Intention, Perceived Control, and Weight Loss: An Application of the Theory of Planned Behavior

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Success at attempted weight reduction among college women was predicted on the basis of a theory of planned behavior. At the beginning of a 6-week period, participants expressed their attitudes, subjective norms, perceived control, and intentions with respect to losing weight. In addition, the extent to which they had made detailed weight reduction plans was assessed, as were a number of general attitudes and personality factors. In support of the theory, intentions to lose weight were accurately predicted on the basis of attitudes, subjective norms, and perceived control; perceived control and intentions were together moderately successful in predicting the amount of weight that participants actually lost over the 6-week period. Actual weight loss was also found to increase with development of a plan and with ego strength, factors that were assumed to increase control over goal attainment. Other factors, such as health locus of control, perceived competence, and action control, were found to be unrelated to weight reduction.

Overweight is a problem of great concern to a large proportion of the American population (see Wyden, 1965). Depending on the criterion used, population estimates of obese Americans range from 40 million to 80 million (Stuart & Davis, 1971). For many obese individuals, efforts to control body weight usually meet with very limited success. These individuals fail to adhere to a treatment program or, if they do adhere to it, either fail to lose weight or soon regain whatever weight they lost (see Stunkard & McLaren-Hume, 1959; Wing & Jeffery, 1979). However, Schachter (1982) has argued that the difficulty of losing weight has been greatly overstated. According to his analysis of the problem, the pessimistic conclusions regarding people's ability to control their body weight were based on work with self-selected populations of obese individuals who actively sought help, neglecting all those who were able to succeed on their own. In his studies of nontherapeutic populations, over 60% of obese individuals were successful in their attempts to lose and keep off substantial amounts of weight.

Nevertheless, it is quite clear that there are great individual differences in people's ability to control their body weight, whether they proceed on their own or join a structured treatment program. Attempts to explain the success of some individuals and the failure of others have often focused on personality characteristics (as assessed by the Minnesota Multiphasic Personality Inventory or Maudsley Personality Inventory) and general attitudes concerning locus of control, obesity, or body image. Unfortunately, these attempts have been rather unproductive. For the most part, the assessed attitudes and personality traits have been found incapable of predicting the amount of weight a person will lose (see Hall & Hall, 1974).

The present article reexamines the use of attitudinal and personality variables as predictors of success in attempted weight reduction. The approach taken is based on a theory of planned behavior (Ajzen, 1985; Ajzen & Timko, 1983), an extension of Ajzen and Fishbein's (1980; Fishbein & Ajzen, 1975) theory of reasoned action to nonmotivational determinants of behavior. As in the original model, a central factor in the theory of planned behavior is the individual's intention to lose weight. This intention is assumed to be a func-
tion of three conceptually independent variables. The first is the attitude toward losing weight and refers to the degree to which a person has a favorable or unfavorable evaluation of this behavioral goal. The second predictor is a social factor termed subjective norm; it refers to the perceived social pressure to lose or not to lose weight. The third and novel antecedent of intention, which was not part of the theory of reasoned action, is the degree of perceived control over one's body weight. This factor refers to the perceived ease or difficulty of losing weight and is assumed to reflect past experience as well as anticipated impediments and obstacles. Generally speaking, the more favorable the attitude and subjective norm with respect to losing weight, and the greater the perceived control, the stronger the individual's intention to lose weight should be.

Intention, in turn, is viewed as one immediate antecedent of actual weight reduction. That is, the stronger the people's intentions are to lose weight, the more successful they are predicted to be. However, the degree of success will depend not only on one's desire or intention to lose weight but also on such nonm motivational factors as availability of requisite opportunities and resources (e.g., time, money, skills, willpower, etc.; see Ajzen, 1985, for a review). Collectively, these factors represent people's actual control over their body weight. To the extent that a person has the required opportunities and resources and intends to lose weight, he or she should succeed in doing so.

An attempt was made in the present study to assess some of the variables that may be related to actual control over body weight. The major focus was on the development of a detailed plan of action. In developing a plan, individuals are likely to consider how to incorporate weight reduction into their daily lives and how to overcome the difficulties that they may encounter. People who have developed a detailed plan are therefore less likely to be taken by surprise and more likely to perform weight reduction behaviors in a rigorous and disciplined manner. In addition to development of a plan, the study assessed a variety of individual difference variables that appeared relevant to control over weight loss: perceived competence, ego strength, action control, and health locus of control. Individuals who score high on variables of this kind (i.e., individuals with a high degree of control) should be better able to carry out their intentions to lose weight than individuals who score low on these variables. Finally, the study examined the potential impact of physiological factors as reflected in the initial age of becoming overweight. An early age was taken as an indication that physiological factors might interfere with adequate control over body weight.

The theory of planned behavior also considers the effect of perceived control on actual weight reduction. Whereas intentions to lose weight may often reflect primarily assessments of the personal and social desirability of this goal, perceived control is likely to take into account some of the realistic constraints that may exist. To the extent that perceptions of control correspond reasonably well to actual control, they should therefore provide useful information over and above expressed intentions. This contrast between motivational factors on one hand and perceived control on the other is quite similar to Bandura's (1977, 1982) distinction between outcome beliefs and self-efficacy beliefs. Consistent with the present analysis, Bandura and his associates (e.g., Bandura, Adams, & Beyer, 1977; Bandura, Adams, Hardy, & Howells, 1980) have reported that people's behavior is strongly influenced by confidence in their ability to perform the behavior in question. Of course, people may well differ in the accuracy of their self-perceptions, including the accuracy with which they are able to assess control over their body weight. Individual differences in general self-knowledge may thus moderate the effects of intentions and of perceived control on actual weight loss.

The major hypotheses of the present study can be stated as follows: First, it is expected that intentions to lose weight can be predicted from attitudes, subjective norms, and perceived control with respect to this goal. Second, intentions and perceived control should in turn permit prediction of actual weight loss. This is expected to be especially true of respondents who score high on self-knowledge. Finally, individuals who score high on variables related to actual control are expected to be better able to carry out their intentions to lose weight than are individuals who score low on these variables. Development of a detailed plan is considered of particular importance in this regard,
but such factors as ego strength or perceived competence may also influence weight loss control.

**Method**

**Respondents and Procedure**

A total of 83 female college students were recruited from undergraduate psychology classes. Women who considered themselves overweight were encouraged to participate, but women of normal weight who wished to take part in the study were also included. The study was conducted in two stages during the spring semester. In the first stage, respondents reported to the experimenter to be weighed and to fill out a set of questionnaires, a procedure that required approximately 50 to 60 min. The second stage of the study was conducted 6 weeks later. Of the 83 respondents who had participated in the first stage, 76 (91%) also took part in the second stage. They again reported to the experimenter, were weighed a second time, and completed another set of questionnaires. The amount of time required for this part of the experiment was about 40 min. At the completion of the second stage, all questions were fully answered and respondents were given experimental credits for their participation.

**Questionnaires**

**Stage 1.** The questionnaire administered in the first stage began with a series of background questions, including present age, height, and weight, and asked whether respondents had in the past succeeded in reducing weight and by how much, what they considered to be their ideal weight, whether they thought of themselves as overweight, at what age they had first become overweight (if at all), and how much they expected to weigh 6 weeks hence.

The next part consisted of a series of 7-point scales of the semantic differential type. As an introduction, respondents read an explanation on the use of these scales. Two with respect to trying to reduce weight. In each case, sets of scales were designed to assess attitudes toward losing weight. The internal consistency of this measure, as assessed by Cronbach's alpha coefficient, was .82.

Four responses were averaged to obtain a measure of subjective norm, two with respect to reducing weight and two with respect to trying to reduce weight. In each case, respondents indicated on a 7-point scale whether most people who were important to them thought they should reduce weight or try to reduce weight over the next 6 weeks (scale ranged from should to should not) and whether these people would support such a course of action (scale ranged from support to oppose). Cronbach's alpha for this measure was found to be .88.

Intentions were also assessed by averaging responses to four scales. "I intend to reduce weight over the next six weeks" and "I will try to reduce weight over the next six weeks" were each rated on a 7-point scale ranging from likely to unlikely. In addition, "I have decided to lose weight during the next six weeks" was rated on a true-false scale, and "I am determined to reduce weight over the next six weeks" was rated on a scale that ranged from very much to not at all. A coefficient alpha of .88 was obtained for the overall measure of intention.

The final two questions in the section dealt with perceived control. Respondents indicated, on a scale from 0 to 100, "the likelihood that if you try you will manage to reduce weight over the next six weeks" and "your best estimate that an attempt on your part to reduce weight over the next six weeks would be successful." The correlation between these two items was .63 (p < .01), and the average response served as a measure of perceived control.

In the next section of the questionnaire, respondents were asked to describe what plans, if any, they had made to help them reduce weight. Responses to the open-ended question were content analyzed according to the number of concrete considerations addressed in a person's plan. Specifically, one point was given when a particular action was mentioned, such as counting calories, eating or refraining from eating at specified times, avoiding temptation, engaging in a certain exercise, weighing oneself regularly, and so on. Values on this measure could range from 0 to 16.

The remaining items on the questionnaire used a 5-point scale that ranged from completely false to completely true. First, the questionnaire assessed general self-knowledge by means of a 20-item scale developed for this purpose in a pilot study and ego strength by means of an 8-item scale newly developed by Epstein and White for use in personality research. The self-knowledge scale contained such items as "Sometimes I feel happy or sad without really knowing why," "I do not find it very difficult to see myself objectively as I really am," and "I still have a lot to learn about myself," and the sum over all responses (adjusted for direction of item phrasing) was obtained. The self-knowledge scale had considerable internal consistency (alpha = .83). Some of the items on the ego-strength scale were "Self control is no problem for me," "I have no problem resisting temptation," and "I tend to do things on the spur of the moment." The sum over the 8 items served as a measure of ego strength, and its internal consistency, as indexed by Cronbach's alpha, was .75.

Finally, participants responded to a set of 16 questions taken from the 18-item health locus of control scale developed by Wallston, Wallston, and DeVellis (1978). Sample items from this scale are "If I get sick, it is my own behavior which determines how soon I get well again" and "My good health is largely a matter of good fortune." Scored in the direction of internal locus of control, responses were summed to obtain a total score. An alpha coefficient of .74 was computed for this scale.

**Stage 2.** In addition to some retrospective questions concerning experiences during the preceding 6 weeks, the

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1 We would like to thank Sy Epstein for providing us with a copy of his unpublished scale and for permitting its use in the present study. A copy of the scale may be obtained from Sy Epstein, Department of Psychology, University of Massachusetts, Amherst, Massachusetts 01003.

2 The two items that were omitted appeared inappropriate for the present subject population.
The second stage of the study contained two general individual difference measures. The first was a somewhat shortened version of Kuhl's (1982) action control scale. It contained 24 forced-choice items of the following kind: "When I have to work at home...I often find it difficult to get started/I usually start right away," and "When I have worked on a project for weeks and weeks and everything turns out wrong...it takes a long time before I get over it/I don't let it bother me for very long." Scored in the direction of high action control, this measure can range from a low of 0 to a high of 24. Individuals who score high on this scale are said to be action oriented and are assumed to be decisive and in control of their behavior. In contrast, individuals on the low end of the scale are state oriented; they are assumed to procrastinate and to have difficulties translating intentions into actions. The internal consistency of the action control scale was .76 as measured by Cronbach's alpha.

The second individual difference measure was Shrauger and Rosenberg's (1970) 12-item general competence scale. Among the questions on this scale were "When you face new situations which require fast decisions, what percent of the time can you make them effectively?" and "When doing things that interest you most, what percent of the time are you satisfied with your performance?" Responses were obtained on a scale ranging from 0 to 100, and the sum over the 12 items was computed. Cronbach's alpha for the perceived competence scale was .83. Completion of the second questionnaire concluded the experiment.4

Results

Of the 83 participants at Stage 1, 63 (76%) considered themselves overweight, and of the remaining 20 respondents, 17 believed that their ideal weights were from 0.5 kg to 3.5 kg below their present weights. Those who considered themselves overweight were up to 17 kg over their desired weights. For the entire sample, the median was a present weight of 6 kg over the ideal weight. Given these self-perceptions, it is hardly surprising that all but 1 respondent expected to lose some weight over the following 6 weeks; the median expected weight loss was 4.5 kg.

These favorable dispositions toward weight loss could also be seen in the measures of attitude and intention. The average attitude toward losing weight was 6.49 (maximum = 7), with a standard deviation of 0.64. The corresponding values for intentions were 6.06 and 1.04. Although restricted in range, attitudes varied from 4.33 to 7.00, and intentions, from 2.75 to 7.00.

Among the 76 respondents who returned for the second stage of the study, the average weight loss was 0.76 kg; 44 respondents had lost some weight (from 0.5 kg to 5.5 kg), 16 had maintained the same weight, and 16 had gained up to 2.5 kg.

Theory of Planned Behavior

Table 1 presents the correlations among the variables contained in the theory of planned behavior. It can be seen that, as expected, intention to lose weight correlated significantly with attitude, subjective norm, and perceived control. A multiple regression analysis revealed that all three variables made independent contributions to the prediction of intentions. The regression coefficients for attitude, subjective norm, and perceived control were .79, .17, and .30, respectively (p < .01 in each case), and the multiple correlation was .74. Clearly, the independent variables in the theory of planned behavior afforded fairly accurate predictions of weight loss intentions.

Turning to actual weight loss, one can see in Table 1 that perceived control was the best single predictor of the amount of weight that participants lost over the 6-week period.5 Amount of weight reduction also correlated significantly with intention, but the correlations with attitude and subjective norm were not significant. A hierarchical multiple regression analysis was performed to examine predictability of weight loss. Intention and perceived control were entered on the first step, and the interaction between these two variables (i.e., the intention by perceived control product) was entered on the second step.6 The notion that successful attempts to reduce weight require both motivation to do so (intention) and the ability to act accordingly is supported by the significant interaction of intention and control. The two measures correlated highly (r = .86, p < .01) and yielded virtually identical findings.

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4 We are grateful to Julius Kuhl for providing us with an English version of his action control scale and for his permission to use it in this study.

5 In addition to participating in the two stages of the study, respondents were also asked to keep weekly records on a list of exercising and dieting activities. However, reports of these activities were found to be largely unrelated to weight reduction. At least two problems may be responsible for the failure to obtain a relation. First, the list provided may have omitted some of the activities actually performed. Second, and more important, performance of a given activity may have represented a continuation of past behavior rather than a new initiative. As such, it could of course not be expected to lead to a reduction in body weight.

6 All interaction terms reported in this article were computed after each variable had been standardized around the sample mean, and a constant of 4.0 had been added to avoid negative numbers.
Table 1
Correlations Among Variables in Theory of Planned Behavior

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Attitude</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<tr>
<td>2. Subjective norm</td>
<td>.40**</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>3. Perceived control</td>
<td>.12</td>
<td>.01</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4. Intention</td>
<td>.62**</td>
<td>.44**</td>
<td>.36**</td>
<td>—</td>
</tr>
<tr>
<td>5. Weight loss</td>
<td>.10</td>
<td>.05</td>
<td>.41**</td>
<td>.25*</td>
</tr>
</tbody>
</table>

Note. Correlations involving weight loss are based on a sample size of 76; all others are based on a sample size of 83.

*p < .05. **p < .01.

and adequate control over resources and opportunities implies an interaction between intention and perceived control. The results of the multiple regression revealed a highly significant effect of perceived control (regression weight = .39, p < .01) and a marginally significant effect of the interaction term (regression weight = .20, p < .10); the regression coefficient of intention (.09) was not significant (F < 1). The multiple correlation based on intention and perceived control alone was .44, and the addition of the interaction term raised the multiple correlation to .47.

To examine the nature of the interaction, the sample was divided into four subgroups by means of a two-way classification based on median splits on the measures of perceived control and intention. As can be seen in Figure 1, a strong intention to lose weight increased weight reduction only for those respondents who believed that they could control attainment of this goal. At low levels of perceived control, degree of intention had no effect on weight loss.

Overall, then, the theory of planned behavior was quite successful in predicting intentions to lose weight and moderately successful in its prediction of actual weight loss. Some of the reasons that actual weight loss could not be predicted with greater accuracy will be taken up in the Discussion section, after further examination of the question of control.

Figure 1. Weight loss as a function of intention and perceived control.
Table 2
Correlations Among Individual Difference Variables and Weight Loss

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Self-knowledge</td>
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<td></td>
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<tr>
<td>2. Planning</td>
<td></td>
<td>.50**</td>
<td>.09</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>3. Ego strength</td>
<td></td>
<td>.43**</td>
<td>.28*</td>
<td>.27*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Health locus of control</td>
<td></td>
<td>.12</td>
<td>.28*</td>
<td>.38**</td>
<td>.33**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Action control</td>
<td></td>
<td>.06</td>
<td>.07</td>
<td>.22*</td>
<td>-.02</td>
<td>.03</td>
<td></td>
</tr>
<tr>
<td>6. Competence</td>
<td></td>
<td></td>
<td></td>
<td>.17</td>
<td>.05</td>
<td>.08</td>
<td>.05</td>
</tr>
<tr>
<td>7. Weight loss</td>
<td></td>
<td>.25*</td>
<td>.24*</td>
<td>.31**</td>
<td>.16</td>
<td>.22*</td>
<td>.21*</td>
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<tr>
<td>8. Variable × intention</td>
<td></td>
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<td>with weight loss</td>
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</table>

* p < .05. ** p < .01.

Effects of Variables Related to Control

The first six rows of Table 2 present correlations among the individual difference variables that were assessed in the present study because they might influence or reflect control over weight reduction. The last two rows of the table show predictions of actual weight loss from each one of these variables by itself and in interaction with intention.

Moderating effects of self-knowledge. As can be seen in Table 2, self-knowledge correlated significantly with weight loss (r = .25, p < .05). It was also expected, however, that self-knowledge would moderate the relation of intention and of perceived control to amount of weight reduction. In the last row of Table 2, it can be seen that the interaction between self-knowledge and intention indeed had a significant effect (r = .33, p < .01) on weight reduction. Similarly, the product between self-knowledge and perceived control also correlated significantly (r = .43, p < .01) with weight loss.

Planning. Respondents who had developed a relatively detailed plan of action were found to be better able to reduce weight than were respondents who had not done so. As can be seen in Table 2, the correlation between the planning index and weight loss was .24 (p < .05). Interestingly, development of a plan seemed to be particularly useful for women who either had never tried to lose weight before or who had tried but had not lost as much weight in the past as they now expected to lose. For these inexperienced or unsuccessful women, the correlation between the planning measure and weight loss was .49 (p < .01) as opposed to a correlation of .11 (ns) for experienced and successful women (n_H = 38 in each case). It thus appears that experienced respondents knew how to go about losing weight; whether or not they developed a detailed plan contributed little to their success.

Table 2 also shows that planning interacted with intention to influence amount of weight reduction (r = .30, p < .01). For participants who scored below the median on the planning index (n = 38), the correlation between intention and weight loss was only .13 (ns), whereas for participants who scored above the median on the planning index (n = 38), this correlation was higher (r = .34) and significant (p < .05).

General attitudes and personality traits. Of the remaining individual difference measures that were assessed (ego strength, health locus of control, action control, and perceived competence), only ego strength was found to have a marginally significant correlation with weight loss (r = .17, p < .07, one-tailed). The inter-
action with intention was again significant, however (see Table 2). The intention-weight loss correlation for respondents above the median in ego strength was .46 ($p < .01$), compared with a correlation of .36 ($p < .05$) for respondents below the median on this variable ($ns = 40$ and 36, respectively).

There were no appreciable effects due to any of the other individual difference variables. As can be seen in Table 2, health locus of control, action control, and perceived competence did not correlate significantly with weight loss; although the interactions of the latter two measures with intention did reach significant levels, the correlations (.22 and .21) were actually lower than the correlation of .25 obtained by predicting weight loss on the basis of intention alone (see Table 1).

Overall predictability of weight loss. A hierarchical multiple regression analysis was performed to examine the total amount of variance in weight loss that could be explained by considering all factors that were found to have significant relations with the dependent variable. Intention and perceived control were entered on the first step, and the interaction between them was entered on the second step. This was followed by self-knowledge, planning, and ego strength on the third step, and the products of these three variables with intention were entered on the fourth step. As reported earlier, perceived control had a significant effect, its interaction with intention was marginally significant, and the main effect of intention was not significant. The multiple correlation at the second step was .47. Addition of self-knowledge, planning, and ego strength raised the multiple correlation to .50. Although neither of these variables made a significant contribution by itself, their simultaneous effect was highly significant, $F(6, 67) = 3.73, p < .01$. Finally, the three interaction terms entered on the fourth step also made a significant contribution overall, $F(10, 63) = 2.15, p < .05$, but the multiple correlation did not increase above the .50 level obtained on the previous step.

Age at initial overweight. The final factor considered was, when applicable, the age at which participants reported having initially become overweight. The 56 respondents who considered themselves overweight and who had returned for the second stage of the experiment were divided at the median into those who had first become overweight at a relatively early age (less than 17 years; $n = 29$) and those who had become overweight later in life ($n = 27$). Contrary to expectations, the former group lost significantly, $t(54) = 2.06, p < .05$ (two-tailed), more weight ($M = 1.30$ kg) than did the latter group ($M = 0.45$ kg). Interestingly, however, the relatively high success of the early overweight respondents was unrelated to their intentions. In fact, the correlation between their intentions and weight loss was somewhat negative ($r = - .22; ns$). In contrast, although respondents who became overweight after age 17 lost less weight on the average, the amount of weight they did lose correlated positively and significantly ($r = .45; p < .01$) with their weight loss intentions.

To explore further the unexpectedly high weight loss among early overweight participants, the two groups were compared in terms of the amount by which they considered themselves overweight at the beginning of the experiment. Although the early overweight women did consider themselves somewhat more overweight than the comparison group (7.17 kg vs. 6.27 kg), the difference was not statistically significant, $t(54) = 1.08, p < .30$. The two groups did not differ significantly in terms of any of the variables contained in the theory of planned behavior, that is, attitude toward losing weight, subjective norm, perceived control, or intention to lose weight. The present study thus offers no good explanation for the ability of early overweight women to lose more weight than women who became overweight later.

Discussion and Conclusions

Fifty-eight percent of the respondents who participated in both stages of the study managed to lose weight, some an appreciable amount, in the relatively short time span of 6 weeks. We have, of course, no information about the extent to which the lowered weight was maintained, but this finding indicates that many women are capable of reducing weight on their own, and it is quite consistent with the results of Schachter's (1982) investigations. The study also clearly showed, however, that not all women were equally successful. Some managed to lose only very little, and quite a few either lost no weight at all or even gained a small amount. On the average, the actual
amount of weight lost (about 0.76 kg) fell far short of the expected loss (4.5 kg).

The findings of the present study suggest that the amount of weight that people lose may have little to do with the strength of their intentions, (i.e., with their motivation). Weight loss intentions had only a low, albeit significant, correlation with the actual amount of weight lost. Of course, losing weight is not a behavior but, rather, an outcome over which individuals have only limited behavioral control (see Ajzen & Fishbein, 1980). In consistency with this argument, a better predictor of weight loss was the degree to which the women believed that they had control over their body weight. Those women who strongly intended to lose weight and also believed that they were capable of doing so were most likely to succeed.

It is important to note that the measure of perceived control obtained in the present study dealt specifically with the respondent’s belief in her ability to reduce weight over the 6-week period. Whereas this specific belief regarding control correlated significantly with weight loss, a general measure of perceived competence did not, nor did a measure of belief regarding health locus of control. These findings are consistent with research on the relation between attitude and behavior, wherein it is also found that behavior-specific attitudes are better predictors of subsequent action than are more general evaluative predispositions (see Ajzen & Fishbein, 1977).

One possible explanation of the correlation between perceived control and weight loss is that individuals with high perceived control are more likely to try losing weight than are individuals with low perceived control, even if their perceptions are unrealistic. According to this account, perceived control leads to the intention to lose weight, which in turn induces a behavioral attempt. The results of the present study are, however, inconsistent with this explanation. Perceived control was found to have a partly independent effect on weight loss that was not mediated by intention. That is, in addition to the marginally significant interaction between perceived control and intention, perceived control had a significant main effect on weight loss. A second possibility is that perceived control reflects past success at weight reduction and thus predicts future success. However, the extent to which an individual reported having been successful at losing weight in the past was found to be related neither to perceived control ($r = .01$) nor to weight loss in the present instance ($r = .03$).

Another possibility is that perceived control takes into account various factors that may inhibit or promote attainment of a weight reduction goal, thus reflecting actual control reasonably well. It is difficult to evaluate this possibility directly because no independent measures of actual control were readily available. Whatever the merit of this explanation, the fact that perceived control, even in combination with intention, correlated only moderately with weight loss seems to suggest that there must be other factors related to actual control that were not adequately taken into account. Of the factors considered in the present study, only development of a detailed plan of action and, to a marginal degree, ego strength affected actual weight reduction. Perceived control, however, was unrelated to ego strength ($r = .01$) and only slightly related to the planning index ($r = .19, p < .10$). Many other factors may have influenced weight loss over the 6-week period, factors that could have been unanticipated and possibly unforeseeable. For example, sudden illness could have resulted in considerable weight loss even in the absence of strong intentions or perceived control, and unanticipated difficulties related to studies, work, or the family could have reduced attention to matters of weight or even increased tendencies to eat frequently as a means of coping with the stress.

In sum, in consistency with the theory of planned behavior, intention to lose weight was found to be a function of attitude toward weight reduction, subjective norm with respect to this goal, and perceived control over its attainment. Furthermore, and also in consistency with the theory, amount of weight actually lost correlated moderately with intention and perceived control. However, although it appears that intention and perceived control can predict weight loss reasonably well, it...

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7 Also in consistency with this argument, Saltzer (1978) reported that a four-item weight loss control scale was more useful in helping to understand weight loss intentions than were the more general health locus of control and internal-external locus of control scales.
would be naive to assume that all factors related to control are reflected in measures of these variables taken prior to the attempt at weight reduction. Unanticipated difficulties are likely to arise in the course of an extended period of time, and these difficulties may modify weight loss intentions as well as perceived control. One advantage of a controlled weight reduction program over spontaneous attempts to lose weight may lie precisely in its ability to help participants overcome whatever unanticipated difficulties they encounter. Short of joining a supervised weight reduction program, individuals can increase their chances of success by developing a fairly detailed plan of action. This appears especially true for relatively inexperienced people who have not tried to lose weight in the past or who, if they tried, have never lost as much weight as they would currently like to lose.

References


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