



Mediating the effects of self-criticism and self-oriented perfectionism on goal pursuit

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ARTICLE INFO

Article history:

Received 20 September 2011

Received in revised form 16 December 2011

Accepted 29 December 2011

Available online 28 January 2012

Keywords:

Self-criticism

Perfectionism

Self-oriented perfectionism

Goals

ABSTRACT

The current study utilized a prospective design to examine the associations of self-criticism and self-oriented perfectionism with goal progress. The results corroborated previous findings demonstrating a negative association between self-criticism and self-reported goal progress when self-oriented perfectionism was controlled, and a positive association between self-oriented perfectionism and goal progress when self-criticism was controlled. This study extended previous research by exploring the potential mediation of these effects through goal-related self-efficacy, implementation intentions, and goal-related flow. The results showed that the effects of self-criticism on goal progress were indeed mediated by self-efficacy, implementation planning and goal-related flow, while the effects of self-oriented perfectionism were mediated by implementation planning and flow, but not self-efficacy.

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1. Introduction

1.1. Mediating the effects of self-criticism and self-oriented perfectionism on goal pursuit

Prior research has shown that self-criticism is negatively associated with goal progress across a variety of domains, while self-oriented perfectionism appears to be positively related once the overlap with self-criticism is removed (Powers, Koestner, Zuroff, Milyavskaya, & Gorin, 2011). By what mechanism or mechanisms do these relatively stable personality variables exert their effects on goal progress? The current study set out to replicate the previous findings and to explore potential mediators of self-criticism and self-oriented perfectionism.

Self-criticism has been conceptualized 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) features self-denigration and hypersensitivity to perceived criticism, and has been associated with a variety of personal and interpersonal deficits, negative outcomes across a variety of domains, and various forms of psychopathology (Blatt, 2004; Powers, Zuroff, &

Topciu, 2004; Zuroff, Koestner, & Powers, 1994). Specifically in the area of goal pursuit, studies have repeatedly shown that self-criticism is associated with diminished goal progress (Powers, Koestner, Lacaille, Kwan, & Zuroff, 2009; Powers, Koestner, & Zuroff, 2007; Powers et al., 2011).

Perfectionism involves a striving to be perfect and to avoid mistakes. Stoeber and Otto (2006) provide a comprehensive review of the perfectionism literature to date, and they maintain that researchers have consistently found two different forms of perfectionism, one that involves positive strivings and another that includes perfectionistic concerns. They argue that to understand the potential positive effects of perfectionistic striving one must remove variance associated with perfectionistic concerns. In essence, they suggest that perfectionism can have positive effects, when the perfectionist is not overly concerned with mistakes and negative evaluation. Powers et al. (2011) maintain that the essence of this concern about mistakes and evaluation is best captured by the construct of self-criticism.

Multiple measures of perfectionism have been developed, and one of the most widely used and extensively researched is the Multidimensional Perfectionism Scale (Hewitt & Flett, 1991). This scale distinguishes self-oriented (SOP) and socially prescribed (SPP) forms of perfectionism. According to Hewitt and Flett (1991), self-oriented perfectionism involves setting high standards and stringently evaluating oneself, while socially prescribed perfectionism entails the need to attain standards or expectations prescribed by significant others. Various other measures of perfectionism have been developed, and when these measures have been entered into factor analyses together, two clear factors

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consistently emerge (Dunkley, Zuroff, & Blankstein, 2003; Powers et al., 2004). Stoeber and Otto (2006) refer to these two factors as perfectionistic strivings and perfectionistic concerns. Socially prescribed perfectionism and self-criticism load significantly on the perfectionistic concerns factor that appears to include hypersensitivity to perceived excessive external standards and potential criticism, but self-oriented perfectionism loads on the perfectionistic strivings factor that does not appear to involve the internalized harshly critical evaluation of the self or the hypersensitivity to external scrutiny. Evidence to date indicates that perfectionistic concern has been consistently associated with various negative outcomes and forms of pathological functioning, whereas perfectionistic striving has been associated with higher functioning, higher satisfaction and well-being, and lower levels of maladaptive coping and psychopathology (Stoeber & Otto, 2006). However the findings for positive striving primarily hold only when the overlap between concern and striving is controlled. Stoeber and Otto (2006) maintain that perfectionism does not have to be negative, and they suggest that perfectionistic strivings are essentially positive, so long as they are not combined with perfectionistic concerns.

A recent series of studies appears to provide support for the idea that self-criticism is associated with diminished goal progress, but also the idea that perfectionistic striving can be positively related to goal progress, when the overlap with self-criticism is controlled (Powers et al., 2011). Five separate prospective studies examined the associations of self-criticism and self-oriented perfectionism with goal pursuit across a variety of domains (academic goals, weight loss goals, musical performance goals), and a consistent pattern of negative associations between self-criticism and goal progress emerged. However, self-oriented perfectionism was associated with better goal progress when the overlap with self-criticism was controlled.

Given this consistent pattern of results one is left to wonder about the potential mechanisms through which self-criticism and self-oriented perfectionism might exert their contrasting effects on goal progress. Across the goal literature several important factors have been shown to impact goal progress. Among these important factors is goal-related self-efficacy. Self-efficacy refers to a sense of confidence in one's ability to perform actions leading to desired outcomes (Bandura, 1997). Koestner et al. (2006) provided a meta-analysis of eight studies that examined the relation between self-efficacy and progress for self-initiated goals, and a highly significant overall positive effect emerged for goal self-efficacy. Recent research indicated that self-criticism was associated with diminished self-efficacy, while "perfectionistic striving" was associated with higher self-efficacy (Stoeber, Hutchfield, & Wood, 2008). These differences in self-efficacy may in turn mediate the effects of these variables on goal progress.

Another important factor affecting goal pursuit is the development of specific action plans for goal attainment (Koestner et al., 2006). Previous research suggested that furnishing goals with implementation intentions (i.e., precise specification of when goal pursuit will be initiated and how an individual will ensure persistence in the face of distractions and obstacles) enhanced successful goal progress (Gollwitzer & Sheeran, 2006). A meta-analysis of 85 studies confirmed that people who supplemented their goals with implementation intentions had significantly better success (Gollwitzer & Sheeran, 2006). It is certainly possible that the self-critics' preoccupation with failure and potential criticism could impede effective implementation planning, which could in turn diminish goal progress. Likewise, the proactive striving of the self-oriented perfectionist might facilitate implementation planning, in turn improving goal progress.

Finally, an additional factor that may mediate the relations of self-criticism and perfectionism to goal progress may be the way

in which people subjectively experience the pursuit of their goals. Flow refers to a subjective experience of volitional engagement in the pursuit of an activity, and is thought to be associated with absorption and loss of self-consciousness (Csikszentmihalyi & Rathunde, 1993). Research has shown that flow leads to improved performance on tasks, as well as greater reports of alertness, activeness, concentration, happiness, satisfaction, and creativity (Massimini, Csikszentmihalyi, & Carli, 1987). It is an open question whether self-critics and striving perfectionists differ in their experience of flow, and whether or not that experience will mediate the relation to goal progress. However, one can imagine that the self-critic who is consumed with fear of failure and potential criticism would be unlikely to experience a sense of flow in his/her goal pursuits and may thus be less likely to experience success. By contrast, a positive association of perfectionistic strivings with flow might be hypothesized based on previous research relating perfectionistic strivings to autonomous motivation, a concept which, like flow, focuses on intrinsic motivation (VanSteenkiste et al., 2010).

The present investigation explored the associations among self-criticism, self-oriented perfectionism and goal progress. Self-efficacy, implementation planning, and goal-related flow were included to examine the possible mediation of the effects of self-criticism and self-oriented perfectionism on goal progress. Based on previous research, we planned to control for the overlap between self-criticism and self-oriented perfectionism when examining their relation to goal progress (Powers et al., 2011; Stoeber & Otto, 2006). Self-criticism was expected to be negatively associated with goal progress when controlling for self-oriented perfectionism, self-oriented perfectionism was expected to be positively related to goal progress when self-criticism was controlled, and these relations were expected to be mediated by goal-related self-efficacy, implementation planning, and goal-related flow.

2. Method

2.1. Participants and procedure

Participants were 193 undergraduate students, recruited through online classified advertisements for McGill and Concordia Universities, as well as from a paid participant pool at McGill University, to participate in a study about goal setting. The study began shortly after New Years and consisted of an initial lab visit as well as three online follow-ups. During the lab session, which took up to 1.5 h, participants completed a questionnaire about their goals as well as various measures of personality. Follow-up questionnaires assessing goal progress, self-efficacy, implementation plans, and flow were then sent out every 4 weeks. At each follow-up, participants were sent an email, which included a link to the survey as well as a reminder of the goals that they had listed in the initial questionnaire. Participants always responded in relation to their original goals. One hundred and seventy-six participants (120 female, 36 male, 20 did not report gender) ages 18–35 ($M = 20.16$, $SD = 2.44$) completed at least one of the three follow-ups. A previous article based on the same large data set reported the relation of inspiration to goal progress but did not consider perfectionism or the mediators included in this study (Milyavskaya, Ianakieva, Foxen-Craft, Colantuoni, & Koestner, 2011).

2.2. Measures

2.2.1. Self-criticism scale

This scale was created by using 12 items from the Depressive Experiences Questionnaire (DEQ; Blatt, D'Afliiti, & Quinlan, 1976). These items were those that loaded highest on the self-criticism

Table 1

Means, standard deviations and zero-order correlations among all variables.

		M	SD	2	3	4	5	6
1	Self-criticism	3.92	1.22	.57**	-.28**	-.15***	-.18*	-.12
2	Perfectionism	4.57	1.45		-.06	.11	.10	.12
3	Self-efficacy T2	7.17	1.21			.23**	.32**	.53**
4	Goal implementation T2	4.66	1.10				.39**	.56**
5	Goal flow T2	4.84	1.04					.45**
6	Goal progress T2–4	4.63	1.02					

* $p < .05$.** $p < .01$.*** $p < .10$.

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 seven-point scale with 1 representing “Strongly Disagree” and 7 representing “Strongly Agree.” The internal reliability for the self-criticism scale was very good, $\alpha = .84$.

2.2.2. Self-oriented perfectionism

We used a five-item version of the self-oriented perfectionism scale from the Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991, 2004), which was derived from factor analyses (Cox, Enns, & Clara, 2002). The five-item self-oriented perfectionism scale was balanced in terms of assessing striving for perfection and importance of being perfect (Campbell & Di Paula, 2002). The internal reliability of this five-item scale was excellent, $\alpha = .82$. A previous study found that the five-item scale correlated highly with the full 15-item scale, $r = .92$ (Powers et al., 2011).

2.2.3. Goal descriptions

Participants were asked to list three personal goals that they intended to pursue during the semester. The instructions were as follows: “Personal goals are projects and concerns that people think about, plan for, carry out, and sometimes (though not always) complete or succeed at. They may be more or less difficult to implement; require only a few or a complex sequence of steps; represent different areas of a person’s life; and be more or less time consuming, attractive, or urgent. Please think of three personal goals that you plan to carry out this semester.” Examples of goals listed by participants include “Get all A’s”, “Sleep more”, and “Join the newspaper”.

2.2.4. Goal self-efficacy

Self-efficacy was assessed with a single item. Specifically, participants were asked to rate the extent to which they possessed the resources and skills necessary to attain each goal on a nine-point Likert-type scale ranging from 1 (*not at all*) to 9 (*very much*). This item has been shown to be associated with goal progress (Koestner, Lekes, Powers, & Chicoine, 2002) and to be responsive to an intervention designed to enhance goal self-efficacy (Koestner et al., 2006).

2.2.5. Goal implementation planning

Participants used a seven-point scale to rate their agreement with the following item for each goal: “I have made specific plans for how, when, and where to reach this goal.”

2.2.6. Goal-related flow

Participants used a seven-point scale to rate their agreement with the following three items for each goal: “I didn’t notice time passing,” “I was totally absorbed in what I was doing,” and “It was easy and natural for me to work on this goal.” The three items were combined to form a scale of goal-related flow, $\alpha = .83$.

2.2.7. Goal progress

At the follow-ups, participants were asked to rate how much progress they had made toward their short-term goals using two items (“I have made a lot of progress toward this goal” and “I feel like I am on track with my goal plan”) on a seven-point scale ranging from “strongly disagree” to “strongly agree.” At the final follow-up, a third item was added (“I feel like I have achieved this goal”). A mean of all 21 items was used as an index of overall goal progress ($\alpha = .88$).

3. Results

Table 1 presents the summary statistics and zero-order correlations for all the study variables. It can be seen that ratings of goal self-efficacy were very high, whereas ratings of implementation planning, flow, and progress were only moderate. Self-criticism was positively correlated with self-oriented perfectionism. The three goal-related mediators were moderately correlated with one another and all of them were strongly related to reports of goal progress.

Table 2 shows the partial correlations of self-criticism and self-oriented perfectionism with the mediators and goal progress, controlling for the other personality variable. It can be seen that self-criticism was significantly negatively related to goal self-efficacy, implementation plans, flow, and goal progress. Self-oriented perfectionism was significantly positively related to implementation plans, flow, and goal progress, but unrelated to goal self-efficacy. Supplemental analyses showed that self-criticism was significantly negatively related to goal progress at each follow-up. Self-oriented perfectionism was significantly negatively related to progress at the first two follow-ups, but only marginally related ($p = .06$) at the third.

We used the method outlined by Preacher and Hayes (2008) to test a multiple mediation model. In such a model, it is possible to estimate both the total indirect effect (i.e., the aggregated effect of all the mediators), and the specific effects of each mediator. This model also allows for the inclusion of control variables, which in our case allowed us to control for self-criticism when using perfectionism as the dependent variable and vice versa. We thus examined two mediation models: First, the relationship between self-criticism and goal progress mediated by self-efficacy, implementation planning, and flow, controlling for self-oriented

Table 2

Partial correlations of self-criticism and self-oriented perfectionism with all variables.

	Self criticism	Perfectionism
Self-efficacy T2	-.30**	.12
Implementation plans T2	-.26**	.21**
Goal flow T2	-.28**	.24**
Goal progress T2–4	-.22**	.22**

** $p < .01$.

Table 3

Indirect effects of self-criticism and self-oriented perfectionism on goal progress.

Effects	Self-criticism			Self-oriented perfectionism		
	Coefficient	SE	Bootstrap 95% CI	Coefficient	SE	Bootstrap 95% CI
Total	-.25	.05	(-.361; -.150)	.13	.05	(.048; .237)
Self-efficacy T2	-.10	.04	(-.195; -.046)	.03	.02	(-.004; .087)
Implementation plans T2	-.10	.04	(-.174; -.038)	.06	.03	(.022; .133)
Goal flow T2	-.05	.02	(-.112; -.020)	.04	.02	(.010; .086)

perfectionism; second, the relationship between self-oriented perfectionism and goal progress mediated by the same three variables and controlling for self-criticism. Using the Preacher and Hayes (2008) macro for SPSS, we estimated 95% confidence intervals of the indirect effect using bootstrapping re-sampling ($k = 5000$) procedures.

The result from the first model showed that self-criticism was a significant negative predictor of goal progress, $b = -.22$ ($SE = .08$, $p < .01$). Table 3 shows the parameter estimates for the total and specific indirect effects on this relationship. As none of the bootstrapped 95% confidence interval estimates contained zero, all the indirect effects were significant. The direct effect of self-criticism on goal progress in the full mediation analysis was reduced to $b = .03$ ($SE = .06$, $p = .61$), suggesting full mediation.

The result from the second model showed that self-oriented perfectionism was a significant positive predictor of goal progress, $b = .19$ ($SE = .06$, $p < .01$). The parameter estimates for the total and specific indirect effects on this relationship are shown in Table 3. The bootstrapped 95% confidence interval estimate of the indirect effect for self-efficacy contained zero (−.004 to .087), suggesting that self-efficacy was not a significant mediator of the perfectionism to goal progress relationship. The 95% confidence interval estimates of the total indirect effect and the specific indirect effects for implementation plans and flow did not contain zero. The direct effect of self-oriented perfectionism on goal progress in the full mediation analysis was reduced to $b = .05$ ($SE = .05$, $p = .28$), suggesting full mediation.

4. Discussion

The current study provided a clear pattern of results demonstrating that self-criticism is negatively related to self-reported goal progress when self-oriented perfectionism is controlled, while self-oriented perfectionism is positively related to goal progress when self-criticism is controlled. In addition, the findings suggest mediation of these effects through self-efficacy, implementation planning and goal-related flow for self-criticism and through implementation planning and flow for self-oriented perfectionism.

The results of this study are consistent with previous research demonstrating the deleterious impact of self-criticism on goal progress (Powers et al., 2007, 2009, 2011; Shahar, Kanitzki, Shulman, & Blatt, 2006).¹ Several potential mechanisms of effect have been suggested by previous research, including organizational and persistence limitations, diminished problem solving, increased rumination and procrastination, and diminished self-concordant motivation (Dunkley, Zuroff, & Blankstein, 2006; Dunkley et al., 2003; Powers et al., 2007, 2009). Three additional mediators of the negative association between self-criticism and reported goal progress were assessed in the current research. Self-efficacy was shown to mediate the effects of self-criticism, suggesting that the self-critic may have

less confidence in his/her abilities to perform the requisite tasks for specific goal attainment, which in turn diminishes progress. Likewise, implementation planning was shown to mediate the effects of self-criticism on goal progress, suggesting that self-criticism may interfere with effective planning and thereby adversely impact progress. This finding is certainly consistent with theory maintaining that self-critics become pre-occupied with concerns about failure and criticism to the detriment of adaptive functioning. Finally, the concept of goal-related flow was shown to mediate the effects of self-criticism on goal progress. This is consistent with theoretical notions that the self-critic will find it difficult to effortlessly engage in goal pursuit, instead expending wasted energy guarding against potential failure and focusing on potential criticism.

A significant positive association was found between self-oriented perfectionism and self-reported goal progress in the current study, after self-criticism was controlled. Again, this finding is consistent with previous research, and it supports Stoeber and Otto's (2006) view that perfectionistic strivings may promote functioning once such strivings are stripped of their association with perfectionistic concerns (Powers et al., 2011; Stoeber & Otto, 2006). Potential mediation of the positive association between self-oriented perfectionism and goal progress was also examined. Self-oriented perfectionism was not associated with higher self-efficacy, and so it does not appear that positive strivings affect goal progress through a greater sense of one's competency to perform the specific tasks required to achieve a goal. On the other hand, self-oriented perfectionism was associated with greater implementation planning, which was in turn associated with greater goal progress. The effect of self-oriented perfectionism on goal progress does appear to be mediated by this increased planning. Perhaps these individuals are more focused and more able to apply the requisite cognitive resources to the task. Finally, goal-related flow was shown to mediate the effects of self-oriented perfectionism on goal progress. Again this finding makes theoretical sense, if we imagine perfectionistic striving stripped of concerns to facilitate a state of effortless, ego-syntonic focus, which in turn facilitates performance.

Previous studies have found a substantial statistical overlap between "positive" and "negative" perfectionism (Flett & Hewitt, 2006; Powers et al., 2011; Stoeber & Otto, 2006), and the present study showed a correlation of $r = .57$ between self-criticism and self-oriented perfectionism. Therefore we controlled for each when examining the relations to goal progress. We acknowledge that individuals in the real world who are both high in self-oriented perfectionism and low in self-criticism may be relatively rare, and while our results are consistent with the previous literature, one could argue that removing self-criticism from self-oriented perfectionism conceptually changes what Hewitt and Flett (1991) intend to be the meaning of self-oriented perfectionism. The residual variance left by partialing self-criticism from self-oriented perfectionism can be viewed as essentially high standard setting alone, which is not the construct of self-oriented perfectionism as formulated by Hewitt and Flett. Therefore, it is plausible that perfectionistic strivings as defined by Stoeber and Otto (2006) may be helpful, while self-oriented perfectionism as defined by Flett and Hewitt (2006) could be harmful. The present findings

¹ Unlike several previous studies, the zero-order correlation of self-criticism with goal progress was not significantly negative; however, removing the ameliorative effects of self-oriented perfectionism appeared to increase the negative effects of self-criticism on goal pursuit.

were, however, clearly consistent with previous research, which suggest that perfectionistic strivings without concerns may indeed be helpful, and that self-criticism without healthier strivings may be particularly toxic.

The present research was limited in some important ways. Several of the measures were single-item measures. While the reliability of such measures may be questioned, we did assess across three separate goals, and similar measures have been used successfully in numerous previous studies (Koestner et al., 2002, 2006; Powers et al., 2011; Sheldon & Elliot, 1998). The measure of goal progress in this study was a self-report of perceived progress rather than an objective rating. Previous studies have shown a high degree of agreement between self-report and more direct measures, and other studies have demonstrated the association to goal progress reported here, even when more objective measures were used (Gollwitzer & Sheeran, 2006; Powers et al., 2011). However, one could argue that this concern is particularly relevant when studying self-criticism, which by definition suggests a bias in self-perception, and clearly the inclusion of more objective measures in addition to self reports would be useful in future research. We also recognize that the Hewitt and Flett MPS is only one of several measures of perfectionism. To more definitively assess the impact of strivings versus concerns, other measures will need to be studied. 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. While we suggest that the personality factors are predisposing, more complex longitudinal and experimental designs would be required to establish causal links. Finally, we chose to study the particular mediators in the present study because of their theoretical interest and known effects on goal pursuit, but certainly other potential mediators could be studied, such as organization, problem solving, procrastination, etc., as well as specific situational factors.

5. Conclusions

The current work extends previous research by beginning to address questions about the potential mechanisms by which self-criticism and self-oriented perfectionism may exert their influence on goal progress. The results of this study suggest that self-criticism may diminish one's sense of self-efficacy, impede one's active engagement in effective goal planning, and obstruct a sense of effortless involvement in goal-related pursuits, all of which can impair goal progress. Self-oriented perfectionism, on the other hand, appears to be related to enhanced implementation planning and a greater sense of effortless engagement in goal pursuit, each of which appear to enhance goal progress.

These results may have important implications for improving goal pursuit. They suggest that intervention strategies aimed at mitigating self-critical tendencies while fostering self-efficacy and implementation planning may improve outcomes. Likewise, they suggest that, while mitigating self-criticism and improving planning strategies, fostering positive strivings may be additionally useful. Striving to meet one's own internal standards, rather than focusing on potential mistakes, failure and criticism, appears to facilitate accomplishment and may contribute to greater general well-being.

The evidence presented here does not settle the definitional problem of what is or is not "perfectionism," and therefore whether or not perfectionism can be healthy or helpful. However, these findings do once again support the idea that perfectionistic strivings, which are stripped of their usual covariance with self-critical concerns, do have a positive association to goal progress. A strong and substantive picture is emerging, which highlights the importance of self-criticism and perfectionism in

our understanding of goal functioning, and points the way toward potential avenues for improving such functioning.

Acknowledgment

The authors would like to thank the Social Sciences and Humanities Research Council of Canada (SSHRC) for their support of this research.

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