untenable. However, it does not matter if a philosopher of logic would agree or disagree with the distinction, only that people do or do not process information in the hypothesized manner; there is no imperial decree stating that people must be logical.4 Consequently, there is some justification for Fishbein and Ajzen’s (1981) argument that if attitudes and subjective norms are different, the validity should be taken as confirmation that the pattern demonstrated is complete the items mitigate no reasonable way of solving the problem.5 Further, Trafimow and Fishbein (1994a, b) or the cognitive consistency, except by virtue of the fact that it has far less implications for the validity, as will be discussed in the next section.

FURTHER ISSUES AND PRACTICAL IMPLICATIONS

The establishment of this distinction is not only practical and theoretical, but also has implications for condom use. Previous research by Trafimow et al., 1993) showed that subjective norms predict condom use (r = 0.58, r² = 0.34). However, no data failed to account for the direct impact of norms.

Based on social cognitive models, how people make their decision and how they are confident in their decision and willingness to use condoms (or intend to behave) will be dependent on confidence in the subjective norms. In one study, the subjective norms were varied experimentally, and the results were more consistent when people were more confident that they were not. In a second study, the subjective norms, at times, were low in confidence with intention of intentions from people. The results were recently replicated, suggesting that people could not have been influenced, even though they were not exposed to the influence. The distinction between AC and NC behaviors has been previously established.

The distinction between AC and NC behaviors, has had far-reaching consequences in many situations (St. Lucia, St. Vincent, etc.). Consistent with previous studies on the influence of subjective norms, it can be seen that people who are not exposed to the influence of subjective norms may be less likely to use condoms. The distinction between AC and NC behaviors, has been previously established.

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3 Theoretically, attitudes can affect subjective norms by influencing the normative beliefs upon which subjective norms are based, and subjective norms can affect attitudes by influencing the behavioral beliefs upon which attitudes are based.

4 Actually, Fishbein and Ajzen (1981) argued that it is logical for people to distinguish between behavioral and normative beliefs. My point is not that it is either logical or illogical, only that people do it.
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subjective norms are differentially correlated with other variables, then such discriminant validity should be taken as support for the distinction. To be sure, Budd’s (1987) demonstration that the pattern of correlations may depend on the order in which subjects complete the items mitigates the impact of the correlational evidence, but there seems to be no reasonable way of accounting for the experimental data (Trafimow and Fishbein, 1994a, b) or the cognitive clustering of recall protocols (Trafimow and Fishbein, 1995) except by virtue of the attitude-subjective norm distinction. In addition, research exploring further implications of the distinction provides even more impressive support for its validity, as will be discussed presently.

FURTHER ISSUES AND IMPLICATIONS

The establishment of the distinction between attitudes and subjective norms has both practical and theoretical implications. One such implication concerns people’s intentions to use condoms. Previous research (Fishbein, Middlestadt and Trafimow, 1993; Fishbein, Trafimow et al., 1993; Fishbein et al., 1995) has shown that although both attitudes and subjective norms predict condom use, only subjective norms account for unique variance ($r=0.58$, $r^2=0.34$). Note that although a correlation of 0.58 is certainly respectable, their data failed to account for 66% of the variance.

Based on social cognition research pertaining to the cognitive processes underlying how people make confidence judgments (e.g., Trafimow and Sniezek, 1994), Trafimow (1994) suggested that people might vary in their confidence that their perceptions of normative pressure are accurate. Given this assumption, Trafimow argued that people who are confident in their perceptions of normative pressure should be more likely to behave (or intend to behave) consistently with those perceptions than should people who are not confident. In one study, confidence in the accuracy of perceptions of normative pressure was varied experimentally, and, consistent with expectations, intentions to use a condom were more consistent with subjective norms when subjects were confident than when they were not. In a second study, Trafimow (1994) measured intentions to use a condom, subjective norms, attitudes, and confidence in the accuracy of perceptions of normative pressure to see if the relationships between subjective norms and intentions would vary depending on confidence. In fact, the results were striking in their support for the conceptualization. When extremely confident subjects were analyzed, subjective norms were highly correlated with intentions to use a condom ($r=0.88$, $r^2=0.77$); but when subjects low in confidence were analyzed, the correlation was essentially zero. Further, the prediction of intentions from attitudes was not moderated by confidence. Finally, these results were recently replicated (Trafimow, 1997). It is worth pointing out that this prediction could not have been made had the distinction between attitudes and subjective norms not been previously established.

The distinction between attitudes and subjective norms, particularly in the area of condom use, has had implications for intervention. For example, Middlestadt, Fishbein, Albarracin, Francis and Eustace (1995) implemented a radio campaign in three nations (St. Lucia, St. Vincent and the Grenadines, and Grenada) to decrease the spread of AIDS. Consistent with previously cited research, the central theme of the radio campaign was a normative one. Middlestadt et al. (1995) then compared respondents who were or were not exposed to the campaign and obtained a statistically significant impact for exposure, thereby indicating that a mass media campaign based on the distinction "can be an
effective tool in the battle to prevent the spread of AIDS (p. 21).” In addition, Kelly et al. (1991) and Kelly et al. (1992) have found normatively based programs to be surprisingly effective. Of course, it is possible that interventions based on other variables might have been just as good (although research by Fishbein et al., 1995 suggests otherwise). Nevertheless, the fact that normatively based interventions have repeatedly been shown to be effective (Middlestadt et al., 1995; Kelly et al., 1991; Kelly et al., 1992) supports the practical utility of distinguishing subjective norms from attitudes.

Social Identity Theory and Perceived Norms

The assumption of the distinction between attitudes and subjective norms can be fruitfully combined with other ideas. For example, Terry and Hogg (1996) used social identity theory (Hogg and Abrams, 1988; Tajfel and Turner, 1979) to make an interesting prediction about two health behaviors. According to social identity theory, two processes come into play when people evaluate themselves in terms of a group. These are categorization (people accentuate similarities among in-group members and differences between in-group versus out-group members) and self-enhancement (the in-group is favored over the out-group with a resultant gain for the person due to his or her group membership). Terry and Hogg pointed out that although subjective norms generally have been found to be relatively poor predictors of intentions relative to attitudes, conceptualizing subjective norms in terms of group identity might increase the prediction of intentions. They performed two experiments to test their hypothesis. In Study 1, they found that perceived norms strongly influenced intentions to exercise, but only for subjects who identified strongly with their in-group. In Study 2, females’ intentions to engage in protective behavior were highly affected by perceived norms, but only for those who highly identified themselves with their in-group. They also found that perceived norms affected attitudes more for high than for low identifiers. Their research suggests that much can be gained by considering the attitude-subjective norm distinction within the context of theories other than those in which the distinction is usually employed.

Normatively Controlled People, the Collective Self, and Intentions

In spite of the large subjective norm-intention correlation (0.88) obtained by Trafimow (1994) for the behavior of condom use, the vast majority of behaviors seem to be more under attitudinal than normative control (see Ajzen and Fishbein, 1980; Farley, Lehmann and Ryan, 1981; Fishbein and Ajzen, 1975 for reviews). Nevertheless, subjective norm usually accounts for a small, but statistically significant, proportion of variance in intention above and beyond that which can be accounted for by attitude alone. Why should subjective norm account for a small, but significant, proportion of variance in intention across a wide variety of behaviors? There are at least two explanations. First, perhaps most behaviors are substantially under attitudinal control and slightly under normative control across a range of individuals. Second, perhaps most people are under attitudinal control but a minority of people are under normative control, and it is the normatively controlled minority that causes the effect.

How can one show that there are individual differences in the extent to which people are under normative control across a wide range of behaviors? Trafimow and Finlay (1996) argued that at least three criteria should be met for a convincing demonstration. First, it must be shown that attitudes and/or subjective norms are capable of predicting behavioral intentions and, second, that people can influence other people. Otherwise it makes no sense to talk about the confluence of people. Finally, the relationship between attitudes and intentions must vary predictably within people. Trafimow and Finlay used self-disclosure as a control variable.

The collective self. Alternatively, we can separate private self (which can include the separate private self) and collective self (where the collective self is perceived as the accessibility of these separate selves). For example, Tajfel et al. (1995) found that Chinese people could predict the intentions of other Chinese people more reliably from other Chinese people than from different self-raters. Trafimow and Fishbein also replicated these findings.

Singelis (1994) used a self-report measure to construct a set of “inside-out” and “outside-in” measures of the collective self. Trafimow et al. (1994) used a similar procedure in their own work. Traditionally, attitudes and subjective norms have been used to predict behavior. However, they may not be the only factors that influence behavior. Trafimow and Finlay (1996) found that the collective self was a stronger predictor of condom use than the personal self in a study of college students. The collective self, a factor of the social comparison approach, may be more important than the personal self, a factor of the social comparison approach, in predicting behavior.

The support for the collective self as a predictor of behavior is based on a study of college students. Trafimow and Finlay (1996) found that the collective self was a stronger predictor of condom use than the personal self in a study of college students. The collective self, a factor of the social comparison approach, may be more important than the personal self, a factor of the social comparison approach, in predicting behavior.

Fulfilling the three criteria

In summary, the criteria met by Trafimow and Finlay (1996) are: (1) the collective self is a stronger predictor of behavior than the personal self; (2) the collective self is a stronger predictor of behavior than the personal self; and (3) the collective self is a stronger predictor of behavior than the personal self. These criteria were met in a study of college students. The collective self, a factor of the social comparison approach, may be more important than the personal self, a factor of the social comparison approach, in predicting behavior.
In addition, Kelly et al. (1994) found that the normative variables might have less impact than the attitudinal variables (as previous research suggests otherwise). However, research has repeatedly been shown to support this finding (e.g., Kelly et al., 1992) supports the notion of attitude as a mediator.

Norms can be fruitfully analyzed using the multidimensional social identity theory (Tajfel, 1978). This theory is based on the premise that people are more likely to conform to social norms when they perceive that the in-group holds a favorable view of the out-group. Furthermore, norms have been shown to be related to the perceived self-efficacy and social identity of the group member. They also perform a vital role in shaping self-identity as perceived norms are often followed by individuals who identify strongly with the group. In particular, unprotective behavior has been shown to be strongly identified with group norms. Thus, disrupted social norms may result in disrupted attitudes more than individual cognitions can be gained by considering the strengths of theories other than this one.

The collective self. According to Trafimow and Triandis and Goto (1991), people have a separate private self (where thoughts about one’s own states and traits are stored) and collective self (where thoughts about group membership are stored), but the relative accessibility of these selves depends, in part, upon whether the target person has an individualistic or collectivistic cultural background. In support of this “two-location” theory, Trafimow et al. found that the private self and the collective self of both American and Chinese people could be primed independently of each other. They further found that people are more likely to retrieve two cognitions in a row from the same self-structure than from different self-structures. Moreover, Trafimow, Silverman, Fan and Law (1997) replicated these findings in an experiment performed in Hong Kong.

Singelis (1994) used a factor analytic paradigm to further test the theory. He conducted a set of “independent” and “interdependent” items and pointed out that the Trafimow et al. theory makes a prediction that is at odds with traditional Cross-Cultural literature. Traditionally, “independence” and “interdependence” have been thought of as opposite poles of the same dimension. Thus, both types of items should load on the same factor (of course, half of the items should get negative loadings). In contrast, if people really have a distinct private self and collective self in memory, then the items pertaining to each self should load on separate factors. In fact, Singelis’s confirmatory factor analyses strongly demonstrated that a two factor solution provides a much better account of the data than one factor solution. In addition, these factors were not correlated with each other (see Bontempo, 1993 for similar findings).

The support for the two location theory suggests the possibility that the strength of the collective self (which can be measured using the Singelis scale) should be related to the tendency for a person to be under normative control. People who have a strong collective self, for example, should be more likely than those who do not to behave in accordance with the opinions of those who are important to them (Triandis, 1994).

Fulfilling the three criteria. In order to meet the three criteria for demonstrating that there are individual differences in the extent to which people are under normative control, Trafimow and Finlay (1996) measured attitudes, subjective norms, and intentions across 30 behaviors. They also measured the strength of the collective self. When traditional multiple regression analyses (between-subjects) were run on the 30 behaviors, the results paralleled those obtained by previous researchers; attitudes were more related to intentions than were subjective norms for 29 of the 30 behaviors (median multiple correlation = 0.69, median attitude–intention correlation = 0.68, and median subjective norm–intention correlation = 0.40). Less traditional within-subjects analyses were also conducted across the 30 behaviors. Like the between-subjects analyses, the within-subjects analyses also indicated that attitudes were more related to intentions than were subjective norms (median within-subjects multiple correlation = 0.82, median within-subjects attitude–intention correlation = 0.79).
correlation = 0.77, and median within-subjects subjective norm–intention correlation = 0.64). These within-subjects analyses fulfilled the first criterion (i.e., obtaining good within-subjects prediction of intentions from attitudes and subjective norms). In addition, although most of the subjects seemed to be under attitudinal control across the 30 behaviors (79%), 21% of the subjects had a larger within-subjects subjective norm–intention correlation than attitude–intention correlation (and these subjects were deemed to be under normative control). More interestingly, however, when the normatively controlled subjects were removed from the sample, and the traditional between-subjects analyses were re-run, the median unique variance in intentions accounted for by subjective norms was 0.00, indicating that the previous effects of subjective norms on intentions were completely due to the normatively controlled subjects in the sample. Thus, the second criterion (obtaining better within-subjects prediction of intentions from subjective norms than from attitudes for a subset of the sample) was fulfilled, and the importance of normatively controlled subjects for traditional between-subjects analyses was demonstrated. Finally, in order to fulfill the third criterion (demonstrating a correlation with an outside variable), within-subjects normative beta weights were calculated as a measure of the extent to which subjects were under normative control (as opposed to attitudinal control). Consistent with expectations, subjects’ degree of normative control was significantly correlated with the strength of the collective self. In sum, there is now considerable evidence that although most people are under attitudinal control across a range of behaviors, an important and substantial minority of people are under normative control. Thus, researchers must not only consider characteristics of the behavior in their studies, but also characteristics of the subjects.

Several implications of this research may be of interest to health psychologists. For example, the findings imply that people with an accessible collective self are more likely than others to be under normative control. Ybarra and Trafimow (1997) obtained some evidence that bears on this point. They primed the private self or the collective self and measured attitudes, subjective norms, and intentions towards using a condom during sex. When the private self was primed, the attitude beta weight (for predicting intentions) was greater than the subjective norm beta weight. But when the collective self was primed, the reverse was true. Further, this pattern of findings was replicated in a second experiment where a much more subtle priming manipulation was employed. These findings suggest that the effectiveness of attitudinal or normative interventions may be significantly enhanced in the presence of the “appropriate” prime.

The Trafimow and Finlay findings also suggest the possibility that there might be individual differences within the domain of health behaviors in the extent to which people are under attitudinal or normative control. In order to test this, Finlay, Trafimow, and Jones (1997) attempted a replication of the Trafimow and Finlay (1996) experiment, but using 32 behaviors specifically pertaining to health. Their findings indicate that a substantial percentage (15%) of people are under normative control across the domain of health behaviors, as well as across the domain of behaviors not specifically pertaining to health. More generally, the implications of this work for health psychology are only beginning to be explored.

CONCLUSION

I have attempted to show that (1) although there are reasons to question the attitude–subjective norm distinction, the available evidence strongly supports it; (2) much of the evidence, particularly from a health psychology perspective, suggests that attitudes can strongly influence behaviors. However, it could not have been predicted that attitudes and subjective norms are not only closely related but that if attitudes and subjective norms are influenced by the same factors, then health interventions for changing people or behaviors, or both, would need to make use of the vast body of existing research, particularly in the area of health psychology. There is less literature, however, that has been devoted to the study of how attitudes are formed.

There are also some cautionary implications regarding how attitudes are related to behaviors. For example, the research suggests that individuals are more likely to engage in health behaviors when they are under normative control, and the relative importance of different domains of control should be considered. Finally, the notion of accessibility of social norms suggests that normative control may be more important than attitudes alone, and that research on attitudes may need to be supplemented by investigations of attitudes and norms. Cross-Cultural research is needed to support these findings.

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norm–intention correlation criterion (i.e., obtaining subjective norms). In addition, evaluative control across all in-subjects subjective norms, and these subjects were included. However, when the normative control traditional between-subjects analyses accounted for by subjective norms on subjects in the sample. The correlation of intentions from the own means was fulfilled, and the in-between-subjects analyses demonstrating a correlation between the means were calculated as a function of normative control (as opposed to evaluative control). In sum, there is now considerable control across a range of the behavior in their sample.

Health psychologists. For example, some of the collective self are more likely to make use of the vast literature on attitude change (e.g., see Eagly and Chaiken, 1993 for a review). In particular, for designing attitudinal interventions for NC people or behaviors. There is also some literature on changing normative perceptions, and more research efforts might be devoted towards that end.

There are also some theoretical issues that remain to be settled. For example, do people distinguish between different kinds of behavioral beliefs when they form an attitude towards a behavior? If so, what are these distinctions? Recent research suggests that the answer to the previous question may be “yes,” and that some candidates for those distinctions are affective–evaluative (Trafimow, 1997b) and positive–negative (Duran and Trafimow, 1997). There are also issues regarding subjective norms. For example, the research by Terry and Hogg (1996) suggests that in-group norms, and the reasons to which people are more likely to share information, should be considered in future research. In addition, other research (Trafimow and Finlay, 1996; Finlay et al., 1997) suggests that individual differences in the degree to which people are under normative control, and the relative accessibility of the collective versus private self also need to be considered. Finally, because of the potential importance of culture in influencing the relative accessibility of the private and collective selves, and therefore the relative emphasis placed on attitudes and subjective norms in forming intentions, it seems likely that future investigations of attitudes and subjective norms will be studied within the context of Cross-Cultural research paradigms.

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References

ATTITUDES AND SUBJECTIVE NORMS


