

NORMATIVE BELIEFS

Description and Theoretical Background

Normative beliefs are individuals' **beliefs about the extent to which other people who are important to them think they should or should not perform** particular behaviors. In general, researchers who measure normative beliefs also measure motivations to comply—how much individuals wish to behave consistently with the prescriptions of important others. Each normative belief about an important other is multiplied by the person's motivation to comply with that important other and the products are summed across all of the person's important others to result in a general measure that predicts subjective norms. Subjective norm is a predictor of intention to behave which, in turn, is a predictor of actual behavior. Thus, normative beliefs have two general uses. In the first place, normative beliefs aid in the prediction of other variables (subjective norm, intention, and behavior). Secondly, for those who wish to perform interventions, the measurement of normative beliefs provides information about where intervention efforts should be focused; efforts should be focused on those normative beliefs that the population of interest has and that are good predictors of subjective norm (and behavioral intention and behavior) rather than on beliefs that are not widespread in the population of interest or that are not good predictors of subjective norm.

Normative variables have been an important concept in social psychology for at least a century. For example, LeBon (1895) documented an effect he called contagion—that people in a crowd are strongly affected by the beliefs, emotions, and behaviors of others in that crowd. However, the specific concept of normative beliefs did not gain prominence until the advent of Fishbein's **theory of reasoned action** (see Fishbein, 1980; Fishbein & Ajzen, 1975 for reviews). Fishbein proposed that the immediate determinant of behavior is behavioral intention.

Behavioral intention is determined by a combination of attitude and subjective norm. Attitude, in turn, is determined by behavioral beliefs and evaluations whereas subjective norms are determined by normative beliefs and motivations to comply (as explained in the foregoing paragraph). Although various theorists have added variables to the theory (see Trafimow, 2000 for a review), normative beliefs have been, and continue to be, a crucial variable that is receiving an increasing amount of attention.

There has been a considerable amount of controversy over whether normative beliefs are a concept that is distinct from **behavioral beliefs** (beliefs about the consequences of a behavior). The controversy stems from a higher level distinction between attitudes and subjective norms that is an assumption not only of the theory of reasoned action, but of several other important theories too (Fazio, 1990; Fishbein, 1980; Fishbein, & Ajzen, 1975; Triandis, 1980;). Because normative beliefs (and motivations to comply) are presumed to determine subjective norms and behavioral beliefs (and evaluations) are presumed to determine attitudes, if it could be shown that normative beliefs and behavioral beliefs are really different names for the same construct, then this would constitute a strong argument against the distinction between attitudes and subjective norms and, by implication, the theory of reasoned action would be undermined. In fact, all theories that depend on the distinction between attitudes and subjective norms would be cast into doubt.

In this vein, Miniard and Cohen (1981) showed that normative beliefs and behavioral beliefs are so similar to each other that they are really the same thing. For instance, consider the following two beliefs: “my father thinks I should go to college” and “if I do not go to college my father will disagree with me.” According to the theory of reasoned action, the former belief is a normative belief (it is a belief about what my father thinks I should do) whereas the latter belief

is a behavioral belief (it is a belief about a consequence arising from my father's likely reaction to my behavior). Yet, it could be argued that the difference between the two beliefs is more a matter of the wording and sentence structure than about the content. If this is so, then the distinction between the two types of beliefs is artificial and should be discarded.

Throughout the 1980s this remained an unsettled issue and one that was usually argued on the basis of semantic arguments and correlations among theory of reasoned action variables. But recently, evidence has been obtained from a variety of research settings, including experimental paradigms, which have converged to provide strong support for the validity of the distinction (Trafimow, 1994; Trafimow & Fishbein, 1994a; 1994b; see Trafimow, 1998 and 2000 for reviews). At the present time, the distinction is widely accepted and normative beliefs have an important place in theories of behavior and behavior change.

Using Normative Beliefs in Behavior Change Paradigms

Using normative beliefs in the context of the theory of reasoned action

Historically, there has been a strong tendency for health researchers to use normative beliefs in the context of the theory of reasoned action to predict and influence health behaviors. One strategy has been as follows. Because the measurement of behavioral intentions, attitudes, and subjective norms does not require any preliminary research and can be done with a simple questionnaire (see Ajzen & Fishbein, 1980 and Trafimow, 2004 for details), a resource-saving first step is to measure these variables in a sample that represents the population of interest. After performing a multiple regression analysis, and obtaining beta weights indicating the relative contributions of attitudes and subjective norms to predict behavioral intentions, one can easily determine which of the two variables contributes most to this prediction. If attitudes are a good predictor and subjective norms are not, then there is no point in wasting resources on the

normative pathway (which means there is no point in performing elicitation studies to find out about relevant normative beliefs because they do not matter anyway). Instead, the focus should be on the attitudinal pathway. On the other hand, if subjective norms are a good predictor of behavioral intentions, then this is a strong indication that it is worthwhile to take the normative pathway seriously. In this case, the next step would be to perform an **elicitation study** to find out the relevant normative beliefs. This can be done by simply asking participants to list others who are important to them in deciding whether or not to perform the behavior of interest. Once the relevant normative beliefs have been elicited, they can be measured in the main study (see below for a description).

A second strategy is to perform elicitation studies right away, to find out the relevant normative and behavioral beliefs. Then, using the data from the elicitation study as a basis, a questionnaire is constructed that includes all of the theory of reasoned action variables for use in the main study. The advantage of the second strategy is that it requires fewer steps (two steps instead of three). A disadvantage is that, because there is no *a priori* way to know whether both the attitudinal and normative pathways are relevant to the behavior of interest in the particular population of concern, both the elicitation and main studies have to include both pathways, and are consequently more complex.

Regardless of which strategy is used, at least two types of useful information can be gleaned. In the first place, multiple regression analysis can be used to determine whether the attitudinal or normative pathway is most important for the behavior or population of interest. Secondly, for the purposes of intervention, those normative beliefs (or motivations to comply) that are most predictive of subjective norms (or behavioral intentions or behaviors) can be determined so that they can be the focus of an intervention.

Using normative beliefs in the context of the theory of planned behavior

Ajzen's (1988) **theory of planned behavior** is similar to Fishbein's theory of reasoned action, but with the addition of perceived behavioral control—the extent to which a behavior is believed to be under the person's control. Therefore, instead of there being two causal pathways to behavior as in the theory of reasoned action, there are three. These are the attitudinal, normative, and control pathways. However, the way normative beliefs are used in the theories of reasoned action and planned behavior are similar.

Using normative beliefs in the context of within-participants research paradigms

Trafimow (1996) pointed out that there might be different causal pathways to behaviors for different persons. For example, some people might be more prone to perform behaviors on the basis of the attitudinal pathway whereas the normative pathway might be more important for other people. Consequently, intervention strategies should be focused not only on the behavior of interest, but also on the specific persons of interest. To do this, however, it is necessary to have a method of determining, for every person, whether his or her behaviors tend to be caused by attitudinal or normative factors. Trafimow and his colleagues (Trafimow & Finlay, 1996; Trafimow, Kiekel, & Clason, 2004) showed that there is such a method. The idea is to consider a large **set of behaviors** in a particular domain of interest rather than a single behavior. For example, the domain could be cancer prevention behaviors, exercise behaviors, safety behaviors, dietary behaviors, and so on. Instead of measuring variables (e.g., theory of reasoned action variables) for only one behavior, the researcher measures these variables for the whole set of behaviors. This research design makes it possible to conduct traditional between-persons analyses (these are analyses within a single behavior and across persons), but it is also possible to perform within-persons analyses (these are analyses within a single person and across behaviors). Thus, it is possible to determine, for each person, whether his or her

behaviors are more controlled by the attitudinal or normative pathway. Finlay and her colleagues (Finlay, Trafimow, & Moroi, 1999; Finlay, Trafimow, & Villarreal, 2002) have demonstrated the usefulness of this approach in a variety of health domains, and Sheeran, Trafimow, Finlay, and Norman (2002) have demonstrated that the approach can be extended to include additional variables such as perceived behavioral control.

How to Measure Normative Beliefs

To measure normative beliefs in a way that maximizes their ability to predict subjective norms (and behavioral intentions and behaviors), it is necessary to conform to the **principle of correspondence**. According to this principle, behaviors have four components. These are action, target, time, and context. For example, consider the behavior of attending a cervical cancer screening. The action is “attend,” the target is “cervical cancer screening,” the time is whenever the screening will take place (e.g., 2:00 next Tuesday), and the context might be “at the local health center.” The key measurement point is that all of the variables one wishes to use must be measured so that all four components—action, target, time, and context—are precisely the same for the measures of all of the variables. Even a small deviation from perfectly correspondent measures can result in a dramatic decrease in the correlations between variables (Davidson & Jaccard, 1975; 1979).

Suppose a researcher wishes to use normative beliefs to predict whether people will perform the behavior of “Attending a cervical cancer screening next Tuesday at 2:00 at the local health center.” In addition, suppose the researcher has performed an elicitation study and has determined that “my doctor” is a relevant important other for the population of concern. The normative belief pertaining to “my doctor” could be measured as follows: “My doctor thinks I should (should not) attend a cervical cancer screening next Tuesday at 2:00 at the local health

center.” Participants would respond on a 7-point scale (ranging from -3 for an extreme score indicating “should not” to +3 for an extreme score indicating “should”) that describes the extent to which the person believes the doctor thinks he or she should or should not perform the behavior. For the purposes of evaluating internal reliability, it may also be worthwhile to have additional similar items. Two examples might be as follows: “My doctor thinks it would (would not) be a good idea for me to.....” or “My doctor would want (not want) me to” These items should also be used with 7-point scales. Appendix A provides examples of items for measuring subjective norms, normative beliefs, and motivations to comply. Appendix B provides details about how to use the items to obtain summary scores for the variables and for using these summary scores for prediction and intervention.

Researchers sometimes cannot narrow behaviors down to a specific time and context. In the cervical cancer case, it may be sufficient that people get a screening “anytime in the next 6 months,” and the place where the exam is obtained may be unimportant. In this case, the normative belief pertaining to “my doctor” could be measured as follows: “My doctor thinks I should (should not) attend a cervical cancer screening any time in the next 6 months.” But a cautionary note must be sounded here. Because the context is unspecified in the normative belief measure, it must similarly be unspecified in the subjective norm measure and, ultimately, in the behavior measure. The failure to have corresponding measures of the different variables will be likely to result in low correlations between them. This means, for example, that measuring behavior by going to a particular cancer screening center to assess who attended or did not attend the screenings that took place there during the relevant 6 month period is insufficient because participants might have obtained their screening someplace else.

Factors that Increase the Importance of Normative Beliefs

It may happen that a behavior is more under attitudinal than normative control. In this case, if attitudes are amenable to intervention, this would be the most straightforward strategy. However, it may be that attitudes are not amenable to intervention whereas normative beliefs are. Is there a way to increase the importance of normative beliefs? Thus far, there is support in the literature for two ways.

Group identification

Terry and Hogg (2000) performed an elegant demonstration that norms have a stronger influence when people identify strongly with their group (as long as the group identification is salient). Thus, if one wishes to intervene on a normative level, it may be useful to find out the group or groups with which the person strongly identifies. As long as the group norms are consistent with the direction of the intervention, increasing the salience of this group membership is likely to help push the person in that direction.

Priming the collective self

Trafimow and Finlay (1996) speculated that the influence of norms could be increased by priming the collective self (the location in memory that contains thoughts about group membership). Ybarra and Trafimow (1998) tested this speculation by priming the private or collective self and then measured attitudes, norms, and intentions to use a condom during sexual intercourse. Compared to when the private self was primed, the influence of norms was substantially augmented when the collective self was primed. Thus, this research suggests that the influence of normative beliefs on behavior can be augmented if the collective self is primed.

Related Concepts

There are several concepts that are similar to those presented earlier, but they are not exactly the same. Four that will be discussed here are descriptive norms, pluralistic ignorance, moral norms, and confidence in normative perceptions.

Descriptive Norms

Descriptive norms are people's perceptions of what other people actually do in a given situation, regardless of what is socially sanctioned. **Descriptive norms** are different from **subjective norms** (or normative beliefs) in at least two ways. First, descriptive norms are concerned with other people, but not necessarily with those others who are particularly important to oneself. Secondly, descriptive norms focus on perceptions of actual behavior of others rather than on perceptions of the opinions of important others about what the perceiver should or should not do. Cialdini, Kallgren, & Reno (1991) have provided a theory of normative conduct that includes this variable and have also reviewed a variety of research paradigms showing the importance of this construct in influencing people's behaviors. Interventions in marketing and school settings are often based on the idea of descriptive norms (e.g., "other people are buying Brand X so you should to" and "your classmates are participating in after school clubs so you should also take advantage of this opportunity").

Pluralistic Ignorance

Pluralistic ignorance refers to the idea that most people in a group or society may privately reject a belief or practice and nevertheless believe that most others in the group accept it. Like descriptive norms, **pluralistic ignorance** differs from subjective norms (and normative beliefs) because pluralistic ignorance focuses on other people in general rather than those others who are important to oneself in the performance of the behavior in question. Although the term was first coined by Allport (1933), Prentice and Miller (1996) provided a review indicating that

the idea is again coming into prominence. In particular, these researchers have demonstrated the usefulness of the idea in the context of alcohol abuse. For example, Prentice and Miller (1993) demonstrated that Princeton undergraduates overestimate the level of comfort that their fellow undergraduates have with respect to alcohol drinking habits. Prentice and Miller (1996) provided evidence that this overestimation actually was a case of pluralistic ignorance and that undergraduates infer the private views of others from their public presentations. Finally, these researchers reviewed evidence that dispelling pluralistic ignorance decreases actual drinking behavior and that this decrease is due to a reduction in the perceived support (or pressure) for drinking.

Moral Norms

Moral norms are people's perceptions of what important others think would be moral or immoral for them to do (as opposed to what they should or should not do). This difference between moral norms and subjective norms (or normative beliefs) is subtle. To see the difference, consider two examples. First, you might believe that an important other thinks it would be immoral for you to perform a particular behavior, yet nevertheless thinks you should perform it. Second, you might believe that an important other thinks it would be moral for you to perform a particular behavior, yet nevertheless thinks you should not perform it. Although moral norms and subjective norms usually go together, these two examples demonstrate that they do not have to do so, and that they are different concepts. Manstead (2000) has reviewed several studies indicating that moral norms can sometimes account for unique variance in behavioral intentions above and beyond that accounted for by attitudes and subjective norms. Interventions sometimes include a moral component. Some examples might be religious based

interventions (e.g., “it is immoral to be alcoholic”) and marketing of insurance products (e.g., “the moral thing to do is provide for your family in the event of your untimely death”).

Confidence in Normative Perceptions

Confidence can be thought of as a variable that moderates relations between subjective norms (or normative beliefs) and behavioral intentions. Subjective norms are perceptions about what important others believe but measures of subjective norms leave open the issue of how confident people are that these perceptions are actually correct. If people are not confident that their normative perceptions are correct, then there is no reason for them to base their behavioral intentions on those perceptions. In contrast, to the degree that people are confident in the accuracy of their normative perceptions, they should be more likely to use them to form behavioral intentions. Trafimow (1994; Trafimow, 2001) introduced the idea of confidence in normative perceptions and provided a particularly dramatic example in the domain of condom use. For participants who were not confident in the correctness of their normative perceptions, the correlation between subjective norms and behavioral intentions was not discernibly different from 0. But for participants who were extremely confident, this correlation was .88.

References

- Ajzen, I. (1988). *Attitudes, personality, and behavior*. Chicago: The Dorsey Press.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall
- Allport, F. H. (1933). *Institutional behavior*. Chapel Hill: University of North Carolina Press.
- Cialdin, R. B., Kallgren, C. A., & Reno, R. R. (1991). A focus theory of normative conduct: A theoretical refinement and reevaluation of the role of norms in human behavior. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 24, pp. 201-234). San Diego, CA: Academic Press.
- Davidson, A. R., & Jaccard, J. J. (1975). Population psychology: A new look at an old problem. *Journal of Personality and Social Psychology*, *31*, 1073-1082.
- Davidson, A. R., & Jaccard, J. J. (1979). Variables that moderate the attitude-behavior relation: Results of a longitudinal survey. *Journal of Personality and Social Psychology*, *37*, 1364-1376.
- Fazio, R. H. (1990). Multiple processes by which attitudes guide behavior: The MODE model as an integrative framework. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 23, pp. 75-109). San Diego: Academic Press.
- Finlay, K. A., Trafimow, D., & Moroi, E. (1999). The importance of subjective norms on intentions to perform health behaviors. *Journal of Applied Social Psychology*, *29*, 2381-2393.
- Finlay, K. A., Trafimow, D., & Villarreal, A. (2002). Predicting exercise and health behavioral intentions: Attitudes, subjective norms, and other behavioral determinants. *Journal of Applied Social Psychology*, *32*, 342-358.

Fishbein, M. (1980). Theory of reasoned action: Some applications and implications. In H. Howe & M. Page (Eds.), *Nebraska Symposium on Motivation, 1979* (pp. 65-116). Lincoln, NE: University of Nebraska Press.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.

LeBon, G. (1895). *The crowd*. London: F. Unwin.

Manstead, A. S. R. (2000). The role of moral norm in the attitude-behavior relation. In D. J. Terry & M. A. Hogg (Eds.), *Attitudes, behavior, and social context: The role of norms and group membership*, (pp. 11-30). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Miniard, P. W., & Cohen, J. B. (1981). An examination of the Fishbein behavioral intentions model's concept and measures. *Journal of Experimental Social Psychology, 17*, 309-329.

Prentice, D. A., & Miller, D. T. (1993). Pluralistic ignorance and alcohol use on campus: Some consequences of misperceiving the social norm. *Journal of Personality and Social Psychology, 64*, 243-256.

Prentice, D. A., & Miller, D. T. (1996). Pluralistic ignorance and the perpetuation of social norms by unwitting actors. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 28, pp. 161-209). San Diego, CA: Academic Press.

Sheeran, P., Trafimow, D., Finlay, K. A., & Norman, P. (2002). Evidence that the type of person affects the strength of the perceived behavioural control-intention relationship. *British Journal of Social Psychology, 41*, 253-270.

Terry, D. J., & Hogg, M. A. (2000). (Eds.) *Attitudes, Behavior, and Social Context: The Role of Norms and Group Membership*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Trafimow, D. (1994). Predicting intentions to use a condom from perceptions of normative pressure and confidence in those perceptions. *Journal of Applied Social Psychology*, *24*, 2151-2163.

Trafimow, D. (1998). Attitudinal and normative processes in health behavior. *Psychology and Health*, *13*, 307-317.

Trafimow, D. (2000). A theory of attitudes, subjective norms, and private versus collective self-concepts. In D. J. Terry and M. A. Hogg (Eds.) *Attitudes, Behavior, and Social Context: The Role of Norms and Group Membership*, (pp. 47-65). Hillsdale, NJ: Lawrence Erlbaum Associates.

Trafimow, D. (2001). Condom use among American students: The importance of confidence in normative and attitudinal perceptions. *The Journal of Social Psychology*, *141*, 49-59.

Trafimow, D. (2004). Attitude measurement. In Ronald Lee (Ed.), *Encyclopedia of Applied Psychology, Vol 1* (pp. 233-244). Academic Press.

Trafimow, D., & Finlay, K. A. (1996). The importance of subjective norms for a minority of people: Between-subjects and within-subjects analyses. *Personality and Social Psychology Bulletin*, *22*, 820-828.

Trafimow, D., & Fishbein, M. (1994a). The moderating effect of behavior type on the subjective norm-behavior relationship. *The Journal of Social Psychology*, *134*, 755-763.

Trafimow, D., & Fishbein, M. (1994b). The importance of risk in determining the extent to which attitudes affect intentions to wear seat belts. *Journal of Applied Social Psychology*, *24*, 1-11.

Trafimow, D., & Fishbein, M. (1995). Do people really distinguish between behavioral and normative beliefs? *British Journal of Social Psychology*, *34*, 257-266.

Trafimow, D., Kiekel, P. A., & Clason, D. (2004). The simultaneous consideration of between-participants and within-participants analyses in research on predictors of behaviors: The issue of dependence. *European Journal of Social Psychology*, *34*, 703-711.

Triandis, H. C. (1980). Values, attitudes, and interpersonal behavior. In H. E. Howe & M. M. Page (Eds.), *Nebraska Symposium on Motivation 1979* (pp. 195-259). Lincoln, Nebraska: University of Nebraska Press.

Ybarra, O., & Trafimow, D. (1998). How priming the private self or collective self affects the relative weights of attitudes or subjective norms. *Personality and Social Psychology Bulletin*, *24*, 362-370.

Appendix A

Appendix A gives examples of how to measure subjective norms, normative beliefs, and motivations to comply for the behavior of “attend a cervical cancer screening at 2:00 next Tuesday.” In this examples below, I pretend that an elicitation study has been performed and that the important others in the population of interest have been determined to be doctors, spouses, fathers, mothers, and best friends.

Measurement of Subjective Norms

Make a check mark (X) on the appropriate blank for each item below.

Most people who are important to me think I

should _____:_____:_____:_____:_____:_____ should not
extremely quite slightly neutral slightly quite extremely

attend a cervical cancer screening next Tuesday at 2:00 at the local health center.

Most people who are important to me think it

would _____:_____:_____:_____:_____:_____ would not
extremely quite slightly neutral slightly quite extremely

be a good idea for me to attend a cervical cancer screening next Tuesday at 2:00 at the local health center.

Most people who are important to me

want me _____:_____:_____:_____:_____:_____ do not want
extremely quite slightly neutral slightly quite extremely

me to attend a cervical cancer screening next Tuesday at 2:00 at the local health center.

Measurement of Normative Beliefs

My doctor thinks I

should _____ : _____ : _____ : _____ : _____ : _____ : _____ should not
extremely quite slightly neutral slightly quite extremely

attend a cervical cancer screening next Tuesday at 2:00 at the local health center.

My spouse thinks I

should _____ : _____ : _____ : _____ : _____ : _____ : _____ should not
extremely quite slightly neutral slightly quite extremely

attend a cervical cancer screening next Tuesday at 2:00 at the local health center.

My father thinks I

should _____ : _____ : _____ : _____ : _____ : _____ : _____ should not
extremely quite slightly neutral slightly quite extremely

attend a cervical cancer screening next Tuesday at 2:00 at the local health center.

My mother thinks I

should _____ : _____ : _____ : _____ : _____ : _____ : _____ should not
extremely quite slightly neutral slightly quite extremely

attend a cervical cancer screening next Tuesday at 2:00 at the local health center.

My best friend thinks I

should _____ : _____ : _____ : _____ : _____ : _____ : _____ should not
extremely quite slightly neutral slightly quite extremely

attend a cervical cancer screening next Tuesday at 2:00 at the local health center.

Measurement of Motivations to Comply

Make a check mark (X) on appropriate blanks below to indicate how much you want to do what each of the people below want you to do. The scales range from 0 (not at all) to 6 (extremely).

In general, I want to do what my doctor thinks I should do:

Not at all _____ : _____ : _____ : _____ : _____ : _____ : _____ Extremely
0 1 2 3 4 5 6

In general, I want to do what my spouse thinks I should do:

Not at all _____ : _____ : _____ : _____ : _____ : _____ : _____ Extremely
0 1 2 3 4 5 6

In general, I want to do what my father thinks I should do:

Not at all _____ : _____ : _____ : _____ : _____ : _____ : _____ Extremely
0 1 2 3 4 5 6

In general, I want to do what my mother thinks I should do:

Not at all _____ : _____ : _____ : _____ : _____ : _____ : _____ Extremely
0 1 2 3 4 5 6

In general, I want to do what my best friend thinks I should do:

Not at all _____ : _____ : _____ : _____ : _____ : _____ : _____ Extremely
0 1 2 3 4 5 6

Appendix B

Appendix B explains how to use the data obtained using the items in Appendix A. There are three sections. The first section concerns the scoring of the data. The second section concerns the computation of subjective norms and $\sum n_i m_i$. The third section concerns the prediction of subjective norms from $\sum n_i m_i$.

Subjective Norms

The first step is to score the subjective norm items. As an example, consider the first of these items from Appendix A. The blanks indicating that the participant believes that his or her important others think he or she should perform the behavior should be scored in the positive direction whereas those blanks indicating that the participant believes that his or her important others think he or she should not perform the behavior should be scored in the negative direction, with a neutral response getting a score of 0. Thus, a check mark on the first blank in the positive direction (“extremely”) should be scored +3, the second blank (“quite”) should be scored +2, the third blank (“slightly”) should be scored +1, the fourth blank (“neutral”) should be scored 0, the fifth blank (“slightly”) should be scored -1, the sixth blank (“quite”) should be scored -2, and the seventh blank (“extremely”) should be scored -3. Similar scoring should be used for all of the subjective norm items.

Once the items have been scored and entered into a data file, the next step is to check on their internal consistency. This can be done in two ways. First, the items can be correlated (e.g., using the CORRELATIONS command on SPSS), and any items that are not highly correlated with the other items can be dropped out. Secondly, it is possible to compute Cronbach's alpha (e.g., using the RELIABILITY command on SPSS) to ensure that the items have high internal consistency. As a general rule of thumb, Cronbach's alpha should exceed .7. If Cronbach's alpha does not exceed .7, it might be desirable to drop out the worst item, which is the one that correlates least with the other items. Cronbach's alpha should then be re-computed to ensure that it exceeds .7.

Assuming that the items are internally consistent, the next step is to actually compute the subjective norm value. There are at least two ways of doing this. The first way, and the simplest way, is to compute the mean of all of the items that compose the subjective norm. This mean, then, is the participant's subjective norm score. The second way is to perform a factor analysis on the subjective norm items. The factor analysis should result in only one factor. If not, it suggests that one of the items is not consistent with the others and should be dropped (see foregoing paragraph). If there is only one factor, the factor score can be saved, and used as the subjective norm score. Typically, the correlation between these two ways of computing subjective norms exceeds .95, and so either method can be used.

Computing $\sum n_i m_i$

Scoring the normative beliefs and motivations to comply

Like the subjective norm items, normative beliefs should be scored from +3 (indicating an extreme belief that the important other is in favor of the behavior) to -3 (indicating an extreme belief that the important other is not in favor of the behavior). In Appendix A, there were 5 important others (doctor, spouse, father, mother, and best friend). After scoring, each important other should have a score between +3 and -3. The motivations to comply are already numbered and so the number that corresponds to the marked blank is the participant's score on the item. Thus, each of the participant's important others should have two scores, a normative belief score and a motivation to comply score.

The next step is to use these scores to compute $\sum n_i m_i$. This is done as follows. First, multiply the normative belief score for the first important other by the corresponding motivation to comply. For instance, suppose that the normative belief pertaining to the participant's doctor is +2 and the participant's motivation to comply with his or her doctor is +3. In that case, the product is $2 \times 3 = 6$. Similar computations for each of the important others should result in a single product for each of them. For example, in the case of the five important others mentioned in Appendix A, there should be five products. Finally, these products are added together and the result is a single number that represents $\sum n_i m_i$ for that participant.

For an example of how to do these computations, suppose that a participant's normative belief scores are +3, +2, -2, 0, and -1, respectively, for each of his or her important others. In addition, suppose that this participant's motivations to comply are +5, +2, +3, +1, and +3, respectively. In that case, $\sum n_i m_i = 15 + 4 - 6 + 0 - 3 = +10$.

These numbers can be tabled as follows.

Important Others	n_i	m_i	products
Doctor	+3	+5	+15
Spouse	+2	+2	+4
Father	-2	+3	-6
Mother	0	+1	0
Best Friend	-1	+3	-3
Sum of products			+10

Predicting Subjective Norms from Normative Beliefs and Motivations to Comply

If normative beliefs and motivation to comply determine subjective norms, then $\sum n_i m_i$ should correlate with subjective norms (e.g., the CORRELATION SPSS command can be used). Assuming that an acceptable correlation is obtained, and the definition of “acceptable” is a matter of judgment, it might be useful to know which normative beliefs and motivations to comply are most important. The easiest way to do this is to perform a multiple regression analysis where each normative belief-motivation to comply product is entered separately to predict subjective norms (the REGRESSION SPSS command can be used). The multiple regression analysis will result in regression weights for each of the products. Those products with the highest regression weights are likely to provide the most fruitful area for intervention.

As an example, suppose that the correlation between $\sum n_i m_i$ and subjective norms is .65, thereby indicating that normative beliefs and motivations to comply are good predictors of subjective norms. But the researcher wishes to know which particular normative beliefs and motivations to comply are most important for determining subjective norms. So the researcher performs the recommended multiple regression analysis, and finds regression weights for the normative belief-motivation to comply products pertaining to the doctor (.10), spouse (.61), father (.02), mother (.06), and best friend (.03). In this example, the normative belief-motivation to comply products pertaining to spouses better predict subjective norms than do any of those pertaining to other important others. Therefore, it would be better to focus intervention efforts on normative beliefs and motivations to comply that pertain to people’s spouses than on those that pertain to doctors, fathers, mothers, and best friends.