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The Effects of Self-Criticism and Self-Oriented Perfectionism on Goal Pursuit

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Abstract

Five separate studies examined the associations of self-criticism and self-oriented perfectionism with goal pursuit across a variety of domains. Although self-criticism has previously been shown to be related to diminished goal progress, a controversy remains regarding the potential association between aspects of "positive perfectionism," such as self-oriented perfectionism, and enhanced goal progress. The results of the five studies demonstrated a consistent pattern of negative association between self-criticism and goal progress. The results also showed a positive association between self-oriented perfectionism and goal progress when self-criticism was controlled. The important role of self-criticism for understanding the impact of perfectionistic concerns is highlighted by these results. Implications for the debate concerning the possible positive effects of perfectionistic strivings are also discussed.

Keywords

self-criticism, perfectionism, goal pursuit

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The possibility of normal and neurotic forms of perfectionism was first suggested by Hamachek (1978), who distinguished normal perfectionistic strivings from more unhealthy aspects. Since then many others have followed, some providing empirical support for the conceptualization of positive versus negative perfectionism (Slade & Owen, 1998; Terry-Short, Owens, Slade, & Dewey, 1995). In a relatively recent article Stoeber and Otto (2006) provide a comprehensive review of the literature to date. They maintain that the preponderance of the evidence points to the surprising conclusion that perfectionistic strivings have positive effects, especially if the perfectionist is not overly concerned with mistakes and negative evaluation. However, considerable debate remains regarding the notion of a so-called healthy perfectionism, in particular questioning the adequacy of the available evidence and maintaining that the characterization of positive perfectionism confuses the striving for excellence with the need to be perfect (Flett & Hewitt, 2006).

Perfectionism, by definition, involves the striving to be perfect and to avoid error. Although the construct was initially conceptualized as unidimensional, more recent theory characterizes perfectionism as multidimensional, involving intrapersonal and interpersonal aspects (Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991). Multiple efforts to measure perfectionism have been well summarized in several reviews (Enns & Cox, 2002; Shafran & Mansell, 2001; Stoeber & Otto, 2006). One of the most widely used and extensively researched measures, developed by Hewitt and Flett (1991), is the Multidimensional Perfectionism Scale (MPS). This scale distinguishes self-oriented and socially prescribed forms of perfectionism. According to Hewitt and Flett (1991), self-oriented perfectionism involves setting high standards and stringently evaluating oneself. Socially prescribed perfectionism entails the need to attain standards or expectations prescribed by significant others. Socially prescribed perfectionism has been consistently associated with various forms of pathological functioning, such as depression, anxiety, and obsessive-compulsive symptoms, whereas self-oriented perfectionism has shown less consistent association with pathology (Enns & Cox, 1999; Frost & DiBartolo, 2002; Powers, Zuroff, & Topciu, 2004).

Various aspects of perfectionism have been defined and measured, and researchers have consistently found two basic

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forms of perfectionism (Stoeber & Otto, 2006). These two basic forms have been variously labeled as positive strivings and maladaptive concerns, functional and dysfunctional perfectionism, adaptive and maladaptive perfectionism, positive and negative perfectionism, and healthy and unhealthy perfectionism. When the Hewitt and Flett MPS has been entered into confirmatory factor analyses along with various other measures of perfectionism, two distinct latent factors have consistently emerged (Blankstein & Dunkley, 2002; Dunkley, Zuroff, & Blankstein, 2003; Powers et al., 2004). Socially prescribed perfectionism has loaded significantly on the first factor, which can be viewed as "evaluative concerns perfectionism" or "perfectionistic concerns" (Blankstein & Dunkley, 2002; Stoeber & Otto, 2006). This factor appears to include hypersensitivity to perceived excessive external standards and potential criticism and a self-denigrating component (Dunkley et al., 2003; Powers et al., 2004). Self-oriented perfectionism has loaded on the second factor, referred to as "personal standards perfectionism" or "perfectionistic strivings," which does not appear to involve the internalized harshly critical evaluation of the self or the hypersensitivity to external scrutiny (Dunkley et al., 2003; Powers et al., 2004; Stoeber & Otto, 2006).

An aspect of perfectionistic concerns that Stoeber and Otto (2006) mention but do not emphasize is self-criticism. Blatt (2004) conceptualizes self-criticism as a maladaptive form of self-definition, characterized by negative cognitive appraisals of the self, guilt, and fear of loss of approval for failing to live up to standards (Blatt, 2004; Blatt & Zuroff, 1992). Self-criticism as measured by the self-criticism scale of the Depressive Experiences Questionnaire (DEQ; Blatt, D'Afflitti, & Quinlan, 1976) has been consistently associated with a variety of personal and interpersonal deficits and forms of psychopathology (Blatt, 2004; Powers et al., 2004; Zuroff, Koestner, & Powers, 1994; Zuroff, Mongrain, & Santor, 2004). Self-criticism features a punitive and self-denigrating component and hypersensitivity to perceived criticism, which likely lead to these consistent associations with negative outcomes across various domains. When entered into factor analyses with perfectionism scales, self-criticism has consistently loaded on the negative or perfectionistic concerns factor (Blankstein & Dunkley, 2002; Dunkley et al., 2003; Powers et al., 2004).

There are clear theoretical reasons to hypothesize that self-criticism may compromise goal pursuits. Self-critics can be expected to be more focused on avoiding failure and preventing potential loss of self-esteem than on effective goal pursuit. Likewise, self-regulatory dysfunction may result from the self-critic's distraction into self-denigration, or tendency to engage in obsessive rumination about real or perceived failure. Empirical data on the impact of self-criticism on goal progress are scarce. One study showed that self-critics score lower on conscientiousness, suggesting that they may be less organized, less persistent, or less committed to their goals (Dunkley, Zuroff, & Blankstein, 2006). Another showed that self-criticism was associated with diminished problem solving (Dunkley et al., 2003). Previous research directly examining the association between self-criticism and goal progress has demonstrated a negative relation (Powers, Koestner, & Zuroff, 2007; Powers, Koestner, Lacaille, Kwan, & Zuroff, 2009). One study suggested that ruminative tendencies and procrastination may mediate the relation between self-criticism and progress (Powers et al., 2007).

Although the negative, or self-critical, form of perfectionism has been consistently associated with a wide range of negative personality characteristics, impaired functioning, lower satisfaction and well-being, and various forms of pathological functioning, such as depression, anxiety, and obsessive-compulsive symptoms, Stoeber and Otto (2006) conclude that perfectionism does not have to be negative, and in fact can be positive in certain forms. They suggest that perfectionistic strivings are essentially positive, so long as they are not combined with perfectionistic concerns, and that healthy perfectionists show higher levels of positive characteristics than unhealthy perfectionists or nonperfectionists. They present data from multiple studies demonstrating that two forms of perfectionism can be differentiated and that with a few exceptions perfectionistic strivings have been associated with positive characteristics such as self-esteem and agreeableness, higher functioning, higher satisfaction and well-being, and lower levels of maladaptive coping and psychopathology. These findings primarily hold, however, when the overlap between perfectionistic concerns and perfectionistic strivings is controlled. Stoeber and Otto (2006) reviewed a series of studies in which the bivariate correlations of perfectionistic strivings with positive characteristics were insignificant or negative but when reanalyzed by partialling out perfectionistic concerns showed positive associations. A recent study lends support to the notion that perfectionistic concerns suppress the relationship between perfectionistic strivings and positive outcomes by demonstrating the effect on well-being, life satisfaction, and affect (Hill, Huelsman, & Araujo, 2010). Stoeber and Otto (2006) suggest that perfectionistic concerns may in fact be the factor that distinguishes pathological perfectionism from the healthy pursuit of excellence.

There are, however, a number of substantive problems regarding the research on the effects of perfectionism, positive or negative (Flett & Hewitt, 2006; Stoeber & Otto, 2006). To begin, the data are mixed, especially regarding the effects of positive perfectionism, with some studies showing positive effects but others showing no effect or even negative effects. The inconsistent findings may result from inconsistencies in the measures, the facets being measured, the variety of combinations of facets, or the actual weakness of the effects (Flett & Hewitt, 2006). In addition, a wide range of correlates have been associated with perfectionism (personality traits, psychopathology, satisfaction and well-being, goal progress, etc.). Given that a key aspect of perfectionism is striving, it is logical to examine goal pursuit as an outcome

that may be particularly affected by perfectionism (positive or negative). Our own work has focused primarily on goal pursuit, and so we confine our current focus to the research literature that has examined the relation of perfectionism to this area.

The literature directly examining the association of perfectionism to goal progress is limited. One study found that perfectionistic beliefs associated with socially prescribed perfectionism were related to increased rumination and ineffective goal pursuit, whereas aspects of self-oriented perfectionism were positively correlated with goal pursuit without the attendant increased rumination (Campbell & Di Paula, 2002). Another study utilizing a short-term longitudinal design demonstrated that socially prescribed perfectionism negatively predicted goal progress when combined with implementation intentions, but self-oriented perfectionism predicted higher goal progress and a decrease in negative affect (Powers, Koestner, & Topciu, 2005). Yet another study showed that personal standards perfectionism and high personal goals positively predicted the race performance of triathletes (Stoeber, Uphill, & Hotham, 2009). Despite this evidence, it is difficult to draw firm conclusions, especially about the positive impact of positive perfectionism, from such a relatively small number of studies using different methodologies.

Although the current article proceeded from an agnostic position on the debate regarding the putative positive effects of perfectionistic strivings, we and others contend that self-criticism is a central feature driving the effects of negative perfectionism or perfectionistic concerns (Dunkley et al., 2003, 2006; Powers et al., 2004). If in fact this is accurate, then it is reasonable to expect that self-criticism would be a potent predictor of the negative impact on goal pursuit and that controlling for self-criticism would reveal the positive effect of self-oriented perfectionism, if it is present. Although the effects of self-criticism and perfectionism have been widely studied, direct comparisons of the predictive power of self-criticism and perfectionism on goal progress remain limited. Likewise, examination of the potentially positive effects of strivings or positive perfectionism on goal progress when controlling directly for self-criticism has not to our knowledge been reported.

The present investigation explored the association between aspects of perfectionistic strivings and perfectionistic concerns and goal progress in the context of five prospective studies that measured specific goal progress in a variety of domains (academic performance, music performance, and weight loss) over time spans stretching from 1 week to 6 months. Perfectionistic strivings were assessed with Hewitt and Flett's (1991) self-oriented perfectionism scale, whereas perfectionistic concerns were assessed with Blatt et al.'s (1976) self-criticism scale. Based on Stoeber and Otto's (2006) analysis, we planned to control for the overlap between these two measures when examining their relation to goal progress. Self-criticism was expected to be negatively associated with goal progress, especially when self-oriented perfectionism was controlled. Self-oriented perfectionism was expected to be positively related to goal progress when self-criticism was removed.

Studies 1a, 1b, and 1c

Three studies using a similar goal paradigm are described below. In each study, participants were recruited because they planned to pursue an important personal goal, but the goals varied across the studies: general weight management (Study 1a), music performance (Study 1b), academic performance (Study 1c). Participants specified their goal at baseline and were followed up at time intervals varying from 1 week to 1 month. Participants completed the self-criticism scale and the self-oriented perfectionism scale during the first session. The following section describes the scales and procedures for all three studies.[1]

Method: Measures

Self-criticism scale. This scale was created by using items from the DEQ (Blatt et al., 1976). These items were those that loaded highest on the self-criticism factor for the DEQ. An illustrative item included, "I tend to be very critical of myself." Participants were asked to rate their agreement with each item on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). In Studies 1a and 1c, 15 items (Items 7, 10, 13, 16, 17, 21, 30, 35, 36, 43, 53, 58, 62, 64, 66) were used to assess self-criticism. For Study 1b, 12 items (Items 7, 10, 13, 16, 17, 30, 35, 36, 43, 53, 64, 66) were used. The internal reliabilities for the self-criticism scale were very good (Cronbach's alphas > .80 in all studies).

Self-oriented and socially prescribed perfectionism scales. Two subscales from the MPS (Hewitt & Flett, 1991, 2004) were used. The MPS is a 45-item self-report measure that assesses self-oriented perfectionism (e.g., "I must work to my full potential at all times"), socially prescribed perfectionism (e.g., "Anything I do that is less than excellent will be seen as poor work by those around me"), and other-oriented perfectionism (e.g., "I have high expectations for the people who are important to me"). The other-oriented scale was not included in any of our studies. Socially prescribed perfectionism was included, but we report the results for this measure only in footnotes. Items are rated on a 7-point scale from *strongly disagree* to *strongly agree*; higher scores reflect greater perfectionism. The multidimensional nature of the MPS was confirmed via factor analysis, as was its ability to assess perfectionism with an adequate level of reliability (Hewitt & Flett, 1991). These scales showed good internal reliability (alphas > .80). All 15 items were used to assess self-oriented perfectionism in Studies 1a and 1b. The reliability of the 15-item scale in our studies was excellent (Cronbach's alphas > .85).

In Study 1c, we used brief five-item versions of the perfectionism scales that were derived from factor analyses (Cox, Enns, & Clara, 2002). The five-item self-oriented perfectionism scale was balanced in terms of assessing striving for perfectionism and importance of being perfect (Campbell & Di Paula, 2002). It includes three perfectionistic striving items: "One of my goals is to be perfect in everything I do," "I strive to be as perfect as I can be," and "I set high standards for myself." It included two items concerning the importance of being perfect: "I am perfectionistic in setting my goals" and "I must always be successful at school or work." The internal reliability of this five-item scale was excellent (Cronbach's alpha = .82). The correlations of the short five-item scale with the complete 15-item scale were $r = .92$ and $r = .88$ for Studies 1a and 1b, respectively.

Self-reported goal progress. Goal progress was assessed with a single item: "Please rate the extent to which you made progress on this goal." Ratings were made on a 9-point Likert-type scale, from 1 (*not at all*) to 9 (*totally*). This measure of goal progress has been used in several previous studies (Koestner, Lekes, Powers, & Chicoine, 2002; Sheldon & Elliot, 1998; Sheldon & Kasser, 1998). A recent meta-analysis of the effects of implementation plans on goal progress showed a high degree of agreement between self-report and more direct measures, suggesting the validity of self-reports of goal progress (Gollwitzer & Sheeran, 2006).

Study 1a: Female College Students Pursuing Goals Related to Weight Management

Participants were 117 female undergraduate students whose ages ranged from 18 to 35 years, with a mean age of 19.12 years; of the participants, 6 did not complete the follow-up. Participants were recruited through the participant pool of introductory psychology students. The study was advertised as being appropriate for people who were considering losing weight. Participants were informed that the purpose was to set a short-term goal that would allow them to "jump-start" a weight-loss program. The goal would be something they would try to accomplish during a one-week period. Participants were required to sign up for an initial 45-minute session and a second 15-minute follow-up session that would take place online through a website one week later.

During the first session, subjects were asked to formulate one goal related to weight loss that would be carried out for a one-week period. Examples of participants' goals are "I will get to the gym three times" and "I will avoid junk food." Approximately half of the participants were randomly assigned to a condition where they completed a 2-minute paper and pencil implementation planning exercise related to their goal. One week later, participants received an email reminder of their chosen goal and were directed to a website in which they were asked to indicate the amount of progress they had made on their goals.

Study 1b: Musicians Pursuing Performance Goals

Participants were 75 musicians completing a one-week summer music camp. A total of 3 participants did not complete the follow-up and were excluded from all analyses. The final sample included 47 females and 25 males. The mean age of the participants was 20.65 years.

Musicians were recruited either in person or via electronic mail. Musicians completed the initial survey at the start of a summer camp workshop and completed the second survey one week later at the end of camp. Musicians were asked to indicate the most important goal they were striving for during the summer camp. Examples of musicians' goals are "To play all of my pieces without any memory errors" and "To play in tune with more correct bow technique."

Study 1c: College Students Pursuing Academic Goals

Participants were 112 undergraduate students (79% female) whose ages ranged from 18 to 31 years, with a mean age of 20.71 years. Participants were recruited for a personal goal study advertised in the university classifieds. A total of 5 participants did not complete the follow-up.

During the first session, subjects were asked to list a personal goal related to academics that they were pursuing that semester. Examples of participants' goals are "Review my notes after each class" and "Study at least three hours each day." Approximately half of the participants were randomly assigned to a condition where they completed a 2-minute paper and pencil implementation planning exercise related to their goal. One month later, participants received an email that reminded them of their goal and asked them to rate the amount of progress they had made on their goal.

Results

Relations of measures. The means, standard deviations, and correlations of the measures are presented in Table 1. The table shows that self-oriented perfectionism and self-criticism were positively correlated, mean $r = .41$. Participants reported a moderate level of goal progress in the three studies, and bivariate correlations showed that reported goal progress was negatively related to self-criticism (mean $r = -.22$) but unrelated to self-oriented perfectionism (mean $r = .03$). The lack of a significant positive correlation between self-oriented perfectionism and reported goal progress is not surprising in light of Stoeber and Otto's (2006) evidence that the positive effects of perfectionistic strivings become apparent only when the overlap with perfectionistic concerns is statistically controlled; therefore, this control will be done in the subsequent analyses.

Table 1. Means, Standard Deviations, and Correlations of Study 1 Key Variables

Measure	*M*	*SD*	2	3
Study 1a: Weight management (n = 117)				
1. Self-oriented perfectionism	4.51	0.93	.37**	.03
2. Self-criticism	4.21	1.06	—	–.22*
3. Goal progress	4.20	1.81		—
Study 1b: Music performance (n = 68)				
1. Self-oriented perfectionism	5.18	1.24	.28*	.09
2. Self-criticism	4.49	1.05	—	–.15
3. Goal progress	5.01	1.12		—
Study 1c: Academic performance (n = 112)				
1. Self-oriented perfectionism	4.48	1.35	.51**	–.03
2. Self-criticism	3.87	1.31	—	–.29*
3. Goal progress	4.80	1.63		—

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

Table 2. Standardized Regression Coefficients and Effect Size Estimates of Goal Progress on Personality Variables: Study 1

Predictor	β	*t*	*p*	*d*
Study 1a: Weight loss goal[a] (n = 117)				
1. Self-oriented perfectionism	.13	1.31	.19	.24
2. Self-criticism	–.27	–2.65	.01	–.49
Study 1b: Music performance goal[a] (n = 68)				
1. Self-oriented perfectionism	.14	1.11	.27	.27
2. Self-criticism	–.20	–1.68	.10	–.41
Study 1c: Academic goal[b] (n = 112)				
1. Self-oriented perfectionism	.17	1.63	.10	.31
2. Self-criticism	–.38	–3.66	.001	–.69

[a]Goal progress after 1 week.
[b]Goal progress after 1 month.

Self-reported goal progress results: Study 1a. Reported goal progress was regressed on condition (control vs. implementation planning), self-oriented perfectionism, and self-criticism. The effect of condition did not approach significance (p > .10). The results for the personality variables are shown in Table 2. Specifically, the table provides the standardized regression coefficient (beta), the *t* test of significance, and an effect size estimate. It can be seen that reported goal progress was significantly negatively related to self-criticism. Reported goal progress was positively related to self-oriented perfectionism, but this relation did not approach significance.

Self-reported goal progress results: Study 1b. Goal progress was regressed on gender, years of experience with the musical instrument, self-oriented perfectionism, and self-criticism. Years of experience was significantly positively related to reported goal success, β = .26, $t(68) = 2.15$, p < .05. Gender was unrelated to goal progress. It can be seen in Table 2 that reported goal progress was marginally negatively related to self-criticism. Reported progress was positively related to self-oriented perfectionism, but this relation did not approach significance.

Self-reported goal progress results: Study 1c. Reported goal progress was regressed on gender, condition (control vs. implementation planning), self-oriented perfectionism, and self-criticism. The effects of gender and condition did not approach significance. Table 2 shows that reported goal progress was significantly negatively related to self-criticism and marginally positively related to self-oriented perfectionism.[2]

Meta-analysis across Studies 1a, 1b, and 1c. To gain a more complete understanding of the results of these studies, a meta-analysis was conducted of the results across the three studies. Specifically, *t*-values associated with the betas from the regression analyses were converted to Cohen's *d*. Composite effect size estimates (*d*+) were calculated as the average of individual effects (*d*) weighted by the reciprocal of their variance, thus giving greater weight to more reliable effect size estimates (Hedges & Olkin, 1985). All effect size computations and summary analyses were done using DSTAT (Johnson, 1993), a meta-analytic software program. Each calculation of *d*+ provided both a test of whether the value differed from 0.00 and a 95% confidence interval (CI). The homogeneity of the set of effect sizes was tested by the within-class goodness-of-fit statistic (*Qw*), which has an approximate chi-square distribution with $k - 1$ degrees of freedom, where k equals the number of effect sizes (Johnson, 1993).

The meta-analysis revealed a highly significant overall effect for self-criticism, $d+ = -0.54$ (CI = −0.77/−0.31), $r = -.26$, p < .0001. The set of effects was homogeneous, $Q(2) = 0.97$. Participants reported less goal progress when they were higher in self-criticism.

A significant overall positive effect emerged for self-oriented perfectionism, $d+ = +0.27$, $r = .13$ (CI = 0.04/0.50), p < .05. The set of effects was homogeneous, $Q(2) = 0.06$. Participants reported more goal progress when they were higher in self-oriented perfectionism.[3]

Brief Discussion

The results of this set of three prospective goal studies indicate that although self-oriented perfectionism and self-criticism are significantly positively correlated, they show opposite relations to reported goal progress. Self-criticism was shown to be significantly negatively related to goal progress, whereas self-oriented perfectionism was significantly positively related to goal progress when controlling for self-criticism. Thus, participants reported less goal progress when they were higher in self-criticism, and they reported more goal progress when they were higher in self-oriented perfectionism.

Our results indicated that self-oriented perfectionism is significantly positively associated with reported goal progress, but only when the results across the three studies were combined meta-analytically. Although the significant positive meta-analytic relation supports Stoeber and Otto's (2006) view that perfectionistic strivings may promote functioning, the overall effect size in our studies is small, $d+ = 0.27$. By contrast, the size of the negative effect for self-criticism with reported goal progress ($d+ = 0.54$) would be classified as moderate. It is noteworthy that the strength of the effect for self-criticism was double the size of that for self-oriented perfectionism. If we adopt Stoeber and Otto's (2006) terminology, this pattern of results suggests that the harmful effects of perfectionistic concerns are more readily observable (at least in the area of self-reported goal pursuit) than the beneficial effects of perfectionistic strivings, and that the beneficial effects emerge only when controlling for self-criticism.

Study 2

The results of Studies 1a, 1b, and 1c indicated that self-criticism and self-oriented perfectionism, when controlling for one another, appear to capture the distinction between perfectionistic strivings and perfectionistic concerns. Thus, self-criticism was shown to be associated with poor progress on personal goals, whereas self-oriented perfectionism was associated with better goal progress. The consistency of these findings (as evidenced by the homogeneity of the effect sizes in the meta-analysis) is noteworthy given that the studies included diverse goals and varying follow-ups.

Study 2 sought to build on these findings by using a dyadic adaptation of the personal goal paradigm to examine whether self-criticism and self-oriented perfectionism would show the same significant and opposing relations to peer reports of goal progress as they do to self-reports of goal progress. Peer reports are often used to address the problem of shared method variance in this type of research. Specifically, we measured self-criticism, self-oriented perfectionism, self-reported goal progress, and friend-reported goal progress among female university students. We expected self-criticism to be associated with lower goal progress in both self-reports and friend reports. By contrast, we expected that self-oriented perfectionism would be positively associated to goal progress, as reported by both participants and their friends.

Method

Participants. Participants were 105 female dyads (210 women) who attended university in Montreal. Each dyad consisted of two friends, although some were also sisters or roommates. The mean age of participants was 20.19 years, and the age range was 17 to 32 years. Follow-up data were not obtained for 5 participants.

Procedure. Participants were recruited through advertisements posted on Montreal campuses and on classifieds. Advertisements indicated that the study was about "friendship and goals" and that they would need a friend to participate. Before signing a consent form, participants were informed about the general purpose and procedure of the study via email. The study had two components. The first required that both participants come to the lab to complete an hour-long survey online about their goals and their friend's goals. Each participant filled out her own survey separately. Participants were informed that they would receive three email surveys at 3- to 4-week intervals, which would inquire about their goal progress and the progress of their friends. Monetary compensation of $40 was provided to each participant.

Measures: Academic goal description. Participants were asked to indicate the most important goal they were striving for in the academic domain. Examples of academic goals are "Keep up with school work and maintain at least a B average" and "Do homework in between classes instead of napping, and get all of her work done on time without leaving it until the last minute." We focused on academic goals because previous research revealed these are very common among college students (Koestner et al., 2002).

Measures: Self-criticism. This scale was created by using the same 12 items from the DEQ as in Study 1b. The scale was internally reliable (Cronbach's alpha = .82).

Measures: Self-oriented perfectionism. The same five items from the MPS that were used in Study 1c were employed. The scale was highly reliable (Cronbach's alpha = .85).

Measures: Self-rated goal progress. Goal progress was assessed at each of the three follow-ups. Goal progress was assessed with three items: "I have made a lot of progress toward my goal," "I feel like I am on track with my goal plan," "I feel like I have achieved my goal." Ratings were made on a 7-point scale, from 1 (*strongly disagree*) to 7 (*strongly agree*). The three-item scale was reliable (Cronbach's alpha = .82) and fairly stable over the three time periods (*r*s ranged from .40 to .60). A summary of self-reported goal progress was calculated by taking the mean of the three follow-up reports.

Measures: Friend-rated goal progress. Each participant was rated by her friend on the progress she made toward her academic goal using three items: "My friend has made a lot of progress toward this goal," "I feel like my friend is on track with her goal plan," and "I feel like my friend has achieved her goal." Ratings were made on a 7-point scale, from 1 (*strongly disagree*) to 7 (*strongly agree*). These ratings were made at each of the three follow-ups. The three-item scale was reliable (Cronbach's alpha = .80) and fairly stable over the three time periods (*r*s ranged from .45 to .65). A summary of friend-reported goal progress was calculated by taking the mean of the three follow-up reports. Self-reported and friend-reported academic goal progress were significantly positively related, $r = .35$, $p < .0001$.

Table 3. Regression Coefficients, Means, Standard Deviations, and Intraclass Correlations (ICC) of Study 2 Variables

Dependent variable	2	3	4	*M*	*SD*	ICC
1. Self-criticism	.43**	−.21*	−.01	3.49	1.19	.23
2. Self-oriented perfectionism	—	.34**	.18**	4.41	1.30	.24
3. Self-rated progress		—	.35**	4.31	1.13	.14
4. Friend-rated progress			—	4.81	1.10	.11

N = 201 dyads.
*$p < .05$. **$p < .01$.

Results

Table 3 provides the descriptive statistics for all of the variables in the study. It can be seen that goal progress was rated more highly by friends than by the participants themselves.

Because of the dyadic nature of the data, statistical dependence between the friends' data seemed likely. The degree of dependence was estimated by calculating intraclass correlation (ICC) for each variable; the ICC is the ratio of between-dyad variance to the total variance. An ICC of 0.0 indicates that the scores of the members of the dyad share no variance, that is, are independent of one another. An ICC of 1.0 indicates complete dependence of dyad members. As will be seen, a nonignorable degree of dependence was observed for all variables. We therefore could not conduct conventional multiple regression analyses that assume independence of observations. Instead, we used the SAS 9.2 MIXED procedure (SAS Institute, 2008) to conduct multilevel analyses in which the two friends' data were treated as repeated observations nested within dyad. Following the recommendations of Kenny, Kashy, and Cook (2006) we modeled the correlation between the responses of the members of the dyad using the REPEATED statement in MIXED. Degrees of freedom were based on the Satterthwaite approximation. All variables were standardized prior to the analyses, so the regression coefficients (slopes) can be interpreted as the predicted change in the dependent variable, expressed in *SD* units that would be predicted by a 1 *SD* change in the predictor variable. ICCs and bivariate regression coefficients for all variables are reported in Table 3. The ICCs were all large enough to preclude conventional analyses. The bivariate relations indicated that, as would be expected, self-criticism and self-oriented perfectionism were moderately associated, as were self-rated and friend-rated goal progress. Self-criticism was negatively related to self-rated goal progress, whereas self-oriented perfectionism was positively related to the goal progress measures.

Goal Progress

Separate regression analyses were conducted for self-rated progress and friend-rated progress. Both outcomes were regressed on self-criticism and perfectionism. Self-rated goal progress was significantly negatively related to self-criticism, $B = -.32$, $SE = .073$, $t(98) = -4.40$, $p < .001$, and significantly positively related to self-oriented perfectionism, $B = .30$, $SE = .073$, $t(98) = 4.04$, $p < .001$. Similarly, friend-rated goal progress was significantly negatively related to self-criticism, $B = -.17$, $SE = .074$, $t(98) = -2.33$, $p < .05$, and significantly positively related to self-oriented perfectionism, $B = .29$, $SE = .073$, $t(98) = 3.92$, $p < .001$.

Brief Discussion

The results of Study 2 confirmed the opposite associations of self-criticism and self-oriented perfectionism with goal progress. Self-criticism was found to be significantly negatively related to goal progress, whereas self-oriented perfectionism was significantly positively associated with progress. Study 2 went beyond the earlier studies by demonstrating that self-criticism and self-oriented perfectionism were not only significantly associated with self-reported goal progress over time but also significantly associated with reports of goal progress made by a friend of the participant. Although one cannot assume that peer reports reflect objective reality, the use of such reports begins to address the problem of shared method variance between independent and dependent variables.

Study 3

Study 3 sought to build on these findings by using an objective measure of goal progress: observed weight loss over a period of 6 months in a large group of overweight individuals who agreed to be part of a weight-loss study. Specifically, male and female adults were recruited as dyads to participate in a large-scale, randomized control design, weight-loss study (Gorin, Raynor, Maguire, Ferguson, & Wing, 2009). Participants in that study were randomly assigned to a home care treatment intervention or to a standard care control condition. The complete results from that study will be reported elsewhere. For the purposes of this article, we confine ourselves to those data concerning self-criticism, self-oriented perfectionism, and goal progress after the first 6 months of treatment. Goal progress for present purposes was assessed in terms of weight loss over 6 months, as measured by the researchers.

Method

Participants. Participants were 201 adult dyads recruited for a weight-loss study. The mean age of participants was 48.38 years, and the age range was 18 to 70 years. Participants were recruited through advertisements in the local media and direct mailings in the greater Providence, Rhode Island, area. To be eligible, individuals had to be 18 to 70 years old with a body mass index between 25 and 50 kg/m^2 and have an adult who lived in the same house who was also

interested in weight loss and willing to participate in the study. Individuals were excluded from participating if they reported any of a variety of physical or mental health constraints. Each participant received $25 for completing 6- and 12-month assessments and $50 for completing an 18-month assessment. There were 106 dyads consisting of a female participant and a male partner, 52 dyads with a female participant and a female partner, 41 dyads with a male participant and a female partner, and 2 dyads with a male participant and a male partner.

There were 180 dyads available for the analyses of weight loss at 6 months. There were 11 dyads in which both the participant and the partner were not available for the 6-month follow-up. There were 8 other dyads in which one of the two partners was not available for the follow-up. We also dropped the 2 dyads in which both the participant and partner were men. This was too small a number to include in our analyses for type of dyad.

Procedure. Participants were randomly assigned to one of two behavioral weight-control programs: standard behavioral treatment (SBT) or SBT plus modifications to the home environment (SBT+Home).[4] In SBT, only participants received treatment, whereas in SBT+Home both participants and partners received treatment. Participants and partners in both conditions were assessed at baseline and 6 months. Body weight was measured in street clothes with shoes removed using a calibrated digital scale (Tanita BWB 800) and recorded to the nearest 0.1 kg. Demographic characteristics and weight-loss histories (e.g., previous dieting attempts, maximum lifetime weight) were obtained by self-report questionnaires at baseline only. Self-criticism and self-oriented perfectionism were measured at baseline along with other questionnaires.

Measures: Self-criticism. This scale was created by using the same 15 DEQ items as Study 1a. The scale showed excellent reliability (Cronbach's alpha = .88).

Measures: Self-oriented perfectionism. The complete 15 items from the MPS (Hewitt & Flett, 1991) were used to assess self-oriented perfectionism. The scale showed good reliability (Cronbach's alpha = .85).

Measures: Goal progress. Participants were weighed at baseline and again at 6 months. Goal progress was calculated by subtracting the 6-month weight from the baseline weight.

Results

Table 4 provides the descriptive statistics for the variables in the study. Participants and partners lost a significant amount of weight over the 6-month time period, baseline weight $M = 98.9$ kg, 6-month weight $M = 91.1$ kg, $t(372) = 21.30$, $p < .0001$.

Because of the dyadic nature of the data, statistical dependence between the participants' and partners' data seemed likely. We therefore could not conduct conventional multiple regression analyses that assume independence of observations.

Table 4. Correlation Coefficients, Means, Standard Deviations, and Within-Pair Correlations of Study 3 Variables

Measure	2	3	4	*M*	*SD*	Within-dyad *r*
1. Self-criticism	.41**	.09	–.07	3.58	1.09	.15**
2. Self-oriented perfectionism	—	.02	.02	4.27	1.03	.05
3. Baseline weight		—	.33**	99.0 kg	21.2 kg	.01
4. Weight loss			—	7.7 kg	7.0 kg	.37**

$N = 180$ dyads.
**$p < .01$.

Following the recommendations of Kenny et al. (2006) for the analysis of data from distinguishable dyads, we included a fixed effect coding for patient versus partner, and we modeled the correlation between the responses of the members of the dyad using the REPEATED statement in MIXED with the heterogeneous compound symmetry. Parameters estimated by the REPEATED statement were allowed to vary over the three types of dyads, that is, female–female, male–female, and female–male. Degrees of freedom were based on the Satterthwaite approximation. All variables were standardized prior to the analyses, so the regression coefficients (slopes) can be interpreted as the predicted change in the dependent variable, expressed in *SD* units that would be predicted by a 1 *SD* change in the predictor variable.

Weight Loss at 6 Months

Multilevel models for weight loss at 6 months included fixed effects for start weight, gender, type of dyad, treatment condition, self-criticism, and self-oriented perfectionism. Weight loss was unrelated to gender and type of dyad (ps > .35). Weight loss was greater for patients ($M = 8.2$ kg) than for partners ($M = 6.9$ kg), $t(120) = 2.05$, $p < .05$. Weight loss was significantly positively related to start weight, $B = .25$, $SE = .047$, $t(274) = 5.29$, $p < .0001$. Weight loss was also significantly related to treatment condition, $B = .766$, $SE = .092$, $t(177) = 8.30$, $p < .0001$, reflecting that participants and partners lost more weight in the home environment treatment condition ($M = 10.2$ kg) than in the standard treatment condition ($M = 4.8$ kg). Weight loss was significantly negatively related to self-criticism, $B = -.094$, $SE = .044$, $t(233) = -2.16$, $p < .05$, and significantly positively related to self-oriented perfectionism, $B = .083$, $SE = .041$, $t(213) = 2.02$, $p < .05$. The effects of self-criticism and self-oriented perfectionism were not significantly moderated by treatment condition or by patient versus partner.

Brief Discussion

The results of Study 3 confirmed the pattern obtained in the previous studies. Self-criticism was associated with worse

goal progress, whereas self-oriented perfectionism was associated with better goal progress when controlling for self-criticism. Although the effect sizes obtained in Study 3 were smaller than those obtained in the earlier studies, it is important to highlight the demanding and rigorous nature of goal pursuit in this study. The sample consisted of a large number of overweight adults recruited from the community to participate in a treatment outcome study. The study included a 6-month follow-up. It also included a highly objective measure of goal progress: Participants and partners were weighed in a laboratory under standardized conditions both at the start of the study and at follow-up.

General Discussion

The relation of self-criticism and self-oriented perfectionism to goal progress was examined across five separate studies. The studies all assessed goal progress prospectively over time periods ranging from 1 week to 6 months. Two studies examined goal progress in the domain of weight loss, two studies examined progress on academic goals, and one study examined progress among musicians. Self-report measures of goal progress were included in four studies (Studies 1a, 1b, 1c, and 2), and peer assessment and objective measurement of goal progress were included in the Studies 2 and 3, respectively.

The results of the five studies provide a clear picture of the negative association between self-criticism and goal progress. Specifically, a meta-analysis across Studies 1a–1c revealed a significant negative association of self-criticism with goal progress. This finding was replicated in Study 2, which included peer-reported progress, and again in Study 3, which objectively measured weight loss. The results of these studies are consistent with the previous research demonstrating the potentially deleterious impact of self-criticism on goal functioning (Powers et al., 2007; Powers et al., 2009; Shahar, Kanitzki, Shulman, & Blatt, 2006). Consistent with theoretical predictions, the self-denigration and harsh internal judgment of the self-critic appear to impede effective goal pursuit. Exploring the exact mechanism or mechanisms by which self-criticism affects goal progress was not a central focus of the current studies. However, there are several potential mechanisms of effect that have been evaluated in previous research, including organizational and persistence limitations, diminished problem solving, increased rumination and procrastination, and diminished self-concordant motivation (Dunkley et al., 2003, 2006; Powers et al., 2007; Powers et al., 2009). One additional possible mediator of the negative association between self-criticism and goal progress is self-efficacy, which was assessed in Studies 1a–1c and shown to partially mediate the effects of self-criticism in two of the three.[5]

A significant positive association between self-oriented perfectionism and goal progress emerged from the meta-analysis of Studies 1a–1c and again in Studies 2 and 3 when self-criticism was controlled. This supports Stoeber and Otto's (2006) view that perfectionistic strivings may promote functioning once such strivings are stripped of their association with perfectionistic concerns. The significant relation of self-oriented perfectionism to better goal progress was not readily apparent in Studies 1a–1c. Although self-oriented perfectionism was positively related to self-reports of goal progress in all three studies, the relations failed to reach the conventional level of significance. Nonetheless, that self-oriented perfectionism is, in fact, associated with better goal progress was confirmed by the meta-analysis that was performed across the first three studies when self-criticism was controlled, and by the results of Studies 2 and 3. We recognize that the association between self-oriented perfectionism and goal progress is modest, but given the present findings it is hard to argue that there is no positive relation.

Studies have often found a substantial statistical overlap between positive and negative perfectionism (Flett & Hewitt, 2006; Stoeber & Otto, 2006). The present studies showed an average correlation of $r = .42$ between self-criticism and self-oriented perfectionism. Therefore, it became important to control for self-criticism (as an index of perfectionistic concerns) when examining the relation of self-oriented perfectionism to goal progress. As Stoeber and Otto (2006) indicate, the positive relation of perfectionistic strivings to a number of outcomes is revealed when the concerns do not interfere with that striving. Our results seem to support this analysis. One could argue, however, that removing self-criticism from self-oriented perfectionism conceptually changes what Hewitt and Flett (1991) intend to be the meaning of self-oriented perfectionism, and perhaps perfectionistic striving more generally. This is to suggest that the residual variance left by partialling is essentially high standard setting alone, which is not the construct of self-oriented perfectionism as formulated by Hewitt and Flett. Therefore, it is entirely plausible that perfectionistic strivings as defined by Stoeber and Otto (2006) may be helpful, whereas self-oriented perfectionism as defined by Flett and Hewitt (2006) could be harmful. It is notable that we found no evidence of any negative effects of self-oriented perfectionism, even when self-criticism was not controlled. However, in only one of the five studies reported was self-oriented perfectionism positively related to goal progress without controlling for self-criticism.

Interestingly, it also appears that controlling for self-oriented perfectionism reveals a more substantial negative relation of self-criticism to goal progress, suggesting that removing the more positive strivings component enhances the negative impact of self-criticism on progress. It is possible that self-oriented perfectionism is associated with some positive factors such as better coping, optimism, ego strength, organization, or persistence and that statistically controlling for self-oriented perfectionism removes the potentially ameliorative effects of these factors on the goal pursuits of self-critics. Taken together, the results seem to suggest that

perfectionistic strivings without concerns can indeed be helpful and that self-critical perfectionistic concerns without healthier strivings may be particularly toxic.

The present research was limited in certain ways. To begin, we only used an abbreviated five-item measure of self-oriented perfectionism in two of the studies. Nonetheless, the five-item scale showed acceptable reliability and yielded results that paralleled those obtained with the full 15-item scale. Second, we recognize that the Hewitt and Flett (1991) MPS is only one of several measures of perfectionism. To more definitively assess the impact of strivings versus concerns, other measures (particularly the Frost et al., 1990, MPS subscales) will need to be studied in a similar fashion before broad conclusions can be drawn. Third, the measure of goal progress in Studies 1a–1c consisted of only a single item. Although the reliability of the measure may be questioned, the same measure has been used successfully in numerous previous studies (Koestner et al., 2002; Koestner et al., 2006; Sheldon & Elliot, 1998; Sheldon & Kasser, 1998). This measure of goal progress was also a self-report of perceived progress rather than an objective rating. One could argue that this is particularly relevant when studying self-criticism, which by definition suggests a bias in self-perception. However, our Study 2 included a three-item self-report measure of progress as well as a three-item friend-report measure and yielded parallel results to those obtained in Studies 1a, 1b, and 1c. It is also noteworthy that Study 3 included a rigorous, objective measure of goal progress, and the results, although attenuated, remained significant for both self-criticism and self-oriented perfectionism. In addition, the attenuated results may be attributable to factors other than the source of the outcome measure, such as the longer follow-up period or the specific nature of the goal (i.e., weight loss). However, there is no question that the inclusion of more objective measures in addition to self-reports would be particularly useful in future research, especially when studying variables that so directly relate to aspects of self-definition.

Although we used a prospective design, the core analyses of the present research were correlational, and therefore it is important to note that causal inferences cannot be supported. Although we suggest that the personality factors are predisposing, more complex longitudinal and experimental designs would be required to establish causal links. In addition, goal progress may not tell the entire story. It is possible that the quality of goal strivings may differ for perfectionists relative to nonperfectionists. For example, perfectionists may pursue their goal strivings in a more single-mindedly focused manner than others, and although this may yield greater progress toward a goal, it can perhaps belie a lack of attention to other important aspects of one's life. Finally, as Flett and Hewitt (2006) indicate, there is a need to examine the impact of perfectionism and self-criticism in specific situations, such as in response to failure or other stressors, which the current studies by and large did not assess. For example, in one study that did examine emotional response to goal progress, self-critics were more prone to negative affect after reporting lower goal progress than non-self-critics (Powers et al., 2009). It is possible that after failure, self-oriented perfectionists may also be more dissatisfied or unhappy than non-perfectionists (Stoeber & Yang, 2010).

Conclusions and Implications

Viewed as a whole, the current data clearly suggest that self-criticism is associated with diminished goal progress. Likewise they suggest that high standards that are well integrated into the sense of self and devoid of harsh, self-critical, evaluative concerns appear not only to display no negative association to goal performance but also, in fact, to show a positive relation. We cannot settle the issue of whether perfectionism can be helpful or healthy. However, our results do suggest that perfectionistic strivings, which are stripped of their usual covariance with perfectionistic concerns, do seem to play a positive role in goal striving.

This research suggests that the easing of perfectionistic concerns fraught with harsh self-evaluation may have an important impact on producing better outcomes. As Stoeber and Otto (2006) suggest, it may be that these concerns are the very essence of pathological perfectionism, which constrain and even corrupt the healthy pursuit of excellence. In the clinical context, this means that intervention strategies aimed at mitigating self-critical tendencies, such as preoccupation with failure, punitive self-talk, rumination about potential criticism from others, or avoidant coping, may improve therapeutic outcomes. Likewise, interventions that, while mitigating self-criticism, are also directed at improving coping strategies and fostering positive strivings may be additionally useful. If individuals can be helped to strive for their best rather than focus on mistakes and failure, then these strivings may facilitate rather than diminish their accomplishment, and perhaps contribute to their general well-being.

The evidence presented here extends previous research, insofar as it directly examined the associations among self-criticism, perfectionism, and goal progress across varying goal domains, utilizing longitudinal designs over varying time frames, and measuring multiple outcomes including an objective measure. The results of these studies taken together with previous findings build a strong case for the importance of self-criticism and perfectionism in our understanding of goal functioning, and they point the way toward potential avenues for improving such functioning.

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Notes

1. Portions of all three studies included in Study 1 were previously published, but none of the publications considered the distinction between perfectionistic strivings and perfectionistic concerns. The articles focused only on the relation of self-criticism to goal motivation and goal progress (Powers, Koestner, Lacaille, Kwan, & Zuroff, 2009; Powers, Koestner, & Zuroff, 2007).
2. The results for socially prescribed perfectionism were as follows: Socially prescribed perfectionism was significantly positively related to both self-oriented perfectionism (r = .40) and, especially, self-criticism (r = .55). When socially prescribed perfectionism replaced self-criticism in the regressions for goal progress, a significant overall effect also emerged for socially prescribed perfectionism (with self-oriented perfectionism controlled), $r = -.13$, $d+ = -0.26$ (CI = −0.42/−0.10), $p < .01$. The set of effects was homogeneous, $Q(2) = 3.48$. Participants reported worse progress when they were higher in socially prescribed perfectionism. Although this pattern is the same as obtained for self-criticism, it should be noted that the effect size for socially prescribed perfectionism was less than half that obtained for self-criticism.
3. Although similar measures of self-criticism, self-oriented perfectionism and goal progress were included in Studies 1a, 1b, and 1c, different control variables were included in the regression analyses that yielded the effect sizes that were used in the meta-analysis. To ensure that the inclusion of heterogeneous control variables did not distort the meta-analysis, we redid the regression analyses from these studies excluding the control variables. A meta-analysis of these now identical regressions yielded virtually identical results for self-criticism ($d+ = -0.54$, $r = -.26$, $p < .001$) and self-oriented perfectionism ($d+ = 0.27$, $r = .14$, $p < .05$).
4. The current study represents a small portion of a much larger randomized control trial of weight-loss interventions. A complete description of all the procedures and a complete presentation of the data are beyond the scope of this article and will be published independently.
5. Self-efficacy was assessed in Study 1a ("I feel confident that I am capable of accomplishing my goal") and in Studies 1b and 1c ("I possessed the resources and skills necessary to reach my goal"). In Studies 1a and 1b self-efficacy was significantly negatively related to self-criticism and significantly positively related to reported goal progress. Partial mediation was confirmed with a Sobel test. In Study 1c self-efficacy was significantly negatively related to self-criticism, but it was unrelated to reported goal progress. Self-oriented perfectionism was significantly positively related to self-efficacy in Study 1b but not in the other two studies, suggesting that its effects on reported goal progress were not mediated by self-efficacy.

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