

Does regulatory focus play a role in dietary restraint?

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Abstract

Regulatory-Focus Theory [Higgins, E. T. (1997). Beyond pleasure and pain. *American Psychologist*, 52, 1280–1300.] distinguishes between self-regulation with a promotion focus (focusing on the presence and absence of positive outcomes) and a prevention focus (focusing on the presence and absence of negative outcomes). We examined whether regulatory-focus theory can help us to better understand the weight-related beliefs and dieting behaviors of restrained eaters. In two studies, participants completed measures of dietary restraint, regulatory focus, beliefs about the outcomes associated with weight loss and weight gain, and dieting behaviors. Overall, restrained eaters were more self-regulatory than were unrestrained eaters. Across both studies, dietary restraint was the best predictor of weight-related beliefs and dieting behaviors; in contrast, regulatory focus was largely unrelated to beliefs and behaviors. In addition, restrained eaters were highly motivated to control their weight irrespective of how close or how far they were from their ideal weight, whereas unrestrained eaters were more motivated to control their weight when they were further from their ideal. Our results suggest that future research should focus on the obstacles to successful weight regulation, rather than on individuals' regulatory focus.

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1. Introduction

Self-regulation plays an important role in many health-related behaviors (e.g., Cameron & Leventhal, 2003), including eating and dieting. In recent years, research on self-regulation has focused on individuals' specific self-regulatory orientations. According to regulatory-focus theory (Higgins, 1997), individuals' self-regulation and goal-attainment strategies can be motivated by either of two regulatory foci: a promotion focus or a prevention focus. Individuals who are promotion focused are sensitive to the presence or absence of gains and positive outcomes, and are motivated to approach matches to desired end-states. In contrast, individuals who are prevention focused are sensitive to the presence or absence of losses and negative outcomes, and are motivated to avoid mismatches with desired end-states.

Recent research has shown that individuals' dieting-related goal orientation (having an appearance focus vs. having a health focus) can influence the behavioral strategies that they choose in pursuing their dieting goals, and that

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dieting for health reasons is associated with fewer negative sequelae compared to dieting for appearance reasons (Putterman & Linden, 2004). Can regulatory-focus theory add to this recent research in helping us to better understand the complexity of dieting behavior? Specifically, what can regulatory-focus theory tell us about (a) the nature of people's motivation with respect to their diet and weight-related goals, (b) the strategies and means that individuals use to achieve their goals, and (c) how likely individuals are to persevere and succeed at their goals?

It has been well documented that most women and many men are actively trying to control their weight (Serdula et al., 1999). It is less clear, however, whether these individuals are primarily striving to achieve weight loss as a means of approaching an ideal body weight (e.g., "I want to lose 20 pounds so that I can weigh 130 lb"), or whether they are instead motivated to prevent weight gain (e.g., "I don't want to gain weight, because I don't want to weigh more than 150 lb"). In other words, do dieters diet because of a promotion focus toward thinness (and its associated positive outcomes, such as attractiveness, popularity, and happiness) or because of a prevention focus away from fatness (and its associated negative outcomes, such as social ostracism, derogation, and negative health consequences)?

One factor that could play a role in determining an individual's regulatory focus is the extent of perceived overweight (i.e., the degree of discrepancy between one's actual weight and one's ideal weight). According to regulatory-focus theory, a promotion focus should reflect a desire to lose weight, whereas a prevention focus should reflect a desire to avoid gaining weight. Therefore, individuals who see themselves as further from their ideal weight (i.e., those who "need" to lose weight) should be more promotion focused, whereas individuals who are at (or close to) their ideal weight (i.e., who do not especially "need" to lose weight but who might be concerned about weight gain) should be more prevention focused.

It has been suggested that a prevention focus involves being more oriented toward proximal goals whereas a promotion focus involves being more oriented toward distal goals (Pennington & Roese, 2003), and research has shown that promotion- and prevention-focused individuals differ in the behavioral strategies that they use for attaining their goals. For example, promotion goals are thought to involve more planning and preparation than do prevention goals (e.g., Pennington & Roese, 2003). Higgins, Roney, Crowe, and Hymes (1994; Study 3, Phase 3) investigated people's strategies for achieving friendship goals, and found that individuals selected behavioral strategies that were consistent with their regulatory focus. Specifically, promotion-focused individuals were more likely to select strategies aimed at being a good friend (achieving a match to one's goal; e.g., "Be generous and willing to give of yourself"), whereas prevention-focused individuals were more likely to select strategies aimed at not being a poor friend (avoiding a mismatch to one's goal; e.g., "Don't lose contact with your friends").

The foregoing research suggests that one might expect certain dieting behaviors to be more related to a promotion focus (directed at achieving desired end-states, and involving planning and preparation) and other dieting behaviors to be more related to a prevention focus (directed at avoiding undesired end-states). For example, individuals who are motivated to achieve weight loss (promotion-focused individuals) should be more likely to plan and limit their daily caloric intake (which might involve planning and preparation), whereas individuals who are motivated to avoid gaining weight (prevention-focused individuals) should be more likely to avoid overeating and avoid desserts (which might involve more spontaneous decisions).

Examining the regulatory focus and behavioral strategies of dieters can be important because previous research has shown that regulatory focus can play a role in motivational strength, task persistence, and successful goal pursuit (e.g., Förster, Higgins, & Idson, 1998; Shah, Higgins, & Friedman, 1998; Spiegle, Grant-Pillow, & Higgins, 2004). Similarly, understanding dieters' motivational focus and their behavioral strategies can potentially help us to better understand successes and failures in their weight-control attempts. In Study 1, we examined the influence of (1) dietary restraint, (2) general regulatory focus, (3) weight-specific regulatory focus, and (4) perceived distance from ideal weight on (a) beliefs about the outcomes associated with weight loss and weight gain and (b) dieting behaviors. In Study 2, restrained and unrestrained eaters were pre-selected on the basis of their weight-specific regulatory focus, and the groups were then compared with respect to the same weight-related behaviors and beliefs as in Study 1.

1.1. Hypotheses

We predicted that restrained eaters would have stronger beliefs about the outcomes associated with weight loss and weight gain than would unrestrained eaters, and that they would also be more likely to report engaging in various dieting behaviors. Predictions with respect to regulatory focus are less straightforward. We expected that restrained eaters would be more self-regulatory overall, but determining the focus of that self-regulation (i.e., promotion vs.

prevention focus) is less obvious, so we refrained from making any firm predictions. Based on previous research, we did predict that promotion-focused individuals would be more focused on the outcomes associated with weight loss and would be more likely to report engaging in promotion-type behaviors (e.g., planning and limiting daily intake); in contrast, prevention-focused individuals should be more focused on outcomes associated with weight gain, and should report engaging in prevention-type behaviors (e.g., avoiding overeating and avoiding dessert). Finally, we predicted that those individuals who were further from their ideal weight would be more promotion focused relative to those who were close to their ideal weight.

2. Study 1

2.1. Method

2.1.1. Participants

Eighty-nine female undergraduate students from an introductory psychology course at the University of Toronto participated in exchange for course credit. Their mean age was 22 years (range=18 to 42). Participants were pre-selected on the basis of their scores on the Restraint Scale (Herman & Polivy, 1980), a 10-item self-report measure of dietary habits and weight fluctuations, which was administered in a mass-testing session at the beginning of the semester. Individuals scoring 15 or higher were classified as restrained eaters, and individuals scoring less than 15 were classified as unrestrained eaters. There were 44 restrained eaters ($M=20.11$, $SD=3.29$) and 43 unrestrained eaters ($M=9.05$, $SD=3.29$). Two participants did not complete the entire Restraint Scale, and were therefore not included in the analyses described below. BMI was similar for restrained eaters ($M=23.12$, $SD=4.90$) and unrestrained eaters ($M=21.42$, $SD=5.34$), $t(83)=1.53$, $p=.13$, $d=0.33$.

2.1.2. Materials and procedure

Participants were invited to take part in a study examining “people’s opinions related to health and well-being.” Participants completed a questionnaire packet in groups of one to five individuals. Included among several filler measures were the questionnaires of interest to the present study. These included measures of dietary restraint, regulatory focus, and weight-related behaviors and beliefs.

2.1.2.1. Dietary restraint. Dietary restraint was assessed using the Restraint Scale. The Restraint Scale is a widely used measure of dietary restraint, and has good reliability and validity. In the present study, Cronbach’s alpha was .82. Participants were also asked to indicate their current height and weight, as well as their ideal weight.

2.1.2.2. General regulatory focus. General regulatory focus was assessed using the Promotion–Prevention Scale (PPS; Lockwood, Kunda, & Jordan, 2002). The PPS is a self-report measure with 18 items that “were designed to tap into the same theoretical constructs used by Higgins and his colleagues” and that provides “a concise means of assessing them” (p. 859). The subscales consist of 9-items, each of which is responded to on a 9-point scale (1 = *Not at all true of me*, 9 = *Very true of me*). Although the reliability of the PPS scales was found to be quite high in Lockwood et al. (2002), reliability in the present study was relatively low for the promotion scale (Cronbach’s alpha = .60), and acceptable for the prevention scale (Cronbach’s alpha = .77).

2.1.2.3. Weight-specific regulatory focus. The weight-specific regulatory focus index was modeled after items from the PPS. We created two items assessing weight-specific promotion focus (e.g., “When I’m watching what I eat, my major goal is to lose weight”; Cronbach’s alpha = .92), and two items assessing weight-specific prevention focus (e.g., “I often worry that I will gain weight”; Cronbach’s alpha = .80).

2.1.2.4. Weight-related beliefs. We assessed participants’ beliefs about the outcomes associated with weight loss and weight gain using a modified version of Boivin and Polivy’s (2001) Weight Expectancies Questionnaire. This questionnaire assesses various social, emotional, and physical outcomes associated with weight loss (e.g., “I would be happier if I were thinner) and weight gain (“I would be derogated by others if I were heavier”). Each item is responded to on a 7-point scale (1 = *Completely disagree*, 7 = *Completely agree*). Consistent with regulatory-focus theory’s distinction, the items were modified such that the “thin” belief items were oriented toward the presence or absence of

positive outcomes (promotion focused), and the “heavy” belief items were oriented toward the presence or absence of negative outcomes (prevention focused). Cronbach’s alpha was .90 and .84 for “thin” beliefs and “heavy” beliefs, respectively.

2.1.2.5. Dieting behaviors. Participants were asked to report the extent to which they engaged in a number of dieting-related behaviors, including frequency of planning and limiting caloric intake, frequency of consuming low-fat foods, and frequency of avoiding overeating and avoiding desserts (1 = *Never*, 4 = *Always*).

After completing the questionnaire packet, participants were debriefed and thanked for their participation.

2.2. Results and discussion

2.2.1. Regulatory focus

Repeated-measures analysis of variance (ANOVA) was conducted with dietary restraint (restrained vs. unrestrained eaters) as the between-subjects factor, and regulatory-focus scale scores (promotion-scale scores vs. prevention-scale scores) as the within-subjects factor. This analysis was conducted separately for general regulatory focus and for weight-specific regulatory focus.

2.2.1.1. General regulatory focus. There was a significant effect of dietary restraint, such that restrained eaters ($M=6.87$, $SD=1.20$) were more self-regulatory than were unrestrained eaters ($M=6.41$, $SD=1.42$), $F(1, 83)=4.41$, $p<.04$, $d=0.35$. In addition, across all participants, promotion-scale scores ($M=7.48$, $SD=1.21$) were higher than were prevention-scale scores ($M=5.80$, $SD=1.46$), $F(1, 83)=83.47$, $p<.001$, $d=1.25$. There was no significant interaction.

2.2.1.2. Weight-specific regulatory focus. For weight-specific regulatory focus, the only significant effect was a main effect of restraint, with restrained eaters ($M=7.10$, $SD=1.89$) being much more self-regulatory than unrestrained eaters ($M=3.42$, $SD=2.30$), $F(1, 85)=78.37$, $p<.001$, $d=1.75$. Because we predicted that individuals’ perceived distance from their ideal weight would be related to their regulatory focus, we next divided participants into those who were close to their ideal weight and those who were far from their ideal weight. This division was based on a median split (excluding participants who reported being below their ideal weight [$n=8$] and those who had missing data [$n=5$]); in this study, “close to ideal” was defined as self-reported weight within 10 lb of ideal weight, and “far from ideal” was defined as self-reported weight 10 lb or more above ideal weight. Restrained eaters who were close to their ideal weight were less self-regulatory ($M=6.32$) than were those who were far from their ideal weight ($M=7.44$), $p<.05$, $d=0.59$. This difference was much more dramatic for unrestrained eaters: they were much less self-regulatory when they were close to their ideal weight ($M=2.86$) than when they were far from their ideal weight ($M=5.81$), $p<.001$, $d=1.99$. Thus, unrestrained eaters who were far from their ideal weight were highly motivated to control their weight, but were less so when they were close to their ideal. In contrast, restrained eaters maintained a focus on weight control even if they were only slightly above their ideal weight.¹

2.2.2. Multiple regression analyses

Multiple regression analyses were conducted with each of the weight-related beliefs and behaviors as dependent variables, and with dietary restraint (total Restraint Scale score), general regulatory focus (PPS promotion scale minus prevention scale),² weight-specific regulatory focus (promotion scale minus prevention scale), and perceived distance from ideal weight (self-reported weight minus ideal weight) entered as predictor variables.

¹ This finding is in contrast to the “goal-looms-larger” effect, in which motivational strength increases as one approaches the goal (e.g., Förster et al., 1998).

² As is the case with most of the research on regulatory focus, we were interested in individuals’ relative regulatory focus, that is, the extent to which they were more or less promotion (or prevention) focused. Therefore, for both the general regulatory focus and for weight-specific regulatory focus, we calculated relative scores by subtracting prevention-focus scores from promotion-focus scores. Positive values represent more of a promotion focus, whereas negative values represent more of a prevention focus.

2.2.2.1. Weight-related beliefs. Total Restraint score ($R^2 = .29$, $\beta = .44$) and distance from ideal weight ($\Delta R^2 = .08$, $\beta = .29$) were both positively related to beliefs that being thinner would enhance one's positive outcomes, $F(2, 76) = 22.21$, $p < .001$. Only total Restraint score ($R^2 = .27$, $\beta = .52$), however, was related to beliefs that being heavier would lead to negative outcomes, $F(1, 76) = 27.46$, $p < .001$. Overall, dietary restraint was the best predictor of beliefs about the outcomes associated with weight loss and weight gain, and regulatory-focus (either in general or weight-specific) did not contribute to the prediction of these beliefs.

2.2.2.2. Dieting behaviors. Total Restraint score was the only significant predictor of the frequency of avoiding overeating ($R^2 = .09$, $\beta = .30$), the frequency of avoiding indulging in desserts ($R^2 = .10$, $\beta = .32$), and the frequency of eating low-fat foods ($R^2 = .15$, $\beta = .38$), $F_s > 7.00$, $p_s < .01$. Total Restraint score was also the only significant predictor of limiting daily intake ($R^2 = .30$, $\beta = .55$), $F(1, 77) = 33.34$, $p < .001$, but for the item "plan intake carefully," total Restraint score ($R^2 = .20$, $\beta = .41$) and general regulatory focus ($\Delta R^2 = .04$, $\beta = -.21$) were both significant predictors, $F(2, 76) = 11.78$, $p < .001$. Again, dietary restraint was the best predictor of dieting behaviors. General regulatory focus was related only to planning one's intake, and neither weight-specific regulatory focus nor perceived distance from ideal weight were significant predictors of any dieting behaviors.

Adding BMI to the regression models described above had no impact on the results, with one exception: For beliefs that being heavier leads to more negative outcomes, BMI emerged as a significant predictor ($\Delta R^2 = .05$, $\beta = .20$, $p = .05$); however, total Restraint score was still the strongest predictor ($R^2 = .27$, $\beta = .48$, $p < .001$).

Examination of the raw data for weight-specific regulatory focus revealed that a large proportion of the sample had promotion scores that were within one point of their prevention scores (66% of restrained eaters, and 74% of unrestrained eaters), and this restricted range of scores might in part explain the lack of relation between regulatory focus and dietary restraint in Study 1. In Study 2, therefore, restrained and unrestrained eaters were pre-selected as being either (a) more promotion focused, (b) more prevention focused, and (c) equally promotion and prevention focused ("neutral") with respect to weight. Participants were then compared on the same weight-related beliefs and behaviors that were examined in Study 1 as a function of their dietary-restraint and regulatory-focus classifications.

3. Study 2

3.1. Method

3.1.1. Participants

One-hundred-thirty-four female undergraduate students from an introductory psychology course at the University of Toronto participated in exchange for course credit. Their mean age was 19 years (range = 17 to 35). Two criteria were used for participant selection. First, as in Study 1, restrained eaters ($n = 60$, $M = 20.09$, $SD = 4.03$) and unrestrained eaters ($n = 74$, $M = 9.18$, $SD = 3.78$) were selected on the basis of their scores on the Restraint Scale, which was completed at a mass-testing session. At the same mass-testing session, participants also completed two of the weight-specific regulatory-focus items used in Study 1 (one promotion item and one prevention item), and were classified as being either promotion focused, prevention focused, or neutral in their regulatory focus on the basis of their relative scores on these two items. Table 1 shows the distribution of restrained and unrestrained eaters in each regulatory-focus category. Mean BMI was higher for restrained eaters ($M = 22.94$, $SD = 3.23$) than it was for unrestrained eaters ($M = 20.60$, $SD = 2.03$), $t(92) = 4.82$, $p < .001$, $d = 0.87$.

Table 1

Weight-specific regulatory-focus scores (promotion minus prevention) as a function of dietary-restraint and regulatory-focus category

Restraint category	Regulatory-focus category		
	Promotion	Neutral	Prevention
Restrained eaters	$M = 1.68$ $SD = 1.28$ $n = 25$	$M = 0.00$ $SD = 0.00$ $n = 25$	$M = -1.55$ $SD = 0.90$ $n = 10$
Unrestrained eaters	$M = 0.85$ $SD = 0.43$ $n = 20$	$M = 0.00$ $SD = 0.00$ $n = 23$	$M = -1.45$ $SD = 0.93$ $n = 31$

3.1.2. Materials and procedure

The materials and procedure for Study 2 were identical to those for Study 1.³ In Study 2, Cronbach's alpha for each measure was as follows: Restraint Scale=.84; weight-specific promotion focus=.90, weight-specific prevention focus=.82; "thin" beliefs=.92, "heavy" beliefs=.88.

3.2. Results and discussion

3.2.1. Weight-specific regulatory focus

Overall, restrained eaters were more self-regulatory than were unrestrained eaters ($M=7.25$ vs. $M=3.78$, respectively, $p<.001$, $d=1.74$). As in Study 1, participants were divided into groups based on whether they were close to their ideal weight or far from their ideal weight based on a median split (excluding participants who reported being *below* their ideal weight [$n=13$] and those who had missing data [$n=3$]). In this study, "close to ideal" was defined as self-reported weight within 8 lb of ideal weight, and "far from ideal" was defined as self-reported weight 8 lb or more above ideal weight. Restrained eaters who were close to their ideal weight were just as self-regulatory as were unrestrained eaters who were far from their ideal weight ($M=6.98$ vs. $M=7.31$, respectively, ns , $d=0.08$), whereas unrestrained eaters were much less self-regulatory when they were close to their ideal weight ($M=3.76$) than when they were far from their ideal weight ($M=5.49$), $p<.001$, $d=0.88$. As in Study 1, unrestrained eaters who were far from their ideal weight were highly motivated to control their weight, but were less motivated when they were close to their ideal, whereas restrained eaters maintained a focus on weight control even if they were only slightly above their ideal weight.

We also compared restrained and unrestrained eaters in each regulatory-focus group with respect to their distance from ideal weight. There was only a main effect of restraint showing that, regardless of their regulatory focus, restrained eaters were further from their ideal weight ($M=16.56$ lb, $SD=13.97$) than were unrestrained eaters ($M=4.93$ lb, $SD=8.29$), $p<.001$, $d=1.04$.

3.2.2. Beliefs and behaviors

Beliefs and behaviors were analyzed using multivariate analysis of variance (MANOVA), with dietary restraint (restrained vs. unrestrained) and regulatory focus (promotion, prevention, or neutral focus) as independent variables. Results revealed that the dependent variables (combined) were influenced by restraint category, $F(7, 117)=12.63$, $p<.001$, and by the interaction between restraint category and regulatory-focus category, $F(14, 236)=2.01$, $p<.02$. Each univariate analysis was then examined separately.

3.2.2.1. Weight-related beliefs. For beliefs related to being thinner, there was a main effect of restraint, indicating that restrained eaters ($M=3.99$, $SD=0.88$) more strongly endorsed the thinness beliefs than did unrestrained eaters ($M=2.72$, $SD=1.05$), $F(1, 123)=48.55$, $p<.001$, $d=1.31$. There was also a significant restraint by regulatory-focus interaction, $F(2, 123)=4.16$, $p<.02$. Simple-effects analysis revealed that unrestrained eaters who were neutral in their regulatory focus had the lowest level of endorsement of the thinness beliefs ($M=2.12$ vs. $M_s=3.05$ and 2.96 for promotion and prevention focused, respectively, $ps<.01$); restrained eaters' level of belief did not vary as a function of their regulatory focus ($M_s=4.06$, 4.03 , and 3.72 for promotion, neutral, and prevention focused, respectively, ns). For beliefs related to being heavier, there was only a main effect of restraint, with restrained eaters ($M=4.57$, $SD=0.80$) endorsing beliefs about the consequences of being heavier to a greater extent than did unrestrained eaters ($M=3.31$, $SD=1.13$), $F(1, 123)=52.67$, $p<.001$, $d=1.29$. As in Study 1, dietary restraint was the key variable associated with weight-related beliefs.

3.2.2.2. Dieting behaviors. There was a main effect of restraint for frequency of limiting calories ($M=2.45$ vs. $M=1.46$), frequency of planning intake ($M=2.26$ vs. $M=1.56$), frequency of avoiding overeating ($M=3.07$ vs. $M=2.49$), and frequency of avoiding indulging in desserts ($M=2.72$ vs. $M=2.03$), with restrained eaters reporting

³ Because Study 1 found that general regulatory focus did not add to the prediction of the various beliefs and behaviors that we investigated, this measure is not discussed in Study 2. Note also that a subset of the dieting behaviors reported in Study 2 has been presented elsewhere (Vartanian & Herman, *in press*) in aggregated form. In that study, an aggregated measure of dieting behaviors is examined in relation to beliefs about the determinants of body weight. Those results therefore do not overlap with the results presented here.

engaging in these behaviors to a greater extent than did unrestrained eaters, all $F_s > 13$, $p_s < .001$, d_s between 0.71 and 1.30. For the frequency of eating low-fat foods, there was a significant main effect of restraint, $F(1, 123) = 16.76$, $p < .001$, qualified by a significant restraint by regulatory-focus interaction, $F(2, 123) = 8.25$, $p < .001$. Simple-effects analysis revealed that neutral restrained eaters had the highest level of endorsement ($M = 3.04$, $SD = 0.81$), whereas neutral unrestrained eaters had the lowest level of endorsement ($M = 1.64$, $SD = 0.73$), $F(1, 123) = 35.87$, $p < .001$, $d = 1.82$. There were no differences between restrained and unrestrained eaters who were promotion focused or prevention focused. Again, as in Study 1, dietary restraint had the greatest impact on dieting behaviors, whereas regulatory-focus was not highly related to dieting behaviors.

Entering discrepancy from ideal weight or BMI as covariates did not change the pattern of results.

4. General discussion

The purpose of the present research was to investigate the extent to which regulatory-focus theory can help us to better understand the motivational dynamics underlying the weight-related beliefs and dieting behaviors of restrained eaters. Overall, restrained eaters were more self-regulatory than were unrestrained eaters, but neither group was inclined toward a particular regulatory focus. Indeed, Study 1 found that most restrained eaters were high in both promotion and prevention focus, whereas most unrestrained eaters were low in both promotion and prevention focus. In other words, restrained eaters were equally concerned with losing weight and with avoiding weight gain, and unrestrained eaters were equally unconcerned with losing weight and with avoiding weight gain.

Restrained eaters also had strong beliefs about both the outcomes associated with being thin (e.g., “I would be happier if I were thinner”) and the outcomes associated with being heavy (e.g., “I would be derogated by others if I were heavier”) (cf. Jarry, Polivy, Herman, Arrowood, & Pliner, *in press*), but the magnitude of these beliefs was largely unrelated to individuals’ regulatory focus. Given that the media expounds both the attractions of weight loss and the perils of weight gain, one might indeed expect that such a dual emphasis would induce both a promotion focus and a prevention focus in dieters.

Of particular interest was the role of regulatory focus in predicting dieting behaviors. Research has shown that individuals’ motivation for dieting (appearance concerns vs. health concerns) is related to their choice of behavioral strategies (Putterman & Linden, 2004), and the regulatory-focus literature also suggests that one’s regulatory orientation influences the strategies or means that one uses in goal pursuit. This, however, does not appear to be the case for the dieting behaviors that we examined in the present studies. Restrained eaters reported engaging in a number of weight-related behaviors (e.g., restricting food intake, avoiding desserts) to a greater extent than did unrestrained eaters; however, regulatory focus was largely unrelated to these behaviors. Even when individuals were specifically selected on the basis of whether they were promotion, prevention, or neutral in their regulatory focus (Study 2), only restraint status was a significant predictor of self-reported dieting behaviors. In fact, the only way in which regulatory focus added to dietary restraint in the prediction of behavior was that restrained eaters who were “neutral” in their regulatory focus (those who were high in *both* promotion and prevention focus) had the highest level of reported low-fat food consumption, whereas unrestrained eaters who were neutral in their regulatory focus (those who were low in *both* promotion and prevention focus) had the lowest level of reported low-fat food intake.

It is particularly noteworthy that restrained eaters had high levels of motivation to control their weight (both in terms of losing weight and avoiding weight gain) regardless of how far they were from their ideal weight. These findings might reflect a ceiling effect for restrained eaters’ motivation, but it does suggest that they are reluctant to relax their weight-control efforts even as they approach their ideal weight (perhaps because of their past experiences with diet attempts; see below).

What implications do the findings of the present research have for successful goal attainment in the domain of weight-control? As noted above, regulatory focus has been linked to motivational strength, persistence at goals, and successful goal pursuit, particularly when there is a “match” between one’s regulatory focus and the strategies that one uses in goal pursuit (e.g., Shah et al., 1998; Spiegle et al., 2004). In the present studies, dieting behaviors did not vary as a function of regulatory focus, and thus regulatory focus does not appear to determine the specific strategies that restrained eaters reported in their goal pursuit. Therefore, it may be that restrained eaters are not constrained in the types of behaviors that would “match” their goal orientation and have a wide array of behaviors at their disposal, making them quite adept at controlling their food intake and at regulating their weight. Another possibility is that

restrained eaters are choosing behavioral strategies indiscriminately, which ultimately interferes with their ability to control their food intake and regulate their weight.

What we know about the behavior of restrained eaters is most consistent with this latter hypothesis. It is well established that restrained eaters are usually only intermittently successful at maintaining their dieting and weight-control goals (e.g., [Heatherton, Polivy, & Herman, 1991](#); [Polivy and Herman, 1987](#)), and that despite repeated failures in their diet attempts, restrained eaters regularly re-engage in weight-control practices ([Polivy and Herman, 2002](#)). Indeed, [Lowe \(1993\)](#) proposed a model of dietary restraint that viewed a history of diet attempts and overeating (disinhibition) as a distinct factor from current (or acute) dieting, and noted that each of these factors has different implications for individuals' eating behavior. In the context of regulatory focus, it is possible that these different "phases" of dietary restraint would correspond to periods when individuals are more promotion focused (i.e., when they are "on" their diets and are actively trying to lose weight) and other periods when individuals are more prevention focused (i.e., when they are "off" their diets and are concerned with avoiding further weight gain). Assessments of dietary restraint and regulatory focus that are more sensitive to such temporal shifts (e.g., a longitudinal study using experience-sampling methodology) might therefore be a more accurate test of the dietary-restraint/regulatory-focus link.

Of course, the poor long-term success at dieting and weight control observed among restrained eaters might simply reflect a limitation in the extent to which pursuing goals (especially weight-regulation goals) necessarily affects behavior. Motivation notwithstanding, self-regulation attempts often collapse in the face of temptations and other factors that undermine the self-regulatory enterprise (see [Herman & Polivy, 2004](#)). [Lowe and Levine \(2005\)](#) recently discussed two distinct systems related to eating motives: a homeostatic system that responds to energy deficits, and a hedonic system that responds to the palatability of foods. They argued that failures in dietary restraint might reflect the fact that "dieting is an ineffective means of curbing chronically activated hedonic motivations to eat" (p. 801–802). Taken with the results of the present studies, we would therefore suggest that future research should focus on the obstacles to successful weight control, or reasons for dieting (appearance concerns vs. health concerns), rather than on individuals' regulatory focus.

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References

- Boivin, M. K., & Polivy, J. (2001, November). *Dieting inoculation program*. Poster session presented at the annual convention of the Eating Disorders Research Society, Charleston, South Carolina.
- Cameron, L. D., & Leventhal, H. (Eds.). (2003). *The self-regulation of health and illness behaviour*. New York: Routledge.
- Förster, J., Higgins, E. T., & Idson, L. C. (1998). Approach and avoidance strength during goal attainment: Regulatory focus and the "goal looms larger" effect. *Journal of Personality and Social Psychology*, *75*, 1115–1131.
- Heatherton, T. F., Polivy, J., & Herman, C. P. (1991). Restraint, weight loss and variability of body weight. *Journal of Abnormal Psychology*, *100*, 78–83.
- Herman, C. P., & Polivy, J. (1980). Restrained eating. In A. J. Stunkard (Ed.), *Obesity* (pp. 208–225). Philadelphia: Saunders.
- Herman, C. P., & Polivy, J. (2004). The self-regulation of eating: Theoretical and practical problems. In R. F. Baumeister & K. D. Vohs (Eds.), *Handbook of self-regulation: Research, theory, and applications* (pp. 492–508). New York: Guilford Press.
- Higgins, E. T. (1997). Beyond pleasure and pain. *American Psychologist*, *52*, 1280–1300.
- Higgins, E. T., Roney, C. J. R., Crowe, E., & Hymes, C. (1994). Ideal versus ought predilections for approach and avoidance: Distinct self-regulatory systems. *Journal of Personality and Social Psychology*, *66*, 276–286.
- Jarry, J. L., Polivy, J., Herman, C. P., Arrowood, A. J., & Pliner, P. (in press). Restrained and unrestrained eaters' attributions of success and failure to body weight: Limitations of the false consensus effect. *Journal of Social and Clinical Psychology*.
- Lockwood, P., Jordan, C., & Kunda, Z. (2002). Motivation by positive or negative role models: Regulatory focus determines who will best inspire us. *Journal of Personality and Social Psychology*, *83*, 854–864.
- Lowe, M. R. (1993). The effects of dieting on eating behaviors: A three-factor model. *Psychological Bulletin*, *114*, 100–121.
- Lowe, M. R., & Levine, A. S. (2005). Eating motives and the controversy over dieting: Eating less than needed versus less than wanted. *Obesity Research*, *13*, 797–806.
- Pennington, G. L., & Roese, N. J. (2003). Regulatory focus and temporal distance. *Journal of Experimental Social Psychology*, *39*, 563–576.
- Polivy, J., & Herman, C. P. (1987). The diagnosis and treatment of normal eating. *Journal of Consulting and Clinical Psychology*, *55*, 635–644.

- Polivy, J., & Herman, C. P. (2002). If at first you don't succeed: False hopes of self-change. *American Psychologist*, *57*, 677–689.
- Putterman, E., & Linden, W. (2004). Appearance versus health: Does the reason for dieting affect dieting behavior? *Journal of Behavioral Medicine*, *27*, 185–204.
- Serdula, M. K., Mokdad, A. H., Williamson, D. F., Galuska, D. A., Mendlein, J. M., & Heath, G. W. (1999). Prevalence of attempting weight loss and strategies for controlling weight. *Journal of the American Medical Association*, *282*, 1353–1358.
- Shah, J., Higgins, E. T., & Friedman, R. (1998). Performance incentives and means: How regulatory focus influences goal attainment. *Journal of Personality and Social Psychology*, *74*, 285–293.
- Spiegle, S., Grant-Pillow, H., & Higgins, E. T. (2004). How regulatory fit enhances motivational strength during goal pursuit. *European Journal of Social Psychology*, *34*, 39–54.
- Vartanian, L. R., & Herman, C. P. (in press). Beliefs about the determinants of body weight predict dieting and exercise behavior. *Eating Behaviors*.