

Using Emotional and Social Factors to Predict Student Success

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College academic success and retention have traditionally been predicted using demographic and academic variables. This study moved beyond traditional predictors. A survey of 218 undergraduate students from a private Midwestern university revealed that emotional and social factors (e.g., stress, frequency of alcohol consumption) related to GPA and emotional factors (e.g., self-esteem, fatigue) related to attrition.

1995), high school rank (Haviland, Shaw, & Haviland, 1984), and ACT/SAT scores (Brooks & DuBois, 1995; Foster, 1998; Sanders) have been associated with college retention rates.

However, these variables clearly do not account for all of the variation in academic success. Szulecka, Springett, and de Pauw (1987) have suggested that the major causes of attrition in first-year college students are emotional rather than academic factors. Furthermore, Leafgran (1989) has suggested that students who are emotionally and socially healthy have a greater chance to succeed in college. However, little research has addressed the relationship of college students' emotional and social well-being to retention and academic success.

Many psychological variables impact college GPA and retention. Brooks and DuBois (1995) found that emotional variables exerted a strong influence on how well students adjusted to their first year of college, which is a strong predictor of academic success (Van Heyningen, 1997). It has further been reported that the possession of high self-confidence (Boyer & Sedlacek, 1988; Foster, 1998), self-control (Wolfe & Johnson, 1995), and having an achievement-oriented personality (Foster) are associated with a higher academic performance. In addition, students who are adaptive perfectionists tend to adjust better to college and as a result, have higher rates of retention (Rice & Mirzadeh, 2000). It has

The successful completion of a college degree in today's society is perceived as paramount to individual achievement. However, a study conducted by Tinto (1987) reported that approximately 57% of college students would leave their first college choice without receiving a degree. More surprisingly, this same study revealed that 43% of college students would drop out altogether, never completing their degree. Although some students leave for reasons beyond the control of the institution, most attrition is preventable (Levitz & Noel, 1989). As a result, factors that influence a student's ability to successfully complete college have received increased attention in recent years, and a number of academic factors have been examined in attempts to identify those students most likely to achieve success in college. Hence, qualitative variables such as gender (Sanders, 1998), the educational level of the parent (Ting & Robinson, 1998), high school GPA (Ting & Robinson; Tobey, 1997; Wolfe & Johnson,

General Background and Literature Review

Beginning of details of research supporting

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been suggested that personality variables may be useful predictors of future college performance and attrition (Tross, Harper, Osher, & Kneidinger, 2000).

On the other hand, emotional health may also negatively influence academic performance and retention. For example, students who are depressed have been found to have lower GPAs when compared to students who are not (Fazio & Palm, 1998), whereas students who are anxious are more likely to drop out than their less-anxious peers (Tobey, 1997). **We examined the impact of emotional state (e.g., depression, fatigue) on GPA and retention.**

Finally, previous research has shown a dramatic increase in the levels of stress experienced by college students over the past 30 years (Sax, 1997). This is important because stress can influence academic performance. Recent investigations have found that GPA is predicted by stress, daily hassles, and adjustment to college (Van Heyningen, 1997). In addition, anxiety levels relating to academic issues (Tobey, 1997) and daily hassles (Brooks & DuBois, 1995) affect adjustment to college and retention. **Because of the impact of stress on academic success, it is important to examine how the college experience affects students' psychological well-being and adjustment.**

Another factor that may impact student success is student social health. Some researchers have suggested that the most important element to success and retention in the first year is student involvement (Astin, 1984). The development of interpersonal relationships with peers is critically important for student success (Upcraft, 1982, 1985). In fact, studies have found that both GPA (Boyer & Sedlacek, 1988; Brooks & DuBois, 1995) and retention (Upcraft & Gardner, 1989) are predicted by social

support. Specifically, Tinto (1987) has stated "incongruence with one's student peers proves to be a particularly important element in voluntary departure" (p. 57). Students with good support from friends and family (Tobey, 1997) and favorable impressions of other students (McGrath & Braunstein, 1997) have higher retention rates. Hence, it is important to examine the kinds and degree of support students receive from peers.

Student involvement in campus organizations can affect their satisfaction with college (Cooper, Healy, & Simpson, 1994), drive to achieve, confidence in academic ability (House, 2000), academic performance (Hartnett, 1965), and decisions to leave (Okun & Finch, 1998). However, there appears to be some variation in how different types of college organizations might affect students' academic success. Studies have shown that membership in Greek organizations is related to GPA (Schragar, 1986). It has also been found that religiosity affects adjustment to college and retention (Low & Handal, 1995). However, religiosity itself has not been found to significantly impact student GPA (Zern, 1987, 1989). **Finally, although members of Honors programs or organizations might have a more impressive academic background than their peers, they are no more likely to stay in school, because they often lack the social support they need; as a result they may have low self-esteem and consequently drop out (Day, 1989).**

Integrally tied to social support is extraversion (Rehulkova, Blatny, & Osecka, 1995). There are conflicting results with regard to the influence of extraversion and introversion on GPA and retention. Some studies have found that students who are extraverts tend to adjust better to college life (Searle & Ward, 1990), possess a better sense of well-being (Demakis & McAdams, 1994),

Next premise/area of investigation

Fourth premise/area of research

Third premise/area of research

Fifth premise/area of research

and have higher academic performance (Eysenck & Cookson, 1969; Irfani, 1978). However, other studies have found that introverts have the highest retention rates (Spann, Newman, & Matthews, 1991).

One highly social behavior that increases during the college years is alcohol consumption, which has been identified as a significant negative health behavior directly affecting student academic performance (Fergusson & Bonshek, 1996; Musgrave-Marquart, Bromley, & Dalley, 1997; Pullen, 1994; Wood, Sher, & McGowan, 2000) and overall educational attainment (Wood et al.). In fact, some studies have found that students that drink believing that it will allow them to better cope with their problems have been found to drink more often when compared to those who do not (Kassel, Jackson, & Unrod, 2000; MacLean & Lecci, 2000). Thus, we examined not only the affect of alcohol use on student success and retention, but also the affect of student drinking motives on GPA and retention.

This study was designed to add to the extant literature on college student academic performance and retention. Previous studies have generally concentrated on demographic and academic factors or selected variables dealing with psychological adjustment in predicting academic success and retention. This study in particular was designed to identify the relationship between student emotional and social health and academic success and retention. To address these issues we sought to examine the following questions:

1. Does student emotional health (e.g., depression, stress, perfectionism) impact student GPA and retention?
2. Does student social health (e.g., membership in campus organizations, extra-

version, alcohol use) impact student GPA and retention?

METHOD

Participants

The participants ($n = 218$) in this study were female ($n = 126$) and male ($n = 92$) undergraduate (108 freshmen; 39 sophomores; 36 juniors; 35 seniors) students at a private Midwestern university. Eighty-eight percent of the participants were White American, 5% African American, 2% White European, 2% Latino, 1% Asian American, 1% Arab, and 1% other. The participants ranged in age from 18 to 30 years, with a mean age of 19.67 ($SD = 2.09$). Participants were recruited from Introductory Psychology and Introductory Health and Wellness courses. As these courses are required for most students, we were able to recruit a variety of majors. Each participant read and completed an informed consent form prior to this study and were informed that their responses would be confidential. The University Subcommittee for the Protection of Research Subjects had approved procedures for this investigation prior to our initiating the study.

Measures

Demographic variables and intent to drop out. Students were asked to indicate their current GPA, high school GPA, SAT or ACT score, their current classification (freshman, sophomore, junior, senior), and whether their parents attended college. To assess intent to drop out, students were asked to respond to the following statement: "I doubt I will still be in college next year." Students responded on a scale from 1 (*strongly disagree*) to 4 (*strongly agree*).

Emotional health. Stress was assessed utilizing questions adopted from Kohn,

Sixth premise/area of research

Summary of Introduction and areas of research

Lafreniere, and Gurevich (1990). Participants were asked to respond to how frequently 55 different stressors (e.g., conflicts with professors, dissatisfaction with school) had occurred over the past month on a 4-point scale ranging from 1 (*not at all part of my life*) to 4 (*very much part of my life*). **The reliability of this questionnaire was high ($\alpha = .91$).**

Perfectionism was assessed using a subscale of the Eating Disorders Inventory (Garner, Olmstead, & Polivy, 1983). Students were asked to respond to statements about their performance levels in activities such as school and the influence of the expectations of others (e.g., family, teachers, parents), such as, "Only outstanding performance is good enough in my family." Responses indicated the participant's agreement based on a 6-point scale ranging from 1 (*never*) to 6 (*always*) and were summed ($\alpha = .83$).

Self-Esteem was measured using the Rosenberg Self-Esteem Scale (1965). This scale employs a series of questions addressing personal feelings about oneself as well as positive and negative emotions (e.g., "I feel I have a number of good qualities"). Students responded on a 4-point scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree*). Responses were summed to create a scale score ($\alpha = .88$).

Coping Tactics were measured via the Brief COPE (Carver, 1997). The Brief COPE is a 28-item Likert-type questionnaire that contains 14 tactics (e.g., use of alcohol/drugs to cope, seeking emotional support, giving up, etc.). Students responded to how they would deal with a stressful event on a 4-point scale ranging from 1 (*I wouldn't do this at all*) to 4 (*I would do this a lot*). This measure has been tested on a variety of populations (Perczek, Carver, Price, & Pozo-Kaderman,

2000; Pritchard & McIntosh, in press), and the measure **has been validated** and shown to be reliable on several populations (Carver; Perczek et al.).

Affective States were measured using the 30-item version of the Profile of Mood States (POMS) (McNair, Lorr, & Droppleman, 1981). The POMS is a Likert-type questionnaire that assesses **the mood states of tension, depression, anger, vigor, fatigue and confusion**. In addition to computing an overall mood score, we also used the depression scale and fatigue scale as separate variables. This measure has also been tested on several populations and has shown to be reliable and valid (Gibson, 1997; Shin & Colling, 2000).

Optimism was assessed via the Defensive Pessimism Scale (DPS) (Norem & Cantor, 1986). Participants completed the DPS and indicated the degree to which each of 11 statements describing characteristics of either optimism or pessimism was representative of their thoughts and behavior in academic situations. Based on each individual's response, participants were grouped into one of three attributional styles: optimist, defensive pessimist, or real pessimist. **The Defensive Pessimism Questionnaire has been shown to be reliable and valid (Norem & Illingworth, 1993; Sanna, 1998). Previous studies utilizing this questionnaire have found this scale to have good predictive utility (Sanna; Cantor & Norem, 1989; Norem & Cantor).**

Social health. Introversiveness/extraversiveness was measured utilizing a scale adopted from Goldberg (1992). Participants were asked to choose which of 7 polar opposite traits best described them (e.g., timid vs. bold) on a 9-point scale. Responses were summed ($\alpha = .89$). In addition, students were asked whether or not they were involved in a

TABLE 1.
Summary of Regression Analyses for
Demographic Variables Predicting GPA
and Intent to Drop Out

Variable	B	SE B	β
Current GPA			
HS GPA ^a	.10	.05	.18
SAT	.00	.00	.06
ACT	.01	.01	.09
Parent ed ^b	-.21	.10	-.19*
Age	-.03	.02	-.11
Gender	-.12	.09	-.12
Classification	.21	.06	.35***
Intent to Drop Out			
HS GPA ^a	.00	.01	.06
SAT	.00	.00	.03
ACT	.01	.01	.08
Parent ed ^b	-.02	.08	-.02
Age	-.01	.02	-.05
Gender	-.10	.08	-.10
Classification	.03	.05	.06

^a High school grade point average.

^b Parental education.

* $p < .05$. *** $p < .001$.

romantic relationship, where they lived (dorm, apartment, at home, etc.) and about their membership in various campus organizations.

Alcohol behaviors were assessed with 2 items from Cooper, Russell, Skinner and Windle (1992). Participants were asked to indicate the frequency of drinking (e.g., once a week, once a month) and how much they drink per drinking occasion.

RESULTS

Data collection occurred in the fall semester, thus all analyses involving predicting GPA excluded all freshman participants. To ensure that there were no differences between sophomores, juniors, and seniors in our factors, we ran a MANOVA to test for differences. The multivariate effect of classification was nonsignificant, $\Lambda = .02$. All analyses involving predicting retention excluded seniors. Again we wanted to ensure that there were no differences between freshmen, sophomores, and juniors in these analyses. A MANOVA revealed no multivariate effect of classification, $\Lambda = .06$.

Demographic Variables

Before assessing the influence of emotional and social health on student GPA and retention, we wanted to investigate the influence of demographic variables traditionally investigated (e.g., gender, age, high school GPA, SAT/ACT scores, classification, and parents' educational background). To this end, we ran multiple regressions to assess the influence of demographic variables on GPA and intent to drop out of college. The combined influence of all of our demographic variables had a significant effect on GPA, $F(7, 109) = 4.17, p < .001, R^2 = .22$. However, as shown in Table 1, only classification and parents' educational background made a significant contribution. Thus, we will control for these variables in all data analyses involving GPA. The combined influence of all of our demographic variables had no effect on intent to drop out, $F(7, 182) < 1.00, R^2 = .02, p = .80$.

Using Emotional Health Variables to Predict GPA and Retention

Students were asked to report stress levels, depressive symptomatology, mood, fatigue,

TABLE 2.
Summary of Regression Analyses for Emotional Health Variables Predicting GPA

Variable	B	SE B	β
Step 1			
Classification	.20	.06	.32***
Parent ed ^a	-.21	.11	-.18
Step 2			
Classification	.13	.06	.20*
Parent ed ^a	-.17	.11	-.15
Stress	-.01	.00	-.23*
Perfectionism	.02	.01	.20*
Self-esteem	.02	.02	.13
Optimism	-.01	.00	-.13
Fatigue	.03	.02	.24
Depression	.00	.02	-.01
Mood	.01	.01	.13

^a Parental education.

* $p < .05$. *** $p < .001$.

self-esteem, perfectionism, and optimism. Multiple regressions were run to assess the effect of emotional health on GPA and retention. Because classification and parents' educational background related to GPA, a stepwise regression was conducted. Classification and parents' educational background were entered in the first step and the predictor variables were entered in the second step. After accounting for the influence of classification and parents' educational background in the first step, $F(2, 100) = 7.95, p < .001, R^2 = .14$, the combined influence of emotional health had a significant effect on GPA, $F(9, 100) = 4.23, p < .001, R^2 = .30$. As shown in Table 2,

stress and perfectionism made a significant contribution. Students were also asked to report their coping tactics. After accounting for the influence of classification and parents' educational background in the first step, $F(2, 100) = 7.92, p < .001, R^2 = .14$, coping tactics did not have a significant effect on GPA, $F(30, 100) = 1.62, R^2 = .41, p = .06$.

We also assessed the influence of emotional health on intent to drop out. The combined influence of emotional health had a significant effect on intent to drop out, $F(7, 174) = 6.13, p < .001, R^2 = .21$. As shown in Table 3, self-esteem and fatigue made a significant contribution. There was also a significant combined influence of coping tactics on intent to drop out, $F(28, 177) = 3.17, p < .001, R^2 = .37$. Concentrating efforts, giving up, accepting reality, and finding comfort in religion were significant predictors (see Table 4).


Using Social Health Variables to

TABLE 3.
Summary of Regression Analyses for Emotional Health Variables Predicting Intent to Drop Out

Variable	B	SE B	β
Stress	-.01	.00	-.34
Perfectionism	.01	.01	.11
Self-esteem	.03	.01	.27**
Optimism	-.01	.00	-.05
Fatigue	.02	.01	.25*
Depression	-.01	.02	-.09
Mood	.00	.01	.07

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

TABLE 4.
Summary of Regression Analyses for
Coping Tactics Predicting Intent to
Drop Out

Variable	B	SE B	
Turn to work	.01	.04	.13
Concentrate efforts	-.12	.05	-.20*
Say "This isn't real"	.01	.06	.02
Alcohol to feel better ^a	-.06	.08	-.09
Get emotional support	.05	.05	.10
Give up trying	-.11	.05	-.18*
Take action	-.05	.06	-.10
Refuse to believe it	.04	.06	.06
Let my feelings out	-.07	.05	-.13
Get advice	-.05	.06	-.09
Alcohol to get through ^b	-.11	.09	-.15
Different light ^c	.03	.05	.05
Criticize myself	.02	.04	.05
Strategy ^d	.09	.06	.14
Get comfort	.08	.06	.16
Give up coping	-.06	.06	-.08
Look for good	.06	.06	.12
Make jokes	.04	.05	.07
Do something else	-.06	.04	-.11
Accept the reality	-.12	.05	-.20*
Express my feelings	-.04	.05	-.08
Turn to religion	-.14	.06	-.31*
Get help from others	.03	.06	.07
Learn to live with it	.01	.05	.01
Think hard about it	.08	.06	.15
Blame myself	.03	.05	.05
Pray or meditate	.09	.05	.22
Make fun of it	-.04	.05	-.08

^a Use alcohol to feel better.

^b Use alcohol to get through.

^c See it in a different light.

^d Come up with a strategy.

* $p < .05$.

Predict GPA and Retention

The affect of social health on GPA and retention was assessed by asking students to report their levels of extraversion/introversion, membership in campus organizations, alcohol consumption, and whether or not they were involved in a romantic relationship. Multiple regressions were run to assess the effect of social health on GPA and retention. Once again, classification and parents' educational background were entered in the first step and the predictor variables were entered in the second step. After accounting for the influence of classification and parents' educational background in the first step, $F(2, 99) = 6.79, p < .01, R^2 = .12$, the combined influence of social health had a significant effect on GPA, $F(11, 99) = 4.31, p < .001, R^2 = .35$. As shown in Table 5, membership in an academic honors organization and frequency of alcohol consumption made a significant contribution. We also assessed the influence of social health on intent to drop out. The combined influence of social health did not have a significant effect on intent to drop out, $F(9, 178) = 1.63, R^2 = .08, p = .11$.

DISCUSSION

Recent studies have proposed that non-academic factors may significantly influence college performance and retention (Szulecka, Springett, & de Pauw, 1987). In fact, it has been suggested that students who are emotionally and socially healthy are more likely to succeed in college (Leafgran, 1989). The purpose of the present study was to investigate the impact of student emotional health and social health on college student GPA and retention. We found that both emotional and social health factors related to student performance and retention.

TABLE 5.
Summary of Regression Analyses for
Social Health Variables Predicting GPA

Variable	B	SE B	β
Step 1			
Classification	.19	.06	.31**
Parent Ed ^a	-.19	.11	-.16
Step 2			
Classification	.13	.06	.20*
Parent Ed	-.19	.11	-.16
Introversion	-.01	.01	-.18
Greek Org ^b	.12	.11	.10
Honor Org ^b	.59	.14	.39***
Religious Org ^b	-.01	.16	-.00
Professional Org ^b	.08	.12	.06
Residence Org ^b	-.23	.13	-.16
Frequency ^c	-.11	.05	-.25*
Quantity of Alcohol	.03	.02	.18
Involved ^d	.04	.10	.03

^a Parental Education.

^b Member of organization.

^c Frequency of alcohol intake.

^d Romantically involved.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Emotional Health

Findings from this study indicated that a student's emotional health was significantly related to GPA regardless of gender. Similar to previous studies (Foster, 1998; Rice & Mirzadeh, 2000; Tross et al., 2000), we found that perfectionists were more likely to have a high GPA, whereas students reporting high stress levels were more likely to have a lower GPA. This is not surprising given the recent concern over the increase in the amount of stress reported by college

students (Sax, 1997; see also Brooks & DuBois, 1995; Tobey, 1997; Van Heyningen, 1997).

In addition, an individual's emotional health related to one's intention to drop out of college. Students who indicated their intent to drop out reported more fatigue and had lower self-esteem than their peers. Conversely, students who intended to stay in college used more positive coping skills than those intending to drop out (e.g., concentrating their efforts, turning to religion), and were more likely to accept when they could not change the stressor (e.g., give up, accept reality). Hence, based on the results of this sample, the ability to deal successfully with the multitude of emotional stresses encountered in college life appeared to be an important factor in student retention.

Social Health


Social health factors in this sample did not predict intent to drop out and they had less of an impact than did emotional health on student performance. Not surprisingly, members of student academic honors organizations had higher GPAs than those not in an academic honors organization. However, contrary to previous studies (Schrager, 1986), we found that in this sample membership in Greek-letter organizations did not impact negatively upon student academic success. This may be due to these organizations' emphasis on academic achievement at this university and the nature of the university itself, a selective private liberal arts institution. Finally, similar to previous studies (Fergusson & Bonshek, 1996; Musgrave-Marquart et al., 1997; Pullen, 1994; Wood et al., 2000), we found that frequency of alcohol intake had a negative impact on students' GPAs.

One interesting outcome of this study was the lack of a relationship between traditional demographic and academic factors and GPA and retention. Similar to previous studies (Ting & Robinson, 1998), we did find that parents' educational background was significantly related to students' college GPA, and that classification (e.g., year in school) related to GPA; however, unlike previous investigations, no relationship was found between other common demographic and academic predictors and college performance or retention. Hence, the use of demographic and academic variables alone did not fully explain the variation in academic success of college students in this sample.

IMPLICATIONS

Several limitations of this study should be noted. First, our sample was selected from a small private Midwestern university. **Hence, this study is institution specific, and the possible generalizability of these findings to other institutions may be limited.** **Second, due to the cross-sectional design of this study, these findings do not indicate causal relationships.** Future studies should examine how these factors relate to GPA and retention over time. **Finally, we assessed only student intent to drop out and not actual attrition**

rates. Many factors may go into actual decisions to leave the university rather than intentions. Despite these limitations, the present findings offer important implications to college administrators.

Results from this study indicate that there is no single factor or set of factors (e.g., demographic, academic, social, emotional) that predict individual student success or retention. Rather, it appears that there are a multitude of factors that influence the way students adjust to college. Given the number of social and emotional factors relating to GPA and retention, institutions might benefit by addressing some of these problems with their student populations. College student personnel professionals need to address specific institutional concerns relating to student success and retention. Intervention strategies need to then be based on such institution-specific variables, and programs should be offered to address these concerns. For example, student services personnel could give talks about stress management and alcohol consumption to incoming freshmen. 

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So, what could you use this article for? What can it support or suggest for current practice, future endeavors, or the theories of the field?

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