Anmerkung: Der folgende Artikel ist ein Muster für die formale Gestaltung einer Abschlussarbeit in der Abteilung Pädagogische Psychologie der Universität Bern. Er dient als Orientierung, was Schriftgrösse, Zeilenabstand, Abfolge von Manuskriptteilen (Text, Fussnoten, Literatur, Tabellen, Abbildungen) und die grobe Gliederung in theoretisch-empirische Einleitung, Methodenteil, Ergebnisteil und Diskussion anbelangt. Je nach Fragestellung und Forschungsdesign passt die Feingliederung des vorliegenden Musterartikels allerdings mehr oder weniger zu Ihrer Abschlussarbeit. Beispielsweise ist es (im Gegensatz zu dem vorliegenden Musterartikel) bei einer experimentellen Studie notwendig, im Ergebnisteil einen Manipulation Check zu berichten. Wird die Abschlussarbeit auf Deutsch verfasst, ist nach der deutschen Zusammenfassung, wie gemeinhin üblich, zusätzlich ein englisches Abstract (eine Übersetzung der deutschen Zusammenfassung) einzufügen.

How Minimal Grade Goals and Self-Control Capacity Interact in Predicting Test Grades

Alex Bertrams

University of Mannheim

**Abstract**

The present research examined the prediction of school students’ grades in an upcoming math test via their minimal grade goals (i.e., the minimum grade in an upcoming test one would be satisfied with). Due to its significance for initiating and maintaining goal-directed behavior, self-control capacity was expected to moderate the relation between students’ minimal grade goals and their actual grades. Self-control capacity was defined as the dispositional capacity to override or alter one’s dominant response tendencies. Prior to a scheduled math test, 172 vocational track students indicated their minimal grade goal for the test and completed a measure of self-control capacity. The test grade was assessed at a second time of measurement. As expected, minimal grade goals more strongly predicted the actual test grades the higher the students’ self-control capacity. Implications can be seen in terms of optimizing the prediction and advancement of academic performance.

*Keywords:* achievement, goal, grade, self-control

How Minimal Grade Goals and Self-Control Capacity Interact in Predicting Test Grades

**Grade Goals**

Individual differences in students’ goals play an important role in the context of learning and achievement (Eccles & Wigfield, 2000; Elliott & Dweck, 1988; Locke & Bryan, 1968; Steinmayr, Bipp, & Spinath, 2011). The grades students strive for—their *grade goals*—have been reliably shown to predict their academic achievement (Locke & Bryan, 1968; Uhlinger & Stephens, 1960; Wood & Locke, 1987; Zimmerman, Bandura, & Martinez-Pons, 1992). However, the way students are asked for their grade goals has turned out to be crucial. Locke and Bryan (1968) found only little variance in students’ reports on which grades they hoped or tried to achieve—most students declared they hope or try for the best possible grade. In contrast, students differed in their *minimal grade goals*—the minimum grades they would be satisfied with. Due to the ceiling effects produced by hope-for and try-for grade goal measures, the minimal grade goal measure was superior in predicting academic achievement.

Another advantage of the minimal grade goal measure is that it constitutes the definite threshold between acceptable and unacceptable grades from the perspective of the individual. This may not necessarily be the case with hope-for and try-for grade goals since the individual may still view lower grades as acceptable. Therefore, it is plausible that minimal grade goals are more binding and guide more in the achievement context than other kinds of grade goals. Based on this theoretical consideration and the aforementioned empirical findings, I applied students’ minimal grade goals as a predictor of their actual grades in the present study.

Since minimal grade goals substantially predict actual grades (Locke & Bryan, 1968; Uhlinger & Stephens, 1960), asking students for their minimal grade goals appears to be a useful and easy way to prognosticate their likely future achievement. However, beyond the general predictive value of minimal grade goals for actual grades, students may differ in their individual capacity to reach their minimal grade goals. It seems reasonable to assume that higher minimal grade goals predict higher grades more effectively as students’ capacity to attain higher minimal grade goals increases. If so, this capacity should be taken into account when inferring future achievement from minimal grade goals. I considered students’ self-control capacity to be a relevant individual differences variable that reflects a crucial capacity for goal attainment in the academic context.

**Self-Control and Self-Control Capacity**

*Self-control* refers to the voluntary regulation of attention, emotion, and behavior in the service of personally valued goals and standards (Baumeister, Heatherton, & Tice, 1994; Duckworth, Quinn, & Tsukayama, 2011). From a general perspective, self-control can be defined as overriding or altering a predominant response tendency (Baumeister, Gailliot, DeWall, & Oaten, 2006; Baumeister et al., 1994; Schmeichel & Vohs, 2009). Recently, inhibitory and initiatory self-control have been distinguished as subfacets of self-control (De Boer, Van Hooft, & Bakker, 2011; De Ridder, De Boer, Lugtig, Bakker, & Van Hooft, 2011). Inhibitory self-control processes relate to the inhibition of immediate impulses while initiatory self-control processes are related to the initiation of goal-directed behavior. Inhibitory self-control can be seen, for instance, when resisting the momentary temptation to watch television for the sake of something perceived as less attractive, such as preparing for an upcoming academic test. An example of initiatory self-control may be overcoming inertia and beginning studying for an approaching school test. The examples point to the relevance of both inhibitory and initiatory self-control for achieving high grade goals.

Past research has demonstrated that people—adults as well as children—differ from each other in their dispositional capacity to exert self-control (Mischel, Shoda, & Rodriguez, 1989; Schmeichel & Zell, 2007; Tangney, Baumeister, & Boone, 2004). Individuals who are dispositionally higher in *self-control capacity* are more successful in exerting self-control compared to individuals lower in self-control capacity. Higher self-control capacity has frequently been demonstrated to be beneficial over lower self-control capacity. For instance, individuals higher in self-control capacity generally are more successful in resisting temptations and impulses, are more able to keep their attention focused on tasks in the presence of interesting distractions, and are less prone to procrastination (Baumeister et al., 2006; Bertrams & Dickhäuser, 2009b; Friese & Hofmann, 2009; Tangney et al., 2004). In consideration of the significance of such advantages for academic learning, it makes sense that higher self-control capacity has consistently been found to be associated with better school grades (Bertrams & Dickhäuser, 2009a; Duckworth et al., 2011; Duckworth & Seligman, 2005; Tangney et al., 2004). Evidence also suggests that self-control capacity predicts school grades independently from intelligence (Duckworth et al., 2011; Duckworth & Seligman, 2005). Even though individuals’ dispositional capacities for inhibitory and initiatory self-control can be distinguished from each other, they both are incorporated in the construct of general self-control capacity (cf. De Boer et al., 2011; De Ridder et al., 2011).

**Derivation of Hypothesis**

The central hypothesis of the present study is that school students’ self-control capacity qualifies the prediction of grades by minimal grade goals. Minimal grade goals and the respective actual grades should be more closely related in relation to increased individual self-control capacity.

The hypothesis was based on Carver and Scheier’s (1982, 1998) model of self-regulation. This model is concerned with the self-regulatory process by which persons move themselves toward goals or standards. Most important for the present research, this model includes the notion that people resolve a mismatch between a goal and their momentary state with respect to their goal by implementing actions directed to reduce this discrepancy. The implementation of such actions happens in the *operate* phase of self-regulation. Applied to the school context, if a student strives for a good grade in an upcoming test and there is a mismatch between the student’s actual knowledge and the knowledge required to perform well on the test, the student has to initiate learning in order to minimize this gap.

Within the comprehensive process of self-regulation, the role of self-control for goal attainment has been located in the operate phase of self-regulation (Schmeichel & Baumeister, 2004; Tangney et al., 2004). During the operate phase, temptations, distractions, or inertia can interfere with initiating or maintaining goal-oriented actions, and thus impair the progress toward the goal. For the purpose of bringing one’s actual state closer to the respective goal, one should prevent oneself from giving in to such interferences by means of self-control. Self-control may be a requirement for continued preparation for a test if more attractive alternatives of spending time are currently in mind.

From this it follows that individuals who are higher in self-control capacity should be more successful in reaching their goals than individuals lower in self-control capacity. The first are more successful in exerting self-control than the latter, so they should be more able to override predominant responses that interfere with their goal-oriented actions. Therefore, individuals higher in self-control capacity should be more able to minimize the discrepancy between their actual states and their respective goals.

In the present research, I examined the role of self-control for goal attainment within the school context; specifically, in terms of the degree of (mis)match between minimal grade goals and the respective test grades. I assumed that the strength of the relationship between students’ minimal grade goals for an upcoming math test and their actual grades on that test represents the degree to which the minimal grade goals have been attained. In a sense, the actual test grades represent momentary states with regard to the minimal grade goals. The stronger the relation between minimal grade goals and actual test grades—that is, when minimal grade goals more strongly predict actual test grades—the closer students moved themselves toward their goals. Due to its significance for the realization of goal-oriented actions, self-control capacity should moderate the relation between minimal grade goals and actual test grades: The higher the self-control capacity, the stronger the association of higher minimal grade goals with higher actual test grades.

**The Present Research**

In order to demonstrate that minimal grade goals and self-control capacity interact in predicting test grades, I assessed both variables in a sample of vocational track students prior to a scheduled math test. At this first time of measurement, students also completed measures of self-efficacy and test anxiety. Given the relationship of self-efficacy with grade goals, self-control capacity, and grades found in past research (Wood & Locke, 1987; Zimmerman et al., 1992), self-efficacy was assessed to control for its potential impact. Test anxiety was measured for the same reason. Previous research showed relations of test anxiety with pessimism about success on exams, self-control capacity, and grades (DeVito & Kubis, 1983; Zeidner, 1998). The proposed relational pattern of minimal grade goals, self-control capacity, and test grades was assumed to hold beyond the influence of self-efficacy and test anxiety.1 At the second time of measurement, the students were asked to report the grade they had received on the math test.

**Method**

**Participants**

The students from seven classes at a vocational track school (German Haupt-/Realschule) in southern Germany were recruited for the present study. For each of these classes, a math test had been already scheduled in the near future. In total, 172 students (49% female; *M*age = 13.91, *SD*age = 1.33; 5–9th grade) participated. Informed consent was obtained prior to data collection.

**Procedure**

On average, the students were asked by a female experimenter to complete a questionnaire ten days before a scheduled math test took place. The experimenter was unaware of the hypothesis of the present study. The questionnaire involved measures of minimal grade goal, self-control capacity, self-efficacy, test anxiety, and demographic variables. When students had problems comprehending particular items, the experimenter explained their meaning while avoiding influencing responses. Another measure was carried out shortly after the students had received their grade on the math test. This time, they were asked to report (on paper) the grade they had made on the math test.

**Measures**

**Math test grade.** The participating students reported the grade they had received on the math test. A recent investigation with a German sample revealed that school students’ self-reported grades accurately corresponded to teachers’ reports of the same grades (Dickhäuser & Plenter, 2005). In the German grading system, students can receive grades from 1 (*very good*) to 6 (*insufficient*). In order to avoid confusion in the presentation, I recoded the grades according to the formula 7 – x, where x is the received math test grade. Therefore, in the following, a higher test grade value represents higher test performance (i.e., a 1 reflects the lowest possible test performance and a 6 reflects the highest).

**Minimal grade goal.** The measure of the minimal grade goal began with the following instruction: “The question now is what your grade goals are for the next written tests. Please note the *minimum* grade you want to achieve on the next written test in each of the school subjects.” There were three separate placeholders to enter the minimal grade goals for the next written tests in the following school subjects: math, German, and English. In actuality, only the grade goal for the next written math test was of interest for the present study. Therefore, in the following, the term minimal grade goal refers exclusively to the minimal grade goal on the next written math test. As the variable math test grade, I recoded the grades the students reported to be their minimal grade goals; thus, a higher value represents higher minimum performance strived for (i.e., a 1 is the least ambitious minimal grade goal and a 6 is the most ambitious).

**Self-control capacity.** As a measure of self-control capacity, the students completed the German adaptation of Tangney et al.’s (2004) Brief Self-Control Scale (Bertrams & Dickhäuser, 2009b). The 13 items (e.g., “People would say that I have iron self-discipline”) were answered on 5-point Likert-type scales from 1 (*completely disagree*) to 5 (*completely agree*). The scale has proven to be reliable, valid, and applicable in samples of school students in previous research (e.g., Bertrams & Dickhäuser, 2009a; Zettler, 2011). The scale includes items on inhibitory and initiatory self-control (De Ridder et al., 2011).1

**Self-efficacy.** For the assessment of self-efficacy, the students completed the German version of the Generalized Self-Efficacy Scale (Schwarzer & Jerusalem, 1995). The students responded to the 10 items (e.g., “I can always manage to solve difficult problems if I try hard enough”) on 4-point Likert-type scales from 1 (*not at all true*) to 4 (*exactly true*).

**Test anxiety.** The emotionality and worry aspects of test anxiety were measured using the nine items (e.g., “My heart is pounding”, “I think about the consequences of a possible failure”) of the short version of the Test Anxiety Inventory–German (Wacker, Jaunzeme, & Jaksztat, 2008). The students were asked to indicate on 4-point Likert-type scales from 1 (*almost never*) to 4 (*almost always*) how they generally feel and what they generally think about in math test situations.

**Results**

**Analysis Strategy**

For the regression of math test grade, I applied hierarchical multiple regression analysis. Control variables (self-efficacy and test anxiety) were entered in the first block (Model 1: base model). Minimal grade goal and self-control capacity were added in the second block (Model 2: full main-effects model). Finally, the interaction between minimal grade goal and self-control capacity was included in the third block (Model 3: full model with interactions). All predictors were standardized (*z* scored; see Frazier, Tix, & Barron, 2004). The interaction term was built by multiplying the standardized minimal grade goal and self-control capacity scores. To interpret the interaction, I used simple slope analyses (see Aiken & West, 1991).

**Main Analysis**

Table 1 provides descriptive statistics and intercorrelations of the measures. The results of the regression analysis are outlined in Table 2. As can be seen in Table 2, the three models to predict math test grade were statistically significant, and Model 2 as well as Model 3 explained additional variance. There were statistically significant main effects of minimal grade goal and self-control capacity. Most importantly, the main effects were qualified by the interaction between minimal grade goal and self-control capacity. The statistical significance of the interaction term indicates that the prediction of test grade by minimal grade goal varied with the degree of self-control capacity (see Aiken & West, 1991). The results of the subsequently conducted simple slope analyses are depicted in Figure 1. These analyses revealed that for students low in self-control capacity (i.e., self-control capacity 1 *SD* below the mean), higher minimal grade goals predicted higher test grades. However, for students high in self-control capacity (i.e., self-control capacity 1 *SD* above the mean), higher minimal grade goals predicted higher test grades more than twice as strongly. This pattern is in line with the hypothesis of the present study.

**Supplementary Analyses**

Of the 172 participating students, 26 met their minimal grade goal, 126 missed it (at a maximum of four grade levels), and 20 surpassed it (at a maximum of one grade level). For an alternative analysis, I altered the 20 goal-exceeding grades to exactly meeting the goal (e.g., grade 4 was altered to 3, if the student’s grade goal was 3) while keeping all remaining grades unchanged. When repeating the regression analysis predicting this new criterion, the results paralleled the ones described under 3.2. Thus, the relatively weak grade goal–actual grade relation associated with low self-control capacity cannot be explained such that students low in self-control capacity set low goals that they systematically surpassed.

In order to ensure that the results were independent from differences among the seven participating school classes, I controlled for class by applying the fixed effects approach to clustering (Cohen, Cohen, West, & Aiken, 2003). To perform this dummy-coding procedure, I used the PROCESS software (Hayes, 2012). The results were analogous to the ones illustrated under 3.2. for predicting actual grades or the adjusted grade variable (see previous paragraph). Thus, the findings were valid beyond specific features of the school classes.

**Discussion**

**Present Finding**

Past research has investigated minimal grade goals and self-control capacity independently from each other and has demonstrated each of the two variables to be a crucial predictor of school achievement. This study is the first to focus on the interplay of both variables. As expected, self-control capacity moderated the prediction of school students’ math test grades by their minimal grade goals: Higher self-control capacity was associated with a closer relation between minimal grade goals and actual grades. Thus, students higher in self-control capacity were apparently more able to achieve their minimal grade goals than students lower in self-control capacity. This finding was independent from differences between the students’ classes (e.g., different math tests).

**Alternative Explanations**

Imagine students low in self-control capacity tended to set low minimal grade goals due to low expectations, but then systematically surpassed these goals. In comparison, students high in self-control capacity might have set higher goals and performed equally well. In this case, a weaker relation between minimal grade goals and actual grades for students low compared to students high in self-control capacity would result—as in the present study. However, this alternative approach to interpreting the results can be ruled out because self-control capacity was unrelated to the students’ goals (see Table 1). Moreover, even counting goal-surpassing grades as exactly meeting the goal did not change the results. Therefore, the rationale that higher self-control capacity makes students more likely to achieve higher minimal grade goals is more strongly supported by the present data than the described alternative explanation.

The present research is based on a correlational design. Therefore, it is possible that other variables besides those hypothesized have caused the found relational pattern. Self-efficacy and test anxiety are two important variables in this regard. In fact, both variables predicted test grades in the present study (self-efficacy interestingly in the negative direction; see Table 2). However, over and above their impact, the interaction of minimal grade goal and self-control capacity predicted the grade on the math test. Individual differences in self-esteem, age, or gender were also not responsible for the present results (see Footnote 1). Furthermore, differences in intelligence are unlikely to have influenced the results since intelligence shared no variance with self-control capacity in recent research: Self-control capacity, as measured in the present work, was unrelated to and predicted school grades independently from intelligence (Duckworth et al., 2011; Duckworth & Seligman, 2005). In sum, several relevant variables can be excluded in terms of alternative explanations of the present findings.

**Implications**

Up till now, minimal grade goals and self-control capacity had not been applied together when predicting students’ grades. The present findings suggest that sometimes both variables must be taken into account for an accurate prediction of school grades. In case students’ minimal grade goals are relatively low, it may be possible to infer relatively low achievement from their minimal grade goals independently from their self-control capacity. However, if students’ minimal grade goals are relatively high, one must not predict relatively high achievement without considering the students’ self-control capacity (cf. Figure 1).

With respect to advance school achievement, it may not be sufficient to motivate students to strive for higher minimal grade goals. It seems also necessary to increase students’ self-control capacity when it is low. Studies that discovered ways to boost self-control capacity have cumulated over the last several years (e.g., Baumeister et al., 2006).

In the present work, I examined goal achievement in an educational context. Carver and Scheier’s (1982, 1998) self-regulation model—the conceptual framework of the present research—is, however, not limited to specific domains. The present findings should principally be replicable in other performance contexts. For example, as they predicted students’ school grades, minimal goals and self-control capacity could also interactively predict sports performance. In addition, the present approach might be useful beyond performance-related contexts. Crescioni et al. (2011) recently found that participants were more successful in reaching the general goal to lose weight the higher their self-control capacity. Similar studies might find individuals’ specific minimal weight loss goals (e.g., losing at least ten pounds within the next ten weeks) combined with their self-control capacity to predict weight loss particularly accurately. Perhaps there are even interindividual differences in something I would term *minimal happiness goals*—the minimum degree of happiness (or subjective well-being) one would be satisfied with. Such happiness goals in conjunction with self-control capacity might determine actual happiness. A recent finding could be cautiously interpreted in this way: Lyubomirsky, Dickerhoof, Boehm, and Sheldon (2011) found interindividual differences in the effort participants put into a happiness intervention and related increases in participants’ happiness.

**Limitations and Future Directions**

The mediating mechanisms behind self-control, with regard to pursuing minimal grade goals, were outside the scope of the present work. Future research should take a closer look at these processes. Recent research suggests that potential mediators may be quality of homework completion and classroom conduct (Duckworth et al., 2011), frequency of school–leisure conflicts (Kuhnle, Hofer, & Kilian, 2010), and school citizenship behavior (Zettler, 2011)—variables that have been shown to be associated with self-control capacity.

In the present work, I neglected the information and processes underlying students’ minimal grade goals. Future research that traces the sources of those goals may provide interesting insights. An important question may be how previous grades influence the setting of minimal grade goals. Due to differences in expectations, high should set higher minimal grade goals than should low achievers. However, the process might be more complex. For instance, in order to avoid failing the school year, low achievers may have more reason than high achievers to set high minimal grade goals. So, additional variables, such as situational pressure to perform high and the related cognitions, could play a moderating role. Future studies that take into account previous grades, performance pressure, and related variables (e.g., students’ and parents’ aspiration levels, teachers’ expectations) may help to understand minimal grade goals in more detail.

Future research may also test the present approach in domains other than the educational context (e.g., sport context) as well as examine interventions that are conceptually based on the present findings. Encouraging low-achieving students to strive for higher minimal grade goals, combined with a training of self-control capacity, could prove to be a particularly effective way to boost their achievement.

**Footnotes**

1The control variables also included Rosenberg’s (1965) self-esteem scale. Since self-esteem as well as participants’ age and gender did not predict test grades nor had an impact on the tested model, these control variables were omitted in the presentation of results.

2Due to low reliabilities in the present sample (Cronbach’s alphas = .53 and .43), the subscales of inhibitory and initiatory self-control capacity (see De Ridder et al., 2011) were not used.

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Table 1

*Descriptive Statistics and Intercorrelations Regarding the Applied Measures*

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | Intercorrelations | | | | | | |
| ­­­­Variable | α | Possible range | Observed range | *M*(*SD*) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1. Math test grade | - | 1.00-6.00 | 1.00-6.00 | 3.64 (1.08) | - |  |  |  |  |  |  |
| 2. Minimal grade goal | - | 1.00-6.00 | 2.50-6.00 | 4.64 (0.70) | .39\*\*\* | - |  |  |  |  |  |
| 3. Self-control capacity | .73 | 1.00-5.00 | 1.92-4.77 | 3.30 (0.57) | .25\*\*\* | .08 | - |  |  |  |  |
| 4. Self-efficacy | .84 | 1.00-4.00 | 1.50-4.00 | 3.03 (0.48) | .12 | .25\*\*\* | .35\*\*\* | - |  |  |  |
| 5. Test anxiety | .88 | 1.00-4.00 | 1.00-4.00 | 2.41 (0.71) | -.30\*\*\* | -.21\*\* | -.31\*\*\* | -.39\*\*\* | - |  |  |
| 6. Age | - | - | 10-17 | 13.91 (1.33) | -.01 | -.20\*\* | -.13 | -.17\* | -.01 | - |  |
| 7. Gendera | - | - | - | - | .13 | .05 | .09 | .17\* | -.25\*\*\* | .06 | - |

*Note*. *N* = 172. Overall scores of a psychometric scale were obtained by averaging the responses to the scale items.

aCoding of gender: 1 = female, 2 = male.

\**p* ≤ .05, two-tailed. \*\**p* ≤ .01, two-tailed. \*\*\**p* ≤ .001, two-tailed.

Table 2

*Hierarchical Multiple Regression Analysis Predicting Math Test Grade*

|  |  |  |  |
| --- | --- | --- | --- |
| Block and predictor | Model 1:  base model | Model 2:  full main-effects  model | Model 3:  full model with  interactions |
| Block 1: control variables |  |  |  |
| Self-efficacy | -0.002 | -0.14 | -0.17\* |
| Test anxiety | -0.33\*\*\* | -0.23\*\* | -0.22\*\* |
| Block 2: main effects |  |  |  |
| Minimal grade goal |  | 0.39\*\*\* | 0.40\*\*\* |
| Self-control capacity |  | 0.22\*\* | 0.24\*\* |
| Block 3: interaction |  |  |  |
| Minimal grade goal ×  self-control capacity |  |  | 0.15\* |
|  |  |  |  |
| Overall model *R*2 | .09 | .24 | .26 |
| Adjusted *R*2 | .08 | .22 | .24 |
| Δ*R*2 |  | .15 | .02 |
| Δ*F* |  | 16.22\*\*\* | 4.04\* |
| Overall *F* | 8.61\*\*\* | 13.19\*\*\* | 11.55\*\*\* |
| df for overall *F* | 2, 169 | 4, 167 | 5, 166 |

*Note*. *N* = 172. Displayed are unstandardized regression coefficients (*B*).

\**p* ≤ .05, two-tailed. \*\**p* ≤ .01, two-tailed. \*\*\**p* ≤ .001, two-tailed.

Figure Caption

*Figure 1*. Prediction of math test grade by minimal grade goal as a function of self-control capacity. The regression lines are based on the following values of math test grade (ŷ): ŷ = 3.13 for low grade goal (-1 *SD*)/low self-control capacity (-1 *SD*), ŷ = 3.31 for low grade goal (-1 *SD*)/high self-control capacity (+1 *SD*), ŷ = 3.64 for high grade goal (+1 *SD*)/low self-control capacity (-1 *SD*), and ŷ = 4.42 for high grade goal (+1 *SD*)/high self-control capacity (+1 *SD*).

\**p* ≤ .05, two-tailed. \*\**p* ≤ .01, two-tailed. \*\*\**p* ≤ .001, two-tailed.

Figure 1

