The Relationship between Frustration Intolerance and Academic Achievement in College

Jerry Wilde, Ph.D.
Indiana University East
2325 Chester Blvd. Richmond, IN 47374, USA
Tel: 1-765-973-8554   E-mail: jwilde@iue.edu

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Abstract
Traditional measures of predicting academic achievement in college such as high school grades and standardized test scores account for approximately 25% of the difference between predicted and actual grade point average (GPA). Researchers have also examined the relationship between psychological factors and academic self-efficacy which may account for up to 14% of the variance in college students’ GPA. The present study involving 105 undergraduate students was interested in the relationship between frustration intolerance and academic achievement. Subjects were given the Frustration Discomfort Scale (FDS) which consists of 28 items divided into four subscales: a) discomfort intolerance, b) entitlement, c) emotional intolerance, and d) achievement frustration. Results indicated that the FDS was statistically significant at the .000 level and accounted for 23% of the variance when predicting overall college GPA.

Keywords: Frustration intolerance, Academic achievement

Predicting academic success in college is a difficult challenge facing institutions of higher education. Unfortunately, a majority students who begin college leave before completing degrees. Slightly more than half (51%) of students who enrolled at four year institutions in 1995–96 completed bachelor’s degrees within six years at the institutions at which they started. Another 7% obtained degrees within six years after attending other institutions (Berkner, He & Cataldi, 2002).

Decisions regarding admissions are typically based on information from data sources such as standardized tests and high school grades. However, these traditional measures fail to account for a majority of the variance when predicting first year college grade point average (GPA). Several studies have found that high school grades and standardized test scores account for only about 25% of the difference between predicted and actual GPA (ACT, 1997; Boldt, 1986; Mathiasen, 1984; Mouw & Khanna, 1993).

This failure on the part of traditional measures has led researchers to explore the role of non-academic issues in student success. Several theories have been postulated in an attempt to make more accurate predictions of academic success in college.

1. Self-Efficacy
The theory of academic self-efficacy, derived from Bandura’s (1982) social learning theory, can be defined as an individuals’ confidence in their ability to successfully perform academic tasks at a designated level (Schunk, 1991). Bandura’s model postulated that self-efficacy beliefs will determine what activities individuals will pursue, the effort they will exert, and how long they will persist in the face of obstacles (Bandura, 1982). Kahn and Nauta (2001) examined the academic self-efficacy model in a study of first-year college persistence using hierarchical logistic regression analyses to examine high school and first-semester college performance predictors. They found that past academic performance (i.e., high school rank and ACT scores) and first-semester GPA significantly predicted persistence to second year of college. The social learning constructs (self-efficacy beliefs, outcome expectations, or performance goals) did not play a significant role in college persistence when measure during the first semester of their freshman year. However, second-semester self-efficacy beliefs and performance goals were significant predictors of return to college for their sophomore year.
Gore (2006) found that the timing of the assessment of academic self-efficacy to be a crucial factor. Scores from the College Self-Efficacy Inventory (CSEI) given at the beginning of their college career did not account for variance in students’ GPA. However, CSEI scores from the end of first semester were a significant predictor of GPA which is similar to the findings from Kahn and Nauta (2001). Additionally, using measures of academic self-confidence and students’ ACT composite scores did a better job of predicting GPA than using ACT scores alone. This was also the case when predicting college persistence in 1st to 2nd year students. These findings suggest that social learning factors are most relevant once students have attended college.

Robbins et al. (2004) conducted a meta-analysis using 109 studies (including more than 9,000 subjects) examining the relationship between multiple psychological and study skill factors and college persistence. Results suggest that academic self-efficacy may account for up to 14% of the variance in college students’ GPA. There was also a significant correlation between academic self-efficacy and college persistence (mean observed correlation $r = .26$). Robbins and his colleagues concluded that academic self-efficacy accounted for variance in both college persistence and GPA beyond that accounted for by measures such as standardized test scores and high school GPA.

Elias and MacDonald (2007) also found that self-efficacy beliefs accounted for a significant amount of variance in college GPA. Hierarchical regression analysis indicated that academic self-efficacy beliefs accounted for a significant amount of unique variance beyond past performance in predicting college GPA.

2. Delay of Gratification

Another area of interest for researchers is delay of gratification. There is considerable evidence that people differ in their ability to delay gratification and that these differences tend to be stable over considerable lengths of time (Mischel, 1996).

Mischel and his colleagues have conducted a series of experiments that examined a child's ability to delay gratification. The experimental procedure was started by letting a child examine some toys. The child was told the toys could be played with later. Next, the experimenter taught the child a game in which he or she (i.e., the experimenter) left the room. The child was told the experimenter would come back immediately if a bell was rung. Each child was then shown a pair of treats which differed in value (for example, one versus two marshmallows). The child was then told he or she must wait until the experimenter returned to the room to attain the treat he or she most desired (i.e., two marshmallows). If the child couldn't wait, the bell could be rung at any time and he or she would receive the less desired treat (i.e., one marshmallow). After the experimenter was certain the child understood the rules, the youngster was left alone in the room and observed through a two-way mirror.

Mischel et al. (1988) tested over 600 preschoolers during the initial portion of these studies. Ten years following the initial experiments, the researchers again contacted the families. The adolescents who recorded longer wait times when they were tested as preschoolers were described by their parents as: a) more academically competent, b) more socially competent, c) better at coping with frustration, d) more able to resist temptation, e) more able to cope with stress, f) more verbally fluent, g) more attentive, h) better planners, i) more able to think ahead, and j) more mature.

Beyond the reports from their parents, Shoda et al. (1990) found seconds of delay time in preschool was significantly related to scores on the SAT. Children who waited longer and thus exhibited greater frustration tolerance did significantly better on the most commonly used college entrance examination. The researchers also found the preschoolers who were told to think "fun" thoughts were able to wait longer but these children did not necessarily obtain higher SAT scores. The children who could delay longer without being told to distract themselves did have significantly higher SAT scores.

3. Student Engagement

Student engagement is generally considered to be among the better predictors of learning and personal development. Kuh (2003) describes student engagement in terms of the time students spend practicing various academic skills. It makes sense that the more time students studying or practicing a subject, the more they tend to learn about it.

Carini et al. (2006) reported that several measures of student engagement were positively correlated with such desirable learning outcomes as critical thinking and grades, although most of the relationships were weak. The results suggest that the lowest-ability students benefit more from engagement than classmates.

Laird, Chen, and Kuh (2008) were interested in rates of persistence of first year students. Of the hundreds of colleges and universities examined, 570 were doing as expected and 174 institutions doing better than expected. There were several factors that predicted which institution had better than expected persistence from freshman to sophomore year. There were two broad factors identified by the researchers: student engagement and faculty teaching practices.
Indicators of student engagement

1) Level of academic challenge - emphasis of course work on higher-order thinking skills as well as student time on task
2) Active and collaborative learning – In and out of class participation
3) Student-faculty interaction – discussions with and feedback from faculty
4) Supportive campus environment - Institutional emphasis on support

Indicators of faculty teaching practices

1) Deep approaches to learning - Emphasis placed on higher-order thinking skills
2) Active classroom practice - Time spent in class on small group work, in class writing, student presentations, and teacher-student led activities
3) Faculty-student contact - Contact with students in their courses by e-mail and about grades
4) Intellectual skills - Courses structured to emphasize writing and speaking clearly, analyzing problems, and learning on one’s own
5) Practical skills - Courses structured to emphasize solving real world problems, working with others
6) Individual and social responsibility - Courses structured to emphasize understanding one’s self and people of other racial and ethnic backgrounds

4. Multiple Factor Theory

It is important to keep in mind that theories designed to explain student performance often overlap. Allen (1999) examined the relationships between motivation, student background, academic performance, and persistence. He found that motivation was not directly connected to academic performance but that it did predict persistence. He also found that financial aid, parents' education, and high school rank affected academic performance. Eppler and Harju (1997) examined the relation of achievement motivation and academic performance within a model that also incorporated student background factors (i.e., SAT score), study habits, and work commitments. They found that achievement motivation was a better predictor of academic success (i.e., cumulative GPA) than the other factors. Kuh et al. (2008) found that students’ demographic characteristics, pre-college experiences, and prior academic achievement as predictors of GPA. Together, they account for 29% of the variance in first-year grades. Taken together, measures of prior academic achievement had the strongest influence on first-year GPA.

5. Frustration Intolerance

The current study seeks to examine another factor that may predict academic achievement in college. More specifically, this study is interested in the relationship between frustration intolerance and academic achievement (as measured by GPA). Frustration intolerance can be thought as the inability or unwillingness to persist in an activity due to the unpleasant feelings associated with the task.

Intolerance to frustration can influence academic achievement in a number of ways. Students who have difficulties tolerating frustration might experience increased difficulties with procrastination which could negatively influence achievement. Studying can easily become a frustrating experience and students struggle with frustration intolerance might spend less time reviewing their studies. Less time studying could lead to lower grades. Solomon and Rothblum (1984) found that “fear of failure” and “task aversiveness” account for most of the variance in their study on the cognitive-behavioral correlates of procrastination. Bridges and Roig (1997) determined “problem avoidance” beliefs to be significantly correlated with procrastination. Milgram et al., (1988) found that individuals are more likely to procrastinate on tasks perceived to be boring, difficult, or requiring a great deal of effort. Harrington (2005b) reported that discomfort intolerance was a significant predictor of both procrastination problems and frequency. Harrington also found that the “achievement frustration” subscale was significantly correlated with reduced procrastination frequency. These findings are consistent with Frost et al., (1990) who reported that having high standards and being conscientious are associated with less procrastination.

6. Method

6.1 Subjects

One hundred and five (105) education majors served as subjects (83 females, 22 males). The university is comprised of 2,392 undergraduate and 67 graduate students, 52% of which are considered to be full time. Of the 105 subjects,
28 were seniors, 31 were juniors, 22 were sophomores, 13 were freshman and 11 were graduate students. The relatively small number of freshmen can be attributed to the fact that most students spend their first year taking required general electives and typically do not take education courses until their sophomore year. There were only eleven graduate students because the university has a small number of graduate students in general (67 total). The graduate students who participated in this study make up 16.4% of the entire graduate student body.

6.2 Instrumentation

The Frustration Discomfort Scale (FDS) (Harrington, 2005a) consists of 28 items, with four 7-item subscales: a) discomfort intolerance, b) entitlement, c) emotional intolerance, and d) achievement frustration. Subjects were asked to rate the strength of a belief on a 5-point Likert-type scale that used the following scoring: 1) absent, 2) mild, 3) moderate, 4) strong, 5) very strong.

6.3 Entitlement

Entitlement reflects the belief that desires must be met and that other people should not frustrate these desires, (i.e., “I must have what I want and other people should not make things difficult for me.”). The concept of entitlement consists of two facets: fairness (“I can’t tolerate being taken advantage of.”) and immediate gratification (“I can’t stand having to wait for something I want”). Of the seven items in this subscale, the highest loaded item was, “I absolutely must not be taken for granted. I can’t stand being unappreciated” (0.661) (Harrington, 2005c). There is evidence from self-control research that individuals will only engage in pleasurable tasks and avoid boring tasks if they hope to reduce negative states (Tice, Bratslavsky, & Baumeister, 2001). Karen Horney (1950) proposed that “demands” were more than just “needs” because there was an assumption of entitlement to have those needs met. Martin (1986) postulated that the perception of injustice is central to the experience of anger and intolerance more so than the actual experience of deprivation. According to Martin, this perception is also based on a sense of entitlement.

6.4 Emotional Intolerance

The emotional intolerance items on the FDS reflect the belief that emotional distress is intolerable and must be avoided or controlled, and uncertainty reduced. The item with the highest loading on this factor was, “I absolutely must be free of distressing feelings as quickly as I can. I can’t stand for them to continue” (0.716) (Harrington, 2005c). Tice, Bratslavsky, and Baumeister, (2001) suggest that self-control failure represents a shift in priority from distant goals to immediate gratification. In other words, “I’m not going to worry about my grades right now. I want to have fun now and I’ll study later.”

6.5 Discomfort Intolerance

Discomfort intolerance represents the belief that life should be easy, comfortable, and free from hassles. The highest loaded item was, “Tasks that I attempt absolutely must not be too difficult. I can’t stand doing them” (0.680) (Harrington, 2005c). It is a commonly held belief that persevering in the face of discomfort to reach one’s goals is a desirable character trait. Sayings such as “Good things come to those who wait” and “Nothing worth having in life comes easy” reflect that belief.

6.6 Achievement Frustration

Achievement frustration represents the belief that individuals must not be prevented from reaching their goals. This intolerance of goal frustration is related to perfectionism. The highest loaded item was, “Tasks that I attempt absolutely must not be too difficult. Otherwise, I can’t stand doing them,” (0.68) (Harrington, 2005c). Some theorists define perfectionism as it relates to an individuals’ self-worth being contingent upon meeting desired goals or standards (Dibartolo et al., 2004). However, the items for this subscale are focused on assessing the intolerance of not meeting one’s goals rather than examining diminished self-worth following disappointment.

Analysis of the FDS has found solid evidence for the psychometric properties of the instrument (Harrington, 2003). Coefficient alphas were: .86 (emotional intolerance), .88 (discomfort), .85 (entitlement), .84 (achievement frustration) and .94 (full scale).

6.7 Procedure

As previously noted, all of the subjects in this study were education majors who were asked to take part in the study by various faculty members within the School of Education. They completed the FDS during the spring of 2008 during one of their education classes. Since some students were taking more than one education course that semester, subjects were asked to only complete the survey once. Subjects’ scores on the FDS were then compared with their cumulative college GPA.
7. Results
Multiple linear regressions were employed to determine if the FDS subscales could be used to predict college GPA. Three of the four subscales were statistically significant (Entitlement, Emotional Intolerance, and Achievement). Only Discomfort Intolerance failed to reach statistical significance.

The best single predictor of GPA was Achievement Frustration (Achievement, $\beta = .43$, $t(100) = 4.07$, $p = .000$). The FDS scale is constructed so that higher scores indicate increased frustration discomfort. High scores in the Achievement Frustration subscale indicated that students are willing to experience discomfort in order to reach higher achievement. The higher the need to achieve, the more frustration discomfort students were willing to experience.

The second best predictor of GPA was Emotional Intolerance (EI), $\beta = -.36$, $t(100) = -2.87$, $p = .005$). Students who have a difficult time tolerating unpleasant feelings have lower GPAs. According to Harrington (2005c), the item with the highest loading on this factor was, “I absolutely must be free of distressing feelings as quickly as I can. I can’t stand for them to continue.” It is important to note that there was an inverse relationship between scores on the EI subscale and GPA. Students who tend to have difficulties managing unpleasant feelings tend to have lower GPAs presumably because they avoid feelings of frustration or boredom which are often associated with academic tasks.

The third subscale that was statistically significant was Entitlement (E), $\beta = -2.34$, $t(100) = -2.34$, $p = .021$). Entitlement can be signified by beliefs such as “I must have what I want and other people should not make things difficult for me.” Once again, there was an inverse relationship between scores on this subscale and GPA. The more entitled students felt, the lower their GPAs.

A one way analysis of variance (ANOVA) was conducted to determine if subjects’ scores on the FDS were related to their overall GPA. The results were statistically significant, $F(4, 100) = 7.52$, $p < .000$ ($r = .231$). Students who had lower scores on the FDS had a higher overall college GPA.

TABLE ONE HERE

8. Discussion
Andrew Carnegie once said, "Anything in life worth having is worth working for." High academic achievement in college is undoubtedly worth having and certainly requires a great deal of effort over an extended period of time. Students often have a hard time making the academic transition from high school to college. One thing that remains consistent, however, is that time spent doing academic work requires focused attention and deliberate effort. There are always activities students would rather be doing. Students who have high levels of frustration intolerance are at particular risk of falling into patterns of procrastination.

The ability of preschool children to tolerate frustration and delay gratification has been found to be a predictor of academic success later in life (Mischel et al, 1988). This study was interesting in determining if the FDS could be used to predict academic achievement in college.

As was noted earlier, several studies have indicated that high school grades and standardized test scores account for about 25% of the difference between predicted and actual GPA (ACT, 1997; Boldt, 1986; Mathiasen, 1984; Mouw & Khanna, 1993). Academic self-efficacy may account for up to 14% of the variance in college students’ GPA (Robbins et al., 2004). In this study, subjects’ scores on the FDS predicted 23% of the variance in their college GPA. This 28 item survey was approximately as accurate in predicting GPA as cumulative high school grades stretched out over a four year academic career and standardized assessments that took years to develop and refine.

It is not surprising that the best predictor of GPA was the FDS subscale Achievement Frustration. Students who are more willing to tolerate frustration in pursuit of academic achievement tend to have higher GPAs.

The Emotional Intolerance (EI) subscale was also a statistically significant predictor of GPA. As noted earlier, the item with the highest loading on this factor was, “I absolutely must be free of distressing feelings as quickly as I can. I can’t stand for them to continue” (Harrington, 2005c). Studying for exams, writing papers, and engaging in other academic behaviors are quite likely to produce “distressing feelings” in most students. It makes sense that students who have a difficult time tolerating unpleasant feelings obtain lower GPAs. There was an inverse relationship between scores on the EI subscale and GPA which means lower scores on the EI were associated with higher GPA.

The subscale known as Entitlement was also statistically significant and also had an inverse relationship. Entitlement can be signified by beliefs such as “I must have what I want and other people should not make things difficult for me.” The more entitled students felt, the lower their GPA. It is the immediate gratification portion of entitlement that
would have the most impact on academic achievement. When students are studying, gratification can be found in nearly any action that involves taking a break from the academic activity. Students who delay gratification by persisting in their studying are more likely perform better on tests or other types of assessments.

Of the four subscales, only Discomfort Intolerance failed to reach statistical significance. It is unclear, at this time, why DI was not statistically significant.

It would be interesting to determine if college students could be taught to increase their ability to tolerate frustration. Meichenbaum (1977) has used a technique called self-instructional training (SIT), which is designed to replace dysfunctional thoughts with cognitions that are adaptive and lead a person towards a goal in situations they find difficult. Meichenbaum (1977) has used SIT with children and adolescents who have difficulties with anxiety and impulsivity. Further research is needed to determine if techniques like SIT could actually improve college students’ ability to tolerate frustration and persevere in difficult tasks which might in turn increase their academic performance.

As stated earlier, several studies have found that high school grades and standardized test scores account for only about 25% of the difference between predicted and actual GPA (ACT, 1997; Boldt, 1986; Mathiasen, 1984; Mouv & Khanna, 1993). Several theories have been postulated to explain the remaining difference. Theories that focus on issues such as self-efficacy, delay of gratification, student engagement, and multiple factors have all address this issue. From the results of this study, it would appear more research is needed to determine if the theory of frustration intolerance should also be added to the list.

The study has several limitations that should be noted. The sample size of 105 is limited and the subjects are all education majors. Whether these results would generalize to a wider audience remains to be determined. This is a correlational study and, as with all such studies, causation cannot be assumed. Attempts were not made to control variables such as study habits or intellectual abilities which may influence academic achievement.

References


Table 1. Summary of Multiple Regression for FDS Subscales (N = 105)

<table>
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<th>Variable</th>
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<th>SE</th>
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<th>p</th>
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