Setting, Elaborating, and Reflecting on Personal Goals Improves Academic Performance

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Of students who enroll in 4-year universities, 25% never finish. Precipitating causes of early departure include poor academic progress and lack of clear goals and motivation. In the present study, we investigated whether an intensive, online, written, goal-setting program for struggling students would have positive effects on academic achievement. Students ($N = 85$) experiencing academic difficulty were recruited to participate in a randomized, controlled intervention. Participants were randomly assigned to 1 of 2 intervention groups: Half completed the goal-setting program, and half completed a control task with intervention-quality face validity. After a 4-month period, students who completed the goal-setting intervention displayed significant improvements in academic performance compared with the control group. The goal-setting program thus appears to be a quick, effective, and inexpensive intervention for struggling undergraduate students.

Keywords: goal setting, university, academic achievement, student retention, intervention

A surge in university enrolments across North America and Western Europe over the last 2 decades has increased the discrepancy between the number of students who enter the system and the number who graduate (Montmarquette, Mahseredjiana, & Houle, 2001). Only 35% of full-time university students in the United States earn their degree in the expected 4 years; this figure rises to just 57% after 6 years (Knapp, Kelly-Reid, Whitmore, & Miller, 2007). Twenty-five percent never finish at all. These substantial rates of school departure negatively affect university budgets and opinions about university quality (Braxton, Hirschy, & McClendon, 2004; Perry, 2003). Publicly funded institutions face growing po-

litical pressure to improve completion rates (Charlton, Barrow, & Hornby-Atkinson, 2006). Furthermore, many organizations consider retention rates when ranking institutions of higher education (Tinto, 2006–2007). Such statistics affect the ability of schools to attract higher caliber students (Meredith, 2004; Standifird, 2005).

The consequences of failing to complete a university degree are even greater for students. A longitudinal U.K. pilot study found that noncompleters of university earned less and experienced longer durations of unemployment than graduates (Johnes & Taylor, 1991). Pennington (2004) reported that, on average, individuals with bachelor's degrees earn 70% more than high school graduates. Individuals with a bachelor's degree also have lower unemployment rates (2.6% in 2008) than those with a high school diploma (5.7% in 2008; U.S. Bureau of Labor Statistics, 2009). This earning-and-employment gap appears to be widening (Carey, 2004).

Potential Causes of the Problem of Academic Failure and Departure

Many general factors—including lack of goal clarity, decreased motivation, disorganized thinking, mood dysregulation, financial stress, and relationship problems—can hinder academic performance and increase the probability of course dropout (Braxton et al., 2004; Dale & Sharpe, 2001; Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007). Adjusting to the university environment itself can augment the effect of or independently produce risk factors that undermine academic achievement and degree completion (Fisher, 1988; Pennebaker, Colder, & Sharp, 1990). Perry (1991) suggested, for example, that many of the changes attendant on the transition from secondary to postsecondary school life can negatively influence students' perceptions of control. Such changes

include (a) increased emphasis on success versus failure, (b) heightened level of academic competition, (c) pressure to excel, (d) frequency of academic failure, (e) decreased familiarity level with academic assignments, (f) more specific association of decisions with impact on career, and (g) transformation and disruption of social networks. Decreased perception of academic control constitutes an emotional stressor that has been linked with decrements in university performance (i.e., grades, course dropout) in several field studies of college classrooms (Perry, Hladkyj, Pekrun, Clifton, & Chipperfield, 2005; Perry, Hladkyj, Pekrun, & Pelletier, 2001; Ruthig, Perry, Hall, & Hladkyj, 2004).

Difficulty in adjusting to a university can lead to academic underachievement—a condition characterized by a discrepancy between a student's current achievement and his or her academic potential, as previously manifested or hypothetically possible (Peters, Grager-Loidl, & Supplee, 2000; Reis & McCoach, 2000; Richert, 1991; Rimm, 1997; Whitmore, 1980). In a broad sense, underachievement might be reflected in low grades (Pendarvis, Howley, & Howley, 1990), reduced number of credit hours accumulated in consecutive university terms (Kuh et al., 2007), low levels of effort on extracurricular tasks, decreased involvement in social relationships, lack of life goals, avoidance of challenging and creative projects in and out of school, and subsequent loss of motivation (Baum, Renzulli, & Hébert, 1995; Butler-Por, 1993; Gallagher & Gallagher, 1994). Without proper intervention, a cycle can form between subpar school performance and decreased motivation, ultimately leading to lower grades and school departure or expulsion.

Previously Attempted Interventions

Many universities already offer mentoring programs, freshman interest groups, seminars or learning communities, and service-learning programs to help ease the transition to university life. These programs might broadly improve the student experience (Bean & Eaton, 2001–2002). However, very few of the studies analyzing their success used rigorous, randomized, and controlled experimental designs. Even fewer studies evaluating student retention or academic-success programs examined before-and-after overall grade-point average (GPA), which is among the most important predictors of ultimate degree completion (Adelman, 1999, 2006; Pascarella & Terenzini, 2005). A number of researchers have additionally focused on students with several elements of risk, such as specific subgroups of minority students (e.g., Cohen, Garcia, Apfel, & Master, 2006; Walton & Cohen, 2007). These studies have reported some success with targeted interventions, but their results cannot be easily generalized to other student populations.

The Proposed Solution

The ideal intervention would be broadly implemented, straightforward, inexpensive, and available to a large number of students. In the present longitudinal study, we explored the possibility that participation in a formalized, intensive, online, personal goal-setting program might serve as an effective intervention for struggling university students. Personal goals reflect consciously articulated and personally meaningful objectives that guide perception, emotion, thought, and action (Elliot, Chirkov, Kim, & Sheldon,

2001; Wiese & Freund, 2005). In the current study, we tested the possibility that clearly articulating such goals would lead to improved academic performance.

Benefits of Goal Setting

Goal-setting theory emerged within the field of industrial–organizational psychology over the course of the last 35 years. More than 400 correlational and experimental studies provide evidence for the validity of the goal-setting approach (Latham & Locke, 2007; Locke & Latham, 1990). The basic premise is simple: Explicitly setting goals can markedly improve performance at any given task. Individuals with clear goals appear more able to direct attention and effort toward goal-relevant activities and away from goal-irrelevant activities, demonstrating a greater capacity for self-regulation. The establishment of clear goals also appears to increase enthusiasm, with more important goals leading to the production of greater energy than less important goals. Goal clarity increases persistence, making individuals less susceptible to the undermining effects of anxiety, disappointment, and frustration. Finally, well-defined goals appear to help individuals discover and use ever more efficient strategies and modes of thought and perception (Locke & Latham, 2002; Locke, Shaw, Saari, & Latham, 1981; Smith, Locke, & Barry, 1990).

Many studies demonstrate the broad impact of goal setting. Emmons and Diener (1986), for example, found that goal attainment was strongly correlated with positive affect among undergraduates (and that the lack of goal attainment was correlated with negative affect, although somewhat less strongly). They also discovered that the mere presence of self-rated important goals was as strongly correlated with positive affect as actually attaining those goals. Brunstein (1993) demonstrated, similarly, that perceived goal progress could act as a catalyst for increased feelings of well-being. Levels of perceived self-efficacy are also likely to increase as progress is made and the sense of well-being rises (cf. Latham & Seijts, 1999). If participating in goal setting improves self-efficacy, then individuals are not only encouraged to set further goals but are also likely to develop higher expectations of success (Karakowsky & Mann, 2008).

Goal Setting in Academic Contexts

Goal setting plays a prominent role in social-cognitive learning models of academic achievement. According to such frameworks, successful achievement involves positive feedback loops between self-efficacy and goal commitment (Schunk, 1990; Zimmerman, Bandura, & Martinez-Pons, 1992). As a student experiences successful goal attainment, self-efficacy increases; this in turn enhances goal commitment and mobilizes the self-regulation of cognitive and motivational resources to facilitate subsequent achievement (Pintrich, 2000). A personal goal-setting intervention should "kick-start" this feedback loop by strengthening both sides of the expectancy–value equation (Wigfield & Eccles, 2000): (a) clarifying the desired outcome, thereby making the value of the goal more salient, and (b) specifying the path to goal completion, thus increasing the perceived attainability of success and establishing the benchmarks by which goal progress can be evaluated. Whereas most previous research on academic goal setting has focused on younger children within a specific task or classroom

context (Covington, 2000), in the current study we extend this work into an undergraduate population across the entire academic year.

Objectives and Hypotheses

In the current study, we assessed the effectiveness of a computerized goal-setting program for students experiencing academic difficulty (a fuller description and theoretical rationale for the program is provided in the Appendix) compared with an assessment of vocational interest, used as an intervention-like control. It was hypothesized that this one-time, intensive, goal-setting intervention would lead to improvements in GPA and student-retention rates.

Method

Participants

Recruitment. Recruitment procedures were aimed at self-nominated academically struggling students from McGill University (Montreal, Quebec, Canada) with GPAs below 3.0 (3.0 = B). Participants were recruited via numerous posters and flyers around campus; oral presentations to introductory classes; e-advertisements on the university classifieds website; and official letters sent from the Associate Deans of Science, Arts, and Education to all students with probationary standing. All advertisements indicated that the study was designed to investigate the effects of two brief interventions for improving students' academic performance.

Students interested in participating underwent a brief (10-min) phone interview, designed to screen potential participants for inclusion and to assess feelings of academic difficulty. Inclusion criteria comprised three components: Students must (a) have planned to take a full-time course load (nine credits) each semester while in the study, (b) have been on official academic probation or had a cumulative GPA under 3.00, and (c) have stated that they were experiencing academic difficulty. If students met such criteria and expressed interest, they were informed that two interventions were being tested for their effects on academic achievement. Participants were advised that they would be randomly assigned to one of the two intervention groups. They were also advised that it was not known whether either intervention would improve grades but that no negative effects were expected. Financial remuneration was offered for time spent in the study. A total of 85 students met the study criteria and were included.

Demographics. Students ranged in age from 18 to 23 years ($M = 20.49$ years, $SD = 1.34$). Of the participants, 60 were women (70.6%). The participants were primarily European Canadian (56.5%) and East Asian (16.5%), although 27.1% came from African, First Nations, Hispanic, and South Asian backgrounds. Participants were characterized by the following distribution of estimated parent or guardian total incomes: less than $50,000 (22.5%); $50,000–$100,000 (40.0%); $100,000–$200,000 (27.1%); and more than $200,000 (10.6%).

Materials

Academic achievement.

Grades. Official university transcripts were collected for all participants for the semester immediately prior to (GPA1; winter term of the previous year) and immediately following (GPA2; winter term of the subsequent year) the intervention. The goal-setting and control interventions occurred during the fall term between these two academic periods.

Retention rates. The goal group and the control group were compared for the number of students whose course load dropped below that of full-time status (nine credits or more) in the postintervention semester.

Concluding Questionnaire. At the end of the study, all participants were required to complete a final feedback questionnaire. This questionnaire, completed in the laboratory, included 15 brief, scaled, feedback items querying participants about their motivation for completing the study, the seriousness with which they took the study, and how they felt as a result of the intervention. Students were told that their answers should be as honest as possible and that negative feedback was perfectly acceptable.

Procedure

Study procedures were described to participants during the initial phone interview. Students were told that they were free to complete the study from any computer with Internet access, preferably in a quiet room with minimal distractions. They were e-mailed instructions, the link to a group-specific website containing questionnaires and the intervention, and login information for accessing tasks online. All study components aside from the Concluding Questionnaire were completed over the Internet via online survey software (SelectSurveyASP Advanced; ClassApps, 2004). Students were told that the study would occur in two stages: Stage 1 would consist of informed consent and demographics, as well as the intervention itself; Stage 2 would include the Concluding Questionnaire and permission forms for releasing official transcripts.

Stage 1. Students signed an online consent form before completing the demographics questionnaire and intervention. Each of the two group-specific websites for the study presented participants with links to their particular intervention. Group 1 (goal group) participated in a web-based, intensive, goal-setting program. This program, originally developed by Peterson and Mar (2004), was adapted for use with university students. The program led participants through a series of eight steps that facilitated the setting of specific personal goals along with detailed strategies for achievement (see the Appendix for a more detailed description).

Students were asked to allow themselves at least 2.5 uninterrupted hours to complete the program (the survey software timed the program, allowing the researchers to confirm that all individuals approximated the suggested time frame). One or two short breaks of 5–10 min were allowed. Students were informed (a) that they should complete the intervention when they were feeling alert and unrushed; (b) that they would be sometimes asked to write down their private thoughts and feelings, without concern for grammar or spelling, and that other times they would be asked to carefully revise what they had written; (c) that the writing program was meant to benefit them personally; (d) that everything they wrote would be strictly confidential; and (e) that they would receive a copy of what they had written shortly after completing the program. They were advised to have a clock nearby to stay on task when asked to write freely for specified amounts of time. The writing program then began.

Group 2 (control group) participated in three different web-based tasks in lieu of the goal-setting intervention. The first task involved a series of questionnaires measuring positive psychology traits, including the Personal Growth Initiative Scale (Robitschek, 1998), the Mindful Attention Awareness Scale (Brown & Ryan, 2003), the Meaning in Life Questionnaire (Steger, Frazier, Oishi, & Kaler, 2006), the Gratitude Questionnaire (McCullough, Emmons, & Tsang, 2002), the Inspiration Scale (Thrash & Elliot, 2003), and the Curiosity and Exploration Inventory (Kashdan, Rose, & Fincham, 2004). These questionnaires were not scored, and no feedback was provided. They were included to get control participants thinking about different personal characteristics (though without a specific focus or resolution) and were intended to increase the face validity of the intervention.

In the second task, control group students wrote about some positive past experiences. They were instructed to write down their thoughts and feelings about these experiences and to write nonstop without regard for grammar or spelling. They were specifically asked to answer three out of six questions focusing on neutral topics (e.g., a favorite extracurricular activity), and were told to spend 10–15 min on each response. They were instructed to answer each question in an objective way, writing seriously and thoughtfully, with minimum emotional expression. This second task was included to match the free-writing aspect of the goal group intervention. Students were sent a copy of their responses after completion.

Finally, for the third task, control group students completed a widely used career-interest measure: the Newly Revised Strong Interest Inventory Assessment (Strong Interest Inventory, 2004). After completion, each student was sent a computer-generated report of his or her results.[1]

Stage 2. Approximately 16 weeks after completion of the Stage 1 intervention, all participants completed the Concluding Questionnaire and signed the transcript-release form. Participants were then remunerated for their time over the previous 4 months.

Results

Baseline Similarities Between Groups

When comparing participants in the goal group ($n = 45$) and the control group ($n = 40$), no significant differences were found in the following categories: age, sex, ethnicity, parents' income, self-reported average of high school grades, English as a first language (EFL; all students were fluent in English, but 35.3% of the sample's first language was not English), whether students were studying in English for the first time, whether they were on official academic probation (31.8% of the sample), whether they were receiving tutoring (10.6% of the sample), or whether they were enrolled in any other kind of intervention at the beginning of the study (4.8% had enrolled in short-term procrastination or test-anxiety workshops offered by the university).

GPA

No baseline differences were found between control group GPA1 ($M = 2.26$, $SD = 0.72$) and goal group GPA1 ($M = 2.25$, $SD = 0.93$), $t(83) = 0.08$, $p = .93$. GPA was normally distributed in each group, within acceptable limits for skewness and kurtosis.

A repeated measures analysis of variance (ANOVA) was conducted to test for differences between groups on GPA (pre- and postintervention). There was a significant main effect of time, $F(1, 83) = 13.66$, $p < .01$, $\eta^2 = .14$, as well as a significant Group × Time interaction, $F(1, 83) = 4.01$, $p < .05$, $\eta^2 = .05$.

As a follow-up to the ANOVA, post hoc tests were used to explore the nature of the significant interaction. In the goal group, the postintervention GPA2 ($M = 2.91$, $SD = 0.65$) was significantly higher than the baseline GPA1 ($M = 2.25$, $SD = 0.93$), $t(44) = 4.17$, $p < .01$, $d = 0.65$. In the control group, by contrast, no significant difference emerged between GPA2 ($M = 2.46$, $SD = 1.06$) and GPA1 ($M = 2.26$, $SD = 0.72$), $t(39) = 1.19$, $p = .28$, $d = 0.17$. A planned comparison of GPA2 between groups was also conducted. GPA2 for the goal group ($M = 2.91$, $SD = 0.65$) was significantly greater than GPA2 for the control group ($M = 2.46$, $SD = 1.06$), $t(83) = 2.76$, $p = .03$, $d = 0.50$ (see Figure 1 for a comparison of group changes in mean GPA over time).

Retention Rates

No significant baseline difference was observed between the number of credits in the preintervention semester taken by participants in the control group ($M = 13.21$, $SD = 1.68$) versus the goal group ($M = 13.88$, $SD = 1.91$), $t(83) = 1.69$, $p = .09$, $d = 0.36$. A Fisher's exact test was conducted to determine whether the proportion of students maintaining a full course load in the postintervention semester differed by group. No students in the goal group dropped below nine credits in the semester postintervention, but eight students in the control group (20%) dropped below nine credits (with two withdrawing from school completely). The retention-rate difference between groups was significant at $p < .005$.

Goal Setting and Self-Reported Outcomes

In the next set of analyses, we explored group-outcome differences in self-reported change as a result of the intervention, using the Concluding Questionnaire measure described above. The 15 items on this questionnaire were designed to elicit information about general emotional status, concentration, motivation, and the seriousness with which participants took their involvement in the study. Because the items overlapped considerably, an exploratory factor analysis using maximum likelihood estimation and varimax rotation was used to group the questions.

Two factors emerged from the analysis, based on examination of the scree plot and goodness-of-fit statistics. Taken together, these two factors accounted for 50.3% of the total variance. Table 1 contains the rotated factor matrix. Because factor analyses require

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[1] It is worth noting that the feedback provided by this assessment can be construed as providing information about an individual's character strengths, which has previously been used in positive psychology interventions to improve affective experience (Seligman, Steen, Park, & Peterson, 2005). However, these interventions were not successful when character feedback was provided on its own; it was only when participants were explicitly told to use these strengths in a new and different way every day for 1 week that lasting improvements were observed. Accordingly, the control intervention should not be considered equivalent to previous positive psychology interventions.
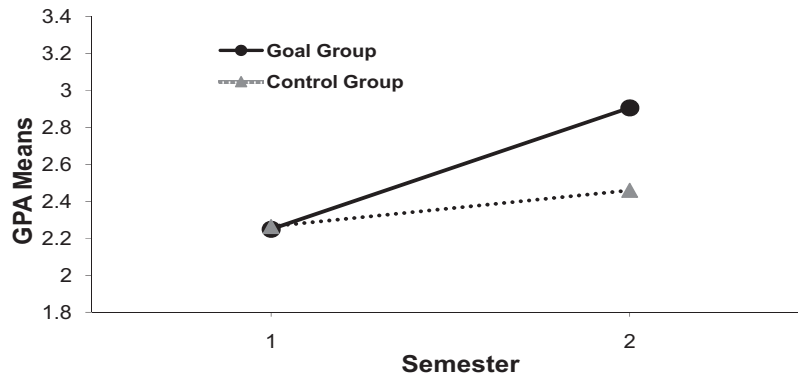
Figure 1. Group differences in grade-point average (GPA) change postintervention.

large sample sizes to obtain reliable factor loadings, the obtained solution was used only as a guide for combining the items into scales. The items loading on each factor were averaged together to create scale scores. Two items were removed from analysis because they loaded similarly on both factors. On the basis of the item content, Factor 1 was interpreted as reflecting reduced negative affect, whereas Factor 2 was interpreted as reflecting enthusiasm for the study. The reduced negative affect scores were significantly higher for the goal group ($M = 42.96$, $SD = 16.48$) than for the control group ($M = 34.44$, $SD = 20.66$), $t(83) = 2.11$, $p < .05$, $d = 0.46$. No significant differences were observed, however, for the enthusiasm scores, $t(83) = 0.73$, $p = .47$, $d = 0.16$.

Table 1

Rotated Factor Matrix for Self-Reported Change on the Concluding Questionnaire

	Component	
Condensed items	1	2
As a result of the intervention:		
Do you feel less anxious?	.91	
Do you feel less stressed?	.86	
Do you feel less sad?	.74	
Are you more generally satisfied with life?	.66	
Have you been more generally conscientious?	.52	.37
Is it easier to concentrate?[a]	.40	.44
To what extent would you recommend it?		.78
How helpful did you find it?		.75
Would you recommend the intervention?		.70
Rate the value of taking part.		.69
How seriously did you take the intervention?		.51
Is it easier to study?[a]	.36	.40
How seriously did you take the associated tasks?		.31
To what extent did you do it for potential academic or cognitive gains?		.31
To what extent did you do it for the money?		

Note. The extraction method used was maximum likelihood. The rotation method used was varimax with Kaiser normalization. Rotation converged in three iterations.
[a] These items were removed from the resulting scales because of their near-equivalent dual loadings.

Reduced negative affect scores also correlated with grade improvement over the course of the study ($r = .19$, $p < .05$). Statistically controlling for this variable rendered the main Group × Time interaction in the prediction of GPA nonsignificant, $F(1, 82) = 2.77$, $p = .10$, $\eta^2 = .03$. GPA improvements over the course of the study thus appear related to general reductions in self-reported negative affect as a result of the intervention. It is unclear, however, whether the reduced negative affect was a cause or a consequence of improved academic performance in the goal group, as both models produced significant mediation tests when using the recommended product of coefficients method described by MacKinnon, Lockwood, Hoffman, West, and Sheets (2002): $z' = 1.03$, $p < .05$, for the former; and $z' = 1.01$, $p < .05$, for the latter.

Content Analysis

The specific mechanisms promoting improvements in academic performance were examined via exploratory analyses of the written responses to the goal-setting exercise. Content variables included the prevalence of academic versus nonacademic goals (as coded by three trained judges); the number of specific behavioral plans, obstacles, and performance markers delineated for each goal; and the number of words used in describing the goal and its ramifications for the respondent's life. The average word count for the intervention was 2,811 ($SD = 1,033$), with intercorrelations between most of the content variables (e.g., people who listed more potential obstacles also listed more benchmarks and specific plans). Of all the content variables that were examined, the only significant predictor of academic improvement was the number of words used in describing the ideal future ($M = 347$, $SD = 140$); those who wrote more about the ideal future also demonstrated greater improvements in their grades ($r = .30$, $p = .05$). Although most participants (86%) in the goal group had at least one academic goal, the total number of academic goals set ($M = 1.49$, $SD = 1.06$) did not correlate with academic improvement. Because the majority of students set at least one academic goal, it was not possible to examine whether performance benefits would have been observed if only nonacademic goals had been set.

Familiarity With English Language

Given the multicultural nature of our sample, an examination of the potential moderating influence of participants' familiarity with

the English language was conducted. The initial repeated measures ANOVA predicting academic performance on the basis of the experimental condition was repeated with EFL entered as an additional between-subjects variable. A trend toward significance was observed for the Group $\times$ Time $\times$ EFL three-way interaction, $F(1, 81) = 3.77$, $p = .056$, $\eta^2 = .044$. Follow-up analyses confirmed that the main Group $\times$ Time interaction effect was stronger for native English speakers, $F(1, 53) = 6.29$, $p = .015$, $\eta^2 = .106$, than for nonnative English speakers, $F(1, 28) = 0.23$, $p = .63$, $\eta^2 = .008$. The intervention thus appeared to be most effective with native English speakers. The word-count variable described above was, however, unrelated to familiarity with the English language. No other demographic variable moderated the effectiveness of the intervention.

Discussion

In the present study, we tested the effects of a single-session, intensive goal-setting program for undergraduate students experiencing academic difficulty. Compared with the control group, students who completed the goal-setting exercise experienced three benefits in the postintervention semester: (a) increased GPA, (b) higher probability of maintaining a full course load, and (c) reductions in self-reported negative affect. Given the paucity of successful interventions for improving academic performance in university students, the current study indicates that personal goal setting deserves greater attention as an effective technique for improving academic success.

The most important finding of the current study is that the goal-setting exercise was able to successfully improve GPA among undergraduate students. Despite the baseline equivalence of the two groups, postintervention grades for the goal group were significantly higher than postintervention grades for the control group. Maintaining a good GPA is the single most important factor in predicting successful degree completion (Adelman, 1999; Kuh et al., 2007), suggesting that personal goal setting might be a useful intervention for helping undergraduates to optimize their educational experience. It should be noted, however, that the postintervention grade improvements appear to be specific to native English speakers. This may not come as a surprise, given that the intervention is entirely language based, and nonnative English speakers might thus have had more difficulty working through the intervention process in their nonprimary language. It would likely be necessary to develop a variety of native-language interventions to generalize the results across language groups. An alternative interpretation of this finding is that the academic performance deficits of nonnative English speakers are more closely related to linguistic challenges rather than to motivational problems, limiting the extent to which the current intervention was able to improve academic outcomes (cf. Grayson & Stowe, 2005).

The second most important benefit of the goal-setting program was increased likelihood of maintaining a full course load. Each participant had stated their intent to maintain at least nine course credits per semester for the duration of the study. When grade data were collected, it was discovered that eight students had fallen below nine credits in the postintervention semester and that all of these students were in the control group. Previous research suggests that maintaining a full-time course load is also highly related to ultimate degree attainment (Adelman, 1999).

The third benefit of the goal-setting program was that students in the goal group reported significant decreases in negative affect, which they attributed to the intervention. These subjective improvements were in turn correlated with improvements in academic performance, although it is unclear whether these changes contributed to or resulted from improved grades.

In the exploratory content analysis of the goal-setting responses, the number of words used to describe the ideal future was the only predictor of academic improvement. This suggests that developing a detailed specification of the desired outcome was central to the current effects. A well-differentiated representation of the goal is an important component of effective goal setting and self-regulation, serving as a prerequisite for the full mobilization of psychological resources (Carver & Scheier, 1998; Locke & Latham, 2002). Although mere specification of the desired future is unlikely to be as effective without detailed planning, this step appears to have been a rate-limiting factor in moderating the intervention's benefits. Undergraduate students, in particular, might be especially responsive to this step, in that most are in a transitional state and have not fully articulated their desired futures. For these students, specifying their vision for an ideal future by reflecting and elaborating on their personal goals might be one of the intervention's most valuable components. Improvements in goal clarity and the increased motivation that results from effective goal setting are two likely mechanisms of the current intervention, as they are both related to academic achievement outcomes (Braxton et al., 2004; Kuh et al., 2007). On a related note, although goal-setting theory states that adopting specific and challenging goals leads to performance improvements (Locke & Latham, 2002), in the current intervention we focused more on establishing goal specificity rather than difficulty.

Finally, although the intervention used in this study was broader than those commonly employed in goal-setting research, the results do not necessarily conflict with goal-setting theory. In particular, goal-setting interventions usually involve the setting of specific goals in a single domain, leading to domain-specific improvements (Locke & Latham, 2002). Our goal-setting program, in contrast, required participants to set multiple goals in self-selected domains. One question raised by this approach is whether the benefits of goal setting in one area can generalize to other domains. Although we observed academic performance benefits following the current intervention, this might have depended on the fact that the majority of students in the goal group set at least one academic goal. As a result, we could not directly examine whether goal setting in nonacademic domains contributed to improvements in academic performance. However, if effective goal setting in one domain can bolster generalized self-efficacy (Bandura, 1977, 1986; Schunk, 1990), there might be concomitant performance improvements in other domains. By a similar token, the very process of setting personal goals might induce a learning or mastery orientation (Seijts, Latham, Tasa, & Latham, 2004), the benefits of which might generalize to other domains. This remains an open question and is of particular interest for organizational contexts requiring the pursuit of multiple goals. Indeed, a broad and multifaceted goal-setting intervention might be useful for optimizing the concurrent pursuit of multiple, complex goal structures (a topic that has received less attention in the industrial–organizational psychology literature; Wood, 2005).

Limitations and Suggestions for Future Research

One limitation of the present study is the potential generalizability of results. Privacy laws made it difficult to directly recruit students on academic probation. To find enough participants to run analyses, we raised the inclusion criterion to a maximum GPA of 2.99. For this reason, recruited students were asked to identify whether they perceived themselves as experiencing difficulty in school; a student with a 2.3 GPA who did not report that he or she was struggling would not have been included in the study. A related limitation is that every student who was recruited into the study expressed concern about his or her academic achievement and might, therefore, have been more motivated to make changes than other struggling students. It will be important for researchers to test goal setting with students pursuing other degrees (e.g., 2-year and master's programs) and experiencing a broader range of academic achievement outcomes. A longer follow-up period would also allow researchers to examine whether the effects continue into subsequent years as well as the potential utility of "booster" goal-setting sessions.

Finally, the intervention was designed to maximize real-world benefits by combining multiple components. It remains an important task, however, to examine the efficacy of specific elements within this intervention so as to reveal their relative importance and utility.

Conclusion

An easily administered, standardized, and time-limited goal-setting intervention produced improvements in academic success among struggling university students. This low-cost intervention could potentially be used by academic institutions to help 1st-year students establish goals and increase their academic prospects; it could also be used as a treatment for students on academic probation. It is hoped that future studies will provide further insight into the reasons why and ways in which personal goal setting has an impact on academic achievement.

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Appendix

Description of the Goal-Setting Instrument

The goal-setting intervention (adapted from Peterson & Mar, 2004) involved eight steps that were derived from the goal-theory literature as contributors to a successful goal-setting experience. The result is a "package" intervention, which was designed to simultaneously influence a number of factors related to effective goal pursuit. Such interventions are thought to be more effective than those that involve only a single construct, although the contribution of each specific mechanism can be difficult to ascertain (Vancouver & Day, 2005). This package-intervention approach was implemented to maximize real-world benefits. Each of the program's eight steps, along with the theoretical rationale, is described below.

Step 1 included a series of exercises that required students to free-write for specified amounts of time (e.g., 1–2 min, 10 min) about (a) their ideal future, (b) qualities they admired in others, (c) things they could do better, (d) their school and career futures, (e) things they would like to learn more about, and (f) habits they would like to improve (i.e., related to school, work, relationships, health). This initial "fantasy" step was intended to allow participants the chance to consider a number of possible futures and to identify the ones that were most desirable (cf. Markus & Nurius, 1986). Contemplating the desired state of an imagined future can be an important motivator in goal pursuit, especially when it is compared with current reality (Oettingen, Pak, & Schnetter, 2001). The program's first step was thus included to get participants thinking about what their desired futures might look like.

Step 2 asked students to examine the result of their fantasizing about the future and to extract seven or eight specific goals that could be pursued to realize the desired state. For each goal, students were required to provide an identifying label as well as a brief description of the goal itself. Each of these goals would then be elaborated on in the rest of the program. It was emphasized that the identified goals had to be clear and specific, as these tend to be more effective than poorly defined targets or do-your-best goals (Austin & Vancouver, 1996; Locke, Chah, Harrison, & Lustgarten, 1989; Locke & Latham, 2002; Locke et al., 1981).

Step 3 required students to evaluate their goals by ranking them in order of importance, detailing specific reasons for pursuit and evaluating the attainability of each goal within a self-specified time frame. This step was included to ensure that goal prioritization was handled effectively, in order to avoid potential goal conflicts and their associated performance costs (Locke, Smith, Erez, Chah, & Schaffer, 1994). It was also important for students to consider the attainability of their goals, because positive outcome expectations are important motivators of goal-relevant behavior, and unrealistic goals tend to be less motivating (Bandura, 1977; Brunstein, 1993; Perrone, Civiletto, Webb, & Fitch, 2004; Schunk, 1991).

Step 4 asked students to write about the impact that achieving each goal would have on specific aspects of their lives and the lives of others. It has been suggested that the very process of representing the future consequences of a goal might provide a cognitive source of motivation (Bandura, 1977; Schunk, 1991). This step was thus included to help students form a more detailed understanding of the importance of the goal and the consequences of its attainment.

Steps 5, 6, and 7 helped students to elaborate on their specific plans for goal pursuit. Research suggests that complex goals require the setting and completion of subgoals, which provide clear benchmarks of progress (i.e., feedback; Bandura & Simon, 1977; Latham & Seijts, 1999; Locke & Latham, 2006; Morgan, 1985; Stock & Cervone, 1990). Goal progress is further bolstered by detailed implementation plans (Gollwitzer, 1999; Koestner, Lekes, Powers, & Chicoine, 2002; Locke et al., 1981) that describe how the path to a goal will be physically instantiated

(Appendix continues)

and that are instrumental in overcoming challenges (Gollwitzer & Brandstätter, 1997). Step 5 led students through a process of determining subgoals and concrete strategies for achieving each goal. Step 6 required them to identify potential obstacles to the achievement of each goal as well as strategies for overcoming these obstacles. Step 7 guided them through the process of setting concrete benchmarks for goal attainment to help them to monitor their own progress and gain feedback. Detailing the path to goal attainment should also serve to increase the perceived attainability of the goal, thereby increasing motivation.

Finally, Step 8 asked students to evaluate the degree to which they were committed to achieving each goal. Goal commitment is an important component of goal success (Koestner et al., 2002; Ryan, Sheldon, Kasser, & Deci, 1996), and this step was added to represent a personal contract of maintaining commitment to the pursuit of the goals outlined throughout the intervention. After students completed the program, they were e-mailed a copy of everything that they had written to print out and review as desired.

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Emotion

The Publications and Communications (P&C) Board of the American Psychological Association has opened nominations for the editorship of the journal **Emotion** for the years 2012–2017. Elizabeth A. Phelps is the incumbent editor.

Candidates should be members of APA and should be available to start receiving manuscripts in early 2011 to prepare for issues published in 2012. Please note that the P&C Board encourages participation by members of underrepresented groups in the publication process and would particularly welcome such nominees. Self-nominations are also encouraged. The search is being chaired by Norman Abeles, PhD.

Candidates should be nominated by accessing APA's EditorQuest site on the Web. Using your Web browser, go to http://editorquest.apa.org. On the Home menu on the left, find "Guests." Next, click on the link "Submit a Nomination," enter your nominee's information, and click "Submit."

Prepared statements of one page or less in support of a nominee can also be submitted by e-mail to Emnet Tesfaye, P&C Board Search Liaison, at emnet@apa.org.