

A+ Self-Esteem

The Relationship Between Academic Competence as a Contingency of Self Worth, Attitudes Toward College, and Motivation of High School Students

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Abstract

Past research has established that individuals' contingencies of self-worth—domains in which outcomes influence one's sense of self-worth—increase motivation to maximize success in those domains (Crocker & Wolfe, 2001). The present study investigates the relationship between having an academic contingency of self-worth, motivation to succeed in school (intrinsic and extrinsic), college-oriented motivation, and perceived importance of college. A survey was administered to high school students ($N = 164$), who responded to scale items measuring these constructs. In line with hypotheses, Pearson's correlation analyses revealed that all variables were positively correlated with medium to high effect sizes: students who reported having self-worth contingent on academic competence tended to be more motivated in school ($r = .35$), as were students who attributed greater importance to college ($r = .48$). As such, the students who attributed greater importance to college also tended to be those who had higher academic contingencies of self-worth ($r = .44$). Notably, greater perceived importance of college and higher academic contingencies of self-worth were positively associated with both intrinsic and extrinsic motivation, and there was no significant difference between how strongly these variables associated with each type of motivation. The findings reveal that motivation to work hard in school and to pursue college may stem in part from students' beliefs that they should do well in academics in order to feel worthy.

Literature Review

Problem

The K-12 education system in the US is often criticized for its emphasis on scores and its failure to teach useful and provocative content (The Learning Network, 2019)—flaws which render it incapable of instilling in young students a passion for learning. Indeed, educators are regularly hard-pressed to find methods of incentivizing students to actively engage in lessons, beyond the pressure of exams.

To understand what motivates students in academic settings, it is useful to examine factors that predict high intrinsic academic motivation and

high extrinsic motivation, respectively. To that end, the present study investigates the relationship between high school students' level of academic motivation in school (both intrinsic and extrinsic), the extent to which self-worth is contingent on academics, and the extent to which college is perceived to be both important and an object of ambition.

Motivation and Instrumentality Beliefs

For decades, scholars have made a distinction between intrinsic and extrinsic motivation (Deci, 1971; White, 1959). Extrinsic motivation is a drive to engage in a task because of an external incentive associated with it. For example, operant conditioning demonstrates that organisms are more

likely to repeat a voluntary behavior if they are rewarded and less likely to repeat it if they are punished (Skinner, 1953). Crucially, behaviors that are extrinsically regulated are prone to extinction: if a desired behavior is no longer rewarded, it will readily cease.

On the other hand, intrinsic motivation is a desire to adopt a behavior because of its inherent value. An individual who is intrinsically driven to engage in an activity does not require external incentives to do so because the activity is rewarding in its own right (Deci, 1971). As such, intrinsic motivation is often a more sustainable and desirable form of motivation than extrinsic motivation. An extensive body of research has concluded that the introduction of extrinsic rewards diminishes individuals' motivation to engage in activities they already intrinsically enjoy (Deci et al., 1999). If rewards intended to induce extrinsic motivation undermine intrinsic motivation and prevent self-regulation, then it may be logical to conclude that there is an inverse relationship between the two forms of motivation such that the more extrinsically compelled an individual is to engage in a task, the less intrinsic motivation they are to engage in it.

Despite this potential relationship, intrinsic and extrinsic motivation may not always be mutually exclusive. As Miller et al. (1999) have shown, instrumentality beliefs among college students are positively correlated with both kinds of motivation. Broadly, an instrumentality belief is the view that an activity is valuable because it is useful to the individual. In this case, students who believed that tasks in school would prove useful to them in the future reported higher extrinsic *and* intrinsic motivation. However, when this study was replicated using a sample of high-achieving high schoolers, the relationship between instrumentality beliefs and intrinsic motivation was not found (Kover & Worrell, 2010). It is therefore unclear whether students' instrumentality beliefs about school (its utility in helping them obtain desired future outcomes such as admissions to prestigious colleges and respectable careers) represent external and not intrinsic motivators. In continuation of this line of research, one goal of the present study is to compare how concern about college and academic

performance relate to intrinsic motivation with how they relate to extrinsic motivation.

Contingencies of Self-Worth

Individuals derive their self-esteem and sense of self-worth from various sources. Crocker et al. (2003) identified seven such "domains of contingency": appearance, approval from others, academic competence, competition, family support, God's love, and virtue. They define contingencies of self-worth as self-imposed conditions that must be fulfilled in order for an individual to feel valuable and worthy. For example, if a person has a need to look attractive in order to feel confident, then "appearance" is said to be one of the individual's contingencies of self-worth.

The researchers also made a distinction between internal contingencies and external contingencies. Much like the two forms of motivation, internal contingencies of self-worth are rooted in one's core identity and decisions. For example, virtue is considered an internal contingency because here, individuals' sense of self-worth is grounded in their own ability to uphold a moral code an internal factor. On the other hand, external contingencies—such as appearance, approval from others, and competition—are external contingencies because they either depend on other people or are superficial components of identity.

Given that an axiomatic characteristic of humans is their desire to protect their self-esteem, scholars have theorized that contingencies of self-worth influence individuals' emotions, cognition, and behavior (Crocker & Wolfe, 2001). If a person's sense of self-worth hinges on a particular area, then they are compelled to increase their success in that area in order to maximize their perceived self-worth. Rieger et al. (2021) demonstrated this theory in the context of eating habits, finding that individuals whose self-worth was contingent on body image were more likely to report symptoms of eating disorders. Tellingly, the symptoms were manifestations of a desire to maintain body image and, by extension, maintain self-worth.

Attitudes Toward College: Its Importance and Motivating Power

In many school districts, especially in the US, high school students are conditioned to become

college graduates: course offerings and school counseling efforts are all geared toward ushering students into college (An, 2020). Thus, it's no surprise that from the viewpoint of many high school students today, college is one of the most critical milestones in their lives. The evidence of this is nearly ubiquitous: many high school students have expressed the feeling that college is the best and only option for them after graduation (Hansen, 2018).

It's clear that college and college admissions have become an exceedingly salient academic motivator for high school students. In this study, I have referred to this mindset as "college-oriented motivation." This describes the extent to which students are motivated by the prospect of college. While I also look at intrinsic and extrinsic motivation in the context of school academics, in this study I treat college-oriented motivation as a separate, specific form of motivation that arises from thinking about the need to get into college.

The other facet of college attitudes that I examine in the study is "perceived college importance," which is the extent to which students care about college and the level of importance they attribute to it.

Hypotheses

This study seeks to extend the theory advanced by Crocker and Wolfe (2001) regarding the impact of contingencies of self-worth on motivation applies in the realm of academics. In particular, the study determines whether, as I anticipated, students who have their sense of self-worth highly contingent on their academic success tend to be more motivated in school. Further, I investigate whether an academic contingency of self-worth (CSW) is more highly correlated with intrinsic motivation or with extrinsic motivation. I predicted a higher correlation with extrinsic motivation because working hard in school for the sake of preserving self-esteem represents focus on an *outcome* (i.e., reward, the hallmark of extrinsic motivation), not the inherent value of course content itself. Academic competence might also be considered an external contingency because it relies on external academic results and thus may principally produce extrinsic motivation.

In summary, from speculation and past work on motivation and contingencies of self-worth, the six hypotheses follow. The central focus of the study is on how an academic contingency of self-worth, college attitudes, and motivation all interrelate, and whether college and academic proficiency serve as intrinsic motivators or extrinsic motivators. Based on the background literature, the following hypotheses were tested: *Hypothesis 1*: Holding beliefs that self-worth is contingent on academic competence is positively correlated with academic motivation. *Hypothesis 2*: Academic contingency of self-worth is more strongly correlated with extrinsic motivation than with intrinsic motivation. *Hypothesis 3*: Holding beliefs that self-worth is contingent on academic competence is positively correlated with the extent to which high school students value college. *Hypothesis 4*: The importance students attach to college is negatively correlated with intrinsic motivation and positively correlated with extrinsic motivation. *Hypothesis 5*: College-oriented motivation is positively correlated with in-school motivation. *Hypothesis 6*: College-oriented motivation is more strongly correlated with extrinsic motivation than with intrinsic motivation.

Method

Participants

Students at a large public high school in an upper-middle class suburb in Maryland were invited to complete a digital survey. The survey link was shared with psychology and language classes through the online instruction platform Canvas Classroom. Participation was voluntary and all survey responses were anonymous. A total of 164 participants were recruited, of which 33.5% were 12th graders, 40.9% were 11th graders, 19.5% were 10th graders, and 6.1% were 9th graders.

Intrinsic and Extrinsic Motivation

Participants were shown several items from the Adapted Academic Intrinsic Motivation Scale for High School Students (Vo et al., 2021). Using a 9-point Likert scale, they indicated the extent to which they agreed with three statements, such as "I study because I want to learn new concepts and skills." (1 = "strongly disagree", 9 = "strongly agree"). To

measure extrinsic motivation, I created the two items “The main reason I study and complete assignments in school is to receive good grades” and “I prioritize performing well on tests over fully understanding course content.” The intrinsic motivation subscale yielded high internal consistency ($\alpha = .80$, $M = 6.2$, $SD = 1.5$), and the extrinsic motivation subscale had moderate internal consistency ($\alpha = 0.63$, $M = 7.3$, $SD = 1.5$). An intrinsic motivation composite and an extrinsic motivation composite were created by taking the mean scores of the items in each of the two subscales, and an overall motivation composite was created by computing the mean of the two subscale composites.

Contingencies of Self-Worth

The Academic Competence subscale from the Contingencies of Self-Worth questionnaire (Crocker et al., 2003) was used in this study. The subscale is designed to gauge the extent to which participants feel academics is a domain of contingency of self-worth and it contained three Likert scale items such as “My academic performance influences my self-esteem” (1 = “strongly disagree,” 9 = “strongly agree”; $\alpha = 0.75$, $M = 7.1$, $SD = 1.6$).

Attitudes Toward College

To assess the ambition and importance participants attach to college, I created two scales: the first measures the extent to which participants feel college is important (perceived college importance), and the second measures the extent to which college is a salient motivator in students’ lives (college-oriented motivation). The former contained three statements such as “I feel that college is one of the most important milestones in my life” and “College matters a lot to me” ($\alpha = 0.89$, $M = 7.5$, $SD = 1.5$). The latter contained four statements such as “Thinking about college is what motivates me most” as well as one statement assessing instrumentality beliefs, adapted from items used by Miller et al. (1999): “I work hard in school because doing so will help me achieve my college and career goals.” This item was added to the college-oriented motivation composite because it gauges whether students’ source of academic

motivation arises from the knowledge that school is valuable for achieving college-related goals. This modified scale yielded high internal consistency ($\alpha = 0.87$, $M = 6.5$, $SD = 1.7$).

Procedures

Prior to completing the survey, students were informed of the purpose of the study and reminded that participation was both voluntary and anonymous. The first section of the survey consisted of the motivation scales and instrumentality belief items. The next section assessed participants’ contingencies of self-worth, and the final section asked for their opinions on the importance of college and their college-oriented motivation. After completing the survey, participants were thanked, received two chocolate bars, and had their participant code entered into a raffle to win a \$25 Amazon gift card as compensation.

Results

This study set out to examine the correlation between three overarching variables: scores on academic competence as a contingency of self-worth, intrinsic and extrinsic motivation, and beliefs regarding the college. I outline the results of each of the relationships in turn. With the exception of the linear regression model at the end of this section, all analyses were completed using Pearson’s correlation.

Academic Competence as a Contingency of Self-Worth and Motivation

There was a significant relationship between the degree to which self-worth is contingent on academics and general motivation in school (Figure 1: $r = .35$, $p < .001$). Correlation analyses run with intrinsic and extrinsic motivation separated as distinct composites revealed that having an academic contingency of self-worth is more strongly correlated with extrinsic motivation ($r = .33$, $p < .001$) than with intrinsic motivation ($r = .21$, $p = .006$). However, a *t*-test comparing these two correlation coefficients found that the difference between the correlations is not significant, $t(161) = 1.22$, $p = .22$, failing to support Hypothesis 1a.

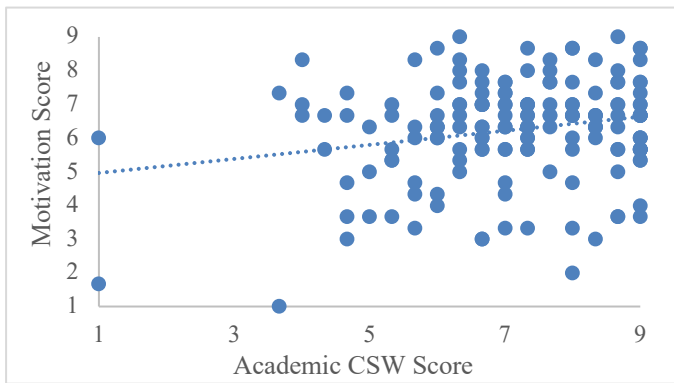


Figure 1. Motivation in School vs. Academic Contingency of Self-Worth
Academic Competence as a Contingency of Self-Worth and Attitudes Toward College

In line with Hypothesis 2, the degree to which college is perceived as important was significantly associated with the degree to which sense of self-worth is contingent on academic competence ($r = .44, p < .001$), with a medium to large effect size. Thus, the more students derive their self-esteem from academic performance, the more they tend to value college



Figure 2. Perceived Importance of College vs. Academic CSW

Furthermore, participants' level of college-oriented motivation—the extent to which college is felt to be a primary source of motivation in their lives—was positively correlated with scores on academic contingency of self-worth ($r = .37, p < .001$) such that individuals who feel that their self-esteem is dependent on their academics tended to feel that the prospect of college is a powerful motivator

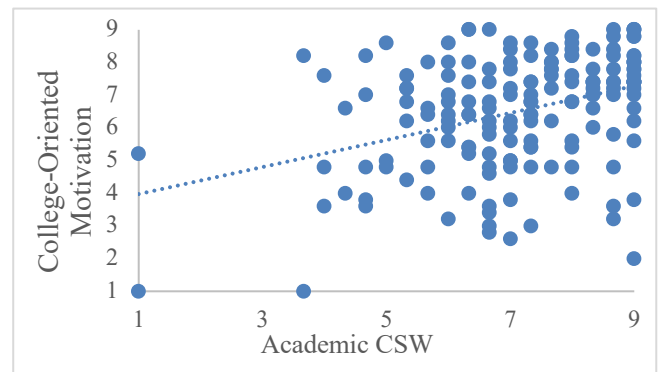


Figure 3. College Oriented Motivation vs. Academic CSW
Attitudes Toward College and Motivation

Hypotheses 3, 4, and 4a dealt with the two scales measuring students' attitudes toward college (perceived college importance and college-oriented motivation). As a preliminary finding, scores on these two scales are significantly and strongly correlated ($r = .73, p < .001$). As one might expect, the more participants believe that college is important, the more they agreed that college is a predominant source of motivation for them

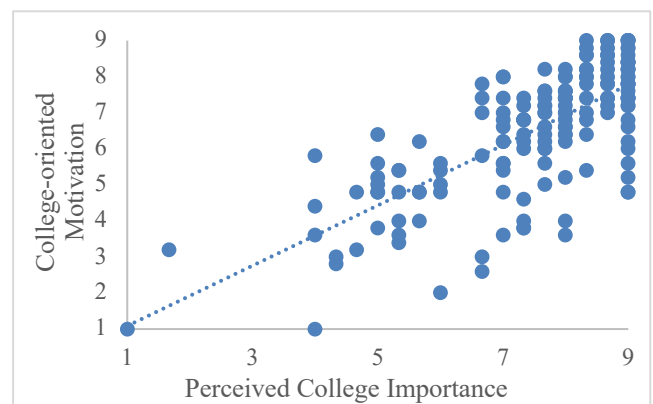


Figure 4. College-Oriented Motivation vs. Perceived Importance of College

There was a significant correlation between perceived college importance and academic motivation in school with a large effect size ($r = .48, p < .001$). However, the level of importance students attribute to college related positively to scores on *both* extrinsic motivation and intrinsic motivation, thus refuting Hypothesis 3, which assumed that perceived college importance was an extrinsic motivator and therefore predicted that it would relate to reduced intrinsic motivation.

In Hypothesis 4, I predicted that scores on the college-oriented motivation scale would correlate positively with scores on academic motivation in school (the general motivation composite), and this was the case (Figure 5; $r = .45, p < .001$).

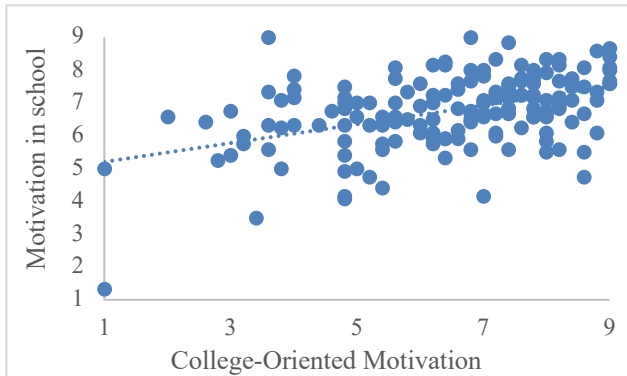


Figure 5. School Motivation vs. College-Oriented Motivation

Finally, contrary to Hypothesis 4a, college-oriented motivation was not more strongly correlated with extrinsic motivation ($r = .29, p < .001$) than with intrinsic motivation ($r = .38, p < .001$). In fact, there was no significant difference between the two r values, $t(161) = -0.9, p = .37$.

Overall Results

After the correlation analyses, I ran a forced-entry multiple regression analysis with academic contingency of self-worth, perceived college importance, and college-oriented motivation as predictors of general motivation in school. The forced-entry method was used (e.g., rather than hierarchical regression) because each of the constructs studied are plausibly equally good predictors of motivation in school; there is no prior literature or theory indicating that any one of the factors studied is a better predictor of motivation in school than the others. The model is a significantly good fit, $F(3) = 19.95, p < .001$, and the three variables explain about 27% of the total variation in motivation scores. This was to be expected since the three predictors studied here are far from the only factors that may influence motivation in school. All three predictors make a significant contribution to the model, according to the significant slope estimates.

	<i>b</i>	<i>SE b</i>	β
Intercept	3.568	0.433	
Academic CSW	0.114	0.055	0.157*
Perceived Importance of College	0.190	0.076	0.257*
College-Oriented Motivation	0.135	0.064	0.209*

Note. *b* = slope estimate; *SE b* = standard error of B; β = standardized slope estimate * $p < .05$

Figure 6. Parameter Estimates for the Linear Regression Model for Motivation Using Academic Contingency of Self-Worth, College Oriented Motivation, and Perceived College Importance as Predictors

Discussion

Out of the variables examined in this study—academic contingency of self-worth, motivation in school, perceived importance of college, and college-oriented motivation—all were positively correlated with one another, and results yielded medium to large effect sizes. However, no negative correlation between perceived college importance and intrinsic motivation was found, nor a significant difference between the variables’ correlation with intrinsic motivation and with extrinsic motivation.

Students who are the most academically motivated are driven by factors rooted in their sense of identity and self-worth; the most highly motivated feel that their academic performance (at least in part) determines how worthy they are. Such a finding confirms Crocker’s (2002) theory on the effect of domains of contingency on individuals’ motivation to maximize success in those domains.

Furthermore, since participants who scored higher in academic contingency of self-worth tended to attribute more importance to college, students’ contingencies of self-worth correlate with and may influence their values and perceptions regarding what is important. Those who perceived college to be more important also tended to be more academically motivated, suggesting that the anticipation of college has potential to incentivize hard work in school.

These findings lend insight into high school students’ sources of intrinsic and extrinsic motivation. An academic competence contingency of self-worth and college-oriented motivation each

better predict extrinsic motivation than intrinsic motivation, but to a non-significant extent. This implies that academic competence and college may not be exclusively extrinsic motivators, and I offer potential explanations below:

Academic competence might intrinsically motivate students by presenting them with the opportunity for achieving mastery—not merely desired results and performance. According to the distinction Grant and Dweck (2003) made between learning goals (those aimed at acquiring a skill and becoming genuinely proficient at a task) and performance goals (those focusing on obtaining successful results and minimizing failure), the former is linked with intrinsic motivation while the latter is not. Also, the opportunity to achieve competence in a task is one of the three main facets of self-determination (Deci et al., 2017). Therefore, if students view academic competence as one of their contingencies of self-worth because mastering a skill makes them feel good about themselves, then their domain of contingency would be conducive to intrinsic motivation. However, if students' self-esteem hinges on academic *performance* and not academic *mastery*, then they are more likely to display extrinsic motivation.

Simultaneously, the idea of college might intrinsically motivate students by reminding them that the skills and concepts they learn in school are inherently valuable and necessary (*instrumental*) in their future endeavors.

Thus, although grades, test scores, and college admissions are external factors, they may have the power to both intrinsically *and* extrinsically incentivize students.

Limitations

This study establishes only an association between the measured variables. Due to its correlational design, no conclusions about causality can be drawn; it cannot be inferred that possessing an academic contingency of self-worth increases motivation and subjective importance of college. If causality exists, the correlational nature of the study also prevents conclusions regarding the direction of causality. For example, students' contingencies of self-worth may plausibly be either

a cause or effect of high academic motivation. In addition, each of the scales used in the study contained relatively few items and two of the subscales, the academic competence contingency of self-worth subscale and the extrinsic motivation subscale, had only moderate internal consistency, which may have led to less reliable results. Replications of the study would need to aim for higher internal consistency of scales by including more items to measure each construct. Furthermore, the study's sample imposes several limitations. Firstly, participants came from a single high school in a liberal and high-income area, and as such, conclusions drawn from this sample may not apply to high school students in other locations. For example, attitudes regarding college are highly dependent on personal and family conditions, culture, and the environment in which students live. The vast majority of students in this study are set on attending college, but this is unrepresentative of the views of all American high schoolers. Additionally, all participants were recruited from psychology and language classes, (with most being from psychology classes), making the sample further unrepresentative.

Future Studies

Since all variables studied here were found to be positively correlated, more work is needed to disentangle which variables cause changes in others. In order to determine causality, future experimental studies may prime participants to think about college and determine the extent to which doing so increases motivation and competitiveness among high schoolers. Further research is also needed to determine whether and how individuals' contingencies of self-worth can be manipulated such that their dependence on academics as a determinant of self-worth can be increased or decreased. This would allow for research on whether and how increased or decreased emphasis on an academic domain of contingency can affect the perceived importance of college.

Conclusion

The findings from this research have evidenced a positive relationship between having a

contingency of self-worth in academic competence, perceiving college to be important, and motivation—intrinsic and extrinsic; college-oriented and in-school. On average, individuals who depend more heavily on academic achievement to maintain their self-esteem attribute more importance to college and work harder in school. Notably, while greater emphasis on academic competence correlates more strongly with extrinsic than with intrinsic motivation, the difference is not significant. Similarly, neither intrinsic nor extrinsic motivation is more strongly correlated with college-oriented motivation. Thus, this study has presented the possibility that the prospect of college and desire for academic competence can represent both intrinsic and extrinsic motivators.

Nevertheless, students and educators should be wary of motivation exclusively rooted in college, as it is not sustainable. High schoolers who are motivated solely by college may struggle to find the drive to continue learning and growing after the college admissions process is over. Being motivated primarily by one's need for academic competence in order to maintain a sense of self-worth should also be avoided as it may leave individuals especially susceptible to self-doubt, negative self-perceptions, and high stress resulting from instances of poor performance in school. Instead, to foster in students a genuine interest in learning, educators can highlight the utility of the content taught and the inherent enjoyment of mastering course concepts.

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