PREDICTORS OF ACADEMIC ACHIEVEMENT AND RETENTION AMONG COLLEGE FRESHMEN: A LONGITUDINAL STUDY

This research examines potential psychosocial predictors of freshman academic achievement and retention. College students were assessed on various dimensions, (i.e., demographics, prior academic record, smoking, drinking, health-related quality of life, social support, coping) during the first week of their freshman year, and at the beginning of the next academic year. A multiple linear regression equation predicting cumulative GPA using 10 predictors accounted for 56% of the variance in academic achievement while a logistic equation predicting retention rates was not statistically significant. The amount of variance accounted for in first year cumulative GPA (56%) represents a substantial improvement in prediction over using highschool GPA and SAT scores alone (25%; Wolfe & Johnson, 1995). However, similar to past research, some health and psychosocial variables (e.g., smoking, drinking, health-related quality of life, social support, and maladaptive coping strategies) were related to retention. This model may be used as a tool to proactively identify students at high risk for poor academic performance during their freshman year and to provide direction regarding proactive intervention strategies for maladaptive behaviors predictive of poor academic performance (e.g., smoking, binge-drinking, social support, coping).

The freshman year represents a stressful transition for college students (Lu, 1994). Despite a multitude of social, academic, and emotional stressors, most college students successfully cope with a complex new life role and achieve academic success. Other students are less able to successfully manage this transition and decide to leave higher education during or at the end of their freshman year. It is estimated that 40% of college students will leave higher education without getting a degree (Porter, 1990) with 75% percent of such students leaving within their first two years of college (Tinto, 1987). Freshman class attrition rates are typically greater than any other academic year and are commonly as high as 20-30% (Mallinckrodt & Sedlacek, 1987).

The implications of leaving college without obtaining a degree are many. Each student that leaves before degree completion costs the college or university thousands of dollars in unrealized tuition, fees, and alumni contributions. The decision to leave college is also frequently economically deleterious to the college dropout, whose decision to leave often leaves him or her in a position to earn much less over a lifetime of work (National Center for Educational Statistics, 1989).

Despite these considerable negative consequences for universities and students, attrition rates have not changed appreciably over the last few decades (Porter, 1990). This fact has provided an impetus to understand risk factors for college student attrition. If such risk factors can be identified, then intervention programs can be designed to increase retention rates (Clark & Halpern, 1993).
There is a consistent relationship between college academic achievement and retention, with higher performing students persisting in their studies to a greater degree than their lower achieving cohorts (Kirby & Sharpe, 2001; McGrath & Braunstein, 1997; Ryland, Riordan, & Brack, 1994). Given the consistent relationship between these variables, it is prudent and efficient to identify common risk factors for these student outcomes in order to best develop targeted intervention programs. This study will examine a number of potentially predictive variables of academic achievement and retention that have been examined in prior studies and also examine some new potential risk factors, such as student health status, that have yet to be examined. The goal of this research was to create a multidimensional risk model that would optimize prediction of both academic achievement and attrition. The following is a brief literature overview and rationale for the inclusion of certain variables in this comprehensive risk model.

Gender was selected as a demographic risk factor primarily because it has been shown to be a statistical correlate of both 1st semester GPA and 1st semester academic warning (DeBerard & Julka, 2000). Male gender was related to lower GPA and greater likelihood of academic warning. However, a review of the research literature suggests that gender is not a consistent predictor of overall academic achievement (Bridgeman & Wendler, 1991), although it has been shown that males tend to outperform females in certain types of courses (e.g., economics and electrical engineering courses) while females on average do better in other types of courses (e.g., nutrition and dietetics) (Keller, Crouse, & Trusheim, 1993; Schram, 1996). Prior studies have shown an inconsistent relationship between gender and academic retention (Galicki & McEwen, 1989; Ryland, Riordan, & Brack, 1994). For purposes of this study, it was hypothesized that male gender would be related to a poorer academic performance and higher attrition at the end of the freshman year.

Overall high school GPA and SAT scores were included as predictor variables for this study. Prior studies have demonstrated modest prediction of college student achievement and attrition from high school academic performance and achievement test scores (i.e. SAT or ACT) (Daugherty & Lane, 1999; Galicki & McEwen, 1989). Wolfe & Johnson (1995) reported that high school GPA accounted for 19% of the variance in college GPA. Anastasi (1988) summarized 2000 studies relating SAT scores to college GPA and concluded that SAT scores predicted 18% of the variance in freshman GPA. The combination of these two measures has been found to predict 25% of the variance in college GPA (Wolfe & Johnson, 1995). The ability of these two measures to predict freshman attrition rates is unknown and will be investigated in this study. It was predicted that higher high school GPA and SAT scores would be positively correlated with freshman GPA and inversely related to attrition (lower attrition).

A measure of global social support was included as a potential predictor. The transition to college involves a noticeable increase in stress level in most college students (Fisher & Hood, 1987; Towbes & Cohen, 1996). One potential buffer of stress is social support (Arthur, 1998). It appears social support may be quite crucial in successful transition to the college environment (Hays & Oxley, 1986). Preliminary research has indicated that the presence of parental social support is positively related to college achievement (Cutrona, Cole, Colangelo, Assouline, & Russell, 1994). There is also some consistent evidence that low perceived social support is
related to non-persistence (Mallinckrodt, 1988). In the present study, it was expected that a global measure of social support would relate to academic achievement and attrition.

We also included two coping strategies (escape-avoidance coping, accepting-responsibility coping) as potential predictors in this study. As stress increases, it is important for students to adopt healthy means of coping with a changing environment (Fisher & Hood, 1987). One prior study found a relation between coping and college achievement (Brown & Cross, 1997), while another found no such relationship (Ryland et al., 1994). Some theoretical models have placed emphasis on student coping skills as a means of predicting attrition (e.g. Roberts & White, 1989). However, empirical data have been mixed regarding this point, with one study finding no relation between coping and attrition (Ryland et al., 1994) and another investigation finding that some aspects of coping were related to student intent to reenroll (Bray, Braxton, & Sullivan 1999). The present study sought to further analyze the relationships of coping with achievement and attrition. We specifically selected two "maladaptive" coping strategies (escape-avoidance coping, self-blaming) for examination in the present study as we believed these would have a critical negative impact on academic achievement and attrition.

The present study also investigates health related quality of life and smoking and binge-drinking as potential predictors of freshman academic achievement and attrition. The impact of health-related quality of life on academic performance and attrition is unknown. Given that physical health has been shown to influence work performance (Kessler, Greenberg, Mickelson, Meneades, & Wang, 2001), it seems likely that physical health may play a role in influencing important college student outcome variables as well. It is quite plausible that students with a greater degree of health problems would suffer academically and would be less likely to continue their education. Additionally, various mental health issues such as depression and anxiety are common in college students (Arthur, 1998) although the impact of perceived mental health on academic achievement is unknown. It is predicted that physical and mental health related quality of life will be related to both academic performance and retention rates. This study also examined two negative health habits common among college students: smoking and drinking. It has been shown that smoking and drinking among US adolescents are associated with lower academic achievement (Jeynes, 2002). The influence of these variables on attrition is unknown. It was expected that these variables would be associated with worse academic achievement and retention in college students.

The purpose of this study was to investigate these possible risk factors for low academic achievement and attrition in a sample of freshman college students from a private west coast comprehensive university. The following research questions were assessed: (1) What are the demographic, academic, health, social, and coping characteristics of entering freshmen and how are these variables interrelated?; (2) What is the academic achievement and rate of attrition for this freshman cohort and are these two variables related?; (3) What are the correlations between the proposed risk factors with academic achievement and attrition?; and (4) What percent of variance in academic achievement and attrition can be predicted by regression equations using risk factors as predictors?

**Method**
Participants

Participants included 204 undergraduate students, solicited from introductory psychology and sociology classes at a private west coast university. There were 147 women (72.1%) and the mean age for the sample was 18.9 years (SD 0.95), with a range from 17.8 to 26.3 years. In terms of ethnicity, 84.3% were Caucasian, 7.8% were Asian, 2.0% were Hispanic, 1.0% were African-American, and 5.5% were "Other." Respondents did not receive incentives for participation and were free to not participate without any penalty.

Design and Procedure

This research protocol was approved by the university's Institutional Review Board. A packet of questionnaires was administered to participants during the last 30 minutes of a class period. Average class size was 30 students and surveys were completed during the first week of classes of Fall Semester. A cover sheet informed students the purpose of the study was to examine attitudes and opinions regarding a wide range of topics and the individual data they provided would be kept confidential. The sheet also indicated part of the study would require us to access their academic achievement and enrollment records and they would need to supply their student ID numbers if they chose to participate. The cover sheet noted that participants were free to not participate and could discontinue the survey at any time. Participants signed a consent slip if they agreed to complete the survey. Subjects completed the following inventories based upon their previous months' functioning.

Instrumentation

Social Support Risk Factor. Social support was assessed with the Multidimensional Perceived Social Support Scale (MPSSS) (Dahlem, Zimet, Walker, 1990; Zimet, Dahlem, Zimet, Farley, 1988). The MPSSS is a 12-item scale employing a 7-point Likert-type format (1=very strongly disagree; 7=very strongly agree). A total score and three factor analytically derived subscales reflecting perceived social support from family, friends, and significant others are obtained. The author's report coefficient alphas for the subscales ranging from .85 to .91 and test-retest correlations ranging from .75 to .85 ((Dahlem, Zimet, Walker, 1990; Zimet, Dahlem, Zimet, Farley, 1988). Only the total score was utilized in the present analyses.

Coping Risk Factors. The Ways of Coping Checklist-Revised (WOC) is a 66-item self-assessment inventory designed to assess cognitions and behaviors people use in dealing with stressful life events or situations (Folkman & Lazarus, 1988). Although the WOC provides for eight subscales, only two of the scales were used within the present study. These scales included: Accepting Responsibility: blaming yourself for problems and using efforts to correct situations; and Escape-Avoidance: wishful-thinking that problem would go away and using efforts to escape or avoid problems; The coefficient alphas for these subscales range from .61 for the Distancing subscale to .79 the authors report strong theoretical and empirical support for the construct validity of this measure (Folkman & Lazarus, 1988).

Health Status Risk Factors. Smoking was assessed using a single-item question multiple-choice response question asking average total number of cigarettes smoked per day. Possible responses
included "none"; "less than 6"; "between 7 and 19", and "20 (1-pack) or more." Drinking was assessed with the following single-item multiple choice question: "Think back over the last month. How many times have you had five or more drinks at a sitting?" A "drink" was defined as "a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor, or a mixed drink." Possible response options included: "none"; "once"; "twice"; "3 to 5 times"; "6 to 9 times"; and "10 or more times." General physical and mental health were assessed via the 36 item Short-Form Health Survey-36 (SF-36). The SF-36 assesses general subjective dimensions of physical and mental health-related quality of life (Stewart & Ware, 1992; Ware, Snow, Kosinski, & Gandek, 2000). The SF-36 items were aggregated into Mental Health (MCS) and Physical Health (PCS) Component Summary scales (Ware, 1994). The MCS scale assesses general mood dysphoria, mood-related physical dysfunction, and social function. The PCS scale assesses general physical functioning, ability to function in various life roles, and bodily pain. A standardized method for calculating the MCS and PCS scales is available (Ware, 1994) and these procedures were utilized in the present study. The authors of the SF-36 report coefficient alphas of .88 and .93 for the MCS and PCS, respectively. Construct validity of the PCS and MCS subscales have been established through showing statistically significant correlations of these scales with psychiatric and chronic disease samples (Ware, 1994).

Outcomes: Academic and Retention Information. Students total SAT scores and their overall high school GPA's were obtained from the university's registrars office. Students' cumulative GPA and their re-enrollment status were obtained from the university registrar at the beginning of the subsequent Fall, 2000 semester.

Results

Descriptive Statistics for Predictors and Criterion Variables

Descriptive statistics for the 10 predictor variables are contained in Table 1. As may be seen in Table 1, the sample was predominantly female, with an average high school GPA and SAT Total score of 3.56, and 1133, respectively. Most students were self-reported non-smokers (87.3%) and non binge-drinkers (64.2%). Eighteen percent of the sample reported binge-drinking (> five drinks in one sitting) 3-5 times or more in the last month. Means and standard deviations for the SF36 Physical and Mental Health Composite scales are consistent with national norms for 18-24 year olds and are reflective of good health for this cohort. Means for the MSPSS and the coping strategies subscales are also consistent with national norms for college students.

Predictor Variable Intercorrelations

Table 2 presents the intercorrelations among the predictor variables. Because these variables were used in subsequent regressions, it was prudent to examine the extent of multicollinearity among predictors. Correlations ranged from -0.01 to 0.56 (Smoking with Gender) and there were only three correlations greater than .40 within the entire matrix. Consequently, the correlations among predictors were overall, quite low, which helped to maximize predictive power and interpretation of regression weights.

Criterion Variable Descriptive Statistics and Intercorrelations
Students’ mean cumulative GPA at the start of Fall semester of 2000 was 3.0327 (SD = .6830, N = 195). There was a total of 11 students who left the university after the Fall 1999 semester (9 of these students withdrew without establishing a GPA) and 20 additional students did not return following the Spring 2000 semester. Thus, a total of 31 out of 204 freshman (15.2%) were not retained after completion of the 1999-2000 academic year. There was a positive point-biserial correlation between retention (coded 1 = no; 2 = yes) and cumulative GPA (r = -0.279, n = 195, p = .000). The mean cumulative GPA's for retained and non-retained students (n = 195) were 3.10 and 2.50, respectively. An independent samples t-test (unequal variances) comparing these means was statistically significant (t = 2.825, df = 23.12, p = .01).

**Predictor-Criterion Pearson and Point-Biserial Correlations**

The predictor-criterion correlations are presented in Table 3. As may be seen, several of the predictor variables were statistically significantly related to cumulative GPA. Female gender, high school GPA, and SAT total scores, were each positively correlated with cumulative GPA. The following health variables were statistically significantly correlates with cumulative GPA: smoking, binge drinking, and SF-36 physical composite. Finally, all three psychosocial variables (Total Social Support, Acceptance Coping, Escape-Coping) were also statistically significantly correlated with cumulative GPA. These correlations suggest that cumulative GPA at the end of the freshman year is related to 9 out of 10 hypothesized predictors. It is notable that health behavior such a smoking and binge-drinking were inversely related to cumulative GPA. Table 3 also shows the correlations among the 10 predictors and the retention variable. Only 1 of the 10 predictors had a statistically significant correlation with retention and this was high school GPA. Thus, the hypothesized relationships of 9 out of 10 predictors with cumulative GPA were verified while the hypothesized relationships among only 1 out of 10 predictors with retention were verified.

**Regression of Predictors on Academic Achievement and Retention**

Table 4 contains the results of a forced-entry linear multiple regression in which each of the 10 predictors were used to predict cumulative GPA. Results indicated the regression model was statistically significant (F = 23.80; df = 10, 185; p = .00) and accounted for 56% of total variance in cumulative GPA. Table 4 shows the beta weights and their corresponding t-values. Interestingly, drinking, SF-36 Physical Composite, and escape-avoidance coping did not evidence beta weights that were statistically significant although their pearson correlations with cumulative GPA were statistically significant. Also, the SF-36 Mental Health Composite, while not showing a statistically significant pearson correlation with cumulative GPA, did evidence a beta value that was statistically significant indicating the presence of suppressor relationship among the predictor variables. In sum, this regression model verifies that a large amount of variance in 1st year cumulative GPA can be predicted via the 10 risk variables. A multiple logistic regression was conducted regressing the 10 predictor variables on retention. This model was not statistically significant and the results were thus not included in a table.

**Discussion**
The purpose of the this study was to examine a number of potential predictors of freshman academic achievement and retention. A total of 10 predictors variables were assessed in a sample of college freshman (N = 204) during their first week of classes. While there was a statistically significant correlation between cumulative GPA and retention, the 10 predictors were differentially correlated with each of these outcomes. Results indicated substantial correlations between the 10 predictors and cumulative first year GPA while only a single predictor was modestly correlated with retention. A multiple linear regression equation predicting cumulative GPA using the 10 predictors accounted for 56% of the variance in academic achievement while a logistic equation predicting retention rates was not statistically significant.

This study is noteworthy for several reasons. This study demonstrated an ability to predict a very large amount of variance in freshman year cumulative academic achievement based on a brief and comprehensive assessment of students during their first week of classes. We note that a wide variety of assessed variables were required to achieve this level of prediction (e.g., demographic, prior academic, smoking, drinking, health-related quality of life, social support, coping) although the assessment still only took 20-30 minutes of student time. The amount of variance accounted for in first year cumulative GPA (56%) represents a substantial improvement in prediction over using highschool GPA and SAT scores alone (~25%; Wolfe & Johnson, 1995) as well as when GPA and SAT scores are combined with the psychological variable of conscientiousness (36%; Tross, Harper, Osher, Kneidinger, 2000). We believe this model has some potential to be used as a tool to proactively identify students at high risk for poor academic performance during their freshman year. This model also provides some direction regarding proactive intervention strategies for maladaptive behaviors predictive of poor academic performance (e.g., smoking, binge-drinking, social support, coping).

This study is also noteworthy given the lack of statistically significant correlations between 9 of the 10 predictors with retention. The only statistically significant correlate of retention was low high-school GPA (r = -.20). This finding suggests that retention is a complicated construct that is difficult to predict given the variables assessed in this study. The present study only allows to assert that retention is modestly related to low freshman year academic achievement and low high school GPA. None of the other predictor variables allowed discrimination among those students who persisted versus those students who left the university. Importantly, our hypotheses that several health and psychosocial variables (e.g., smoking, drinking, health-related quality of life, social support, and maladaptive coping strategies) are related to retention were not supported. Our poor prediction of retention is typical of published studies in this area (Gerdes & Mallinckrodt, 1994; Milem & Berger, 1997; Tross, et al., 2000) and suggests a need for further refinement of predictive models for retention. We will now turn to a discussion of specific predictor variables of academic achievement.

The relationship of gender and academic achievement may be somewhat of an institutional anomaly, as gender is typically unrelated to overall academic achievement (Keller et al., 1993). It may be the freshman course load was more geared toward courses in which females typically excel. Additionally, the institution where these data were collected has a freshman resource center which was developed to: facilitate counseling and academic advising (e.g., choosing a major, tips for academic success), help students explore interests related to the first year of studies, and work closely with freshmen having difficulty adjusting to college life (e.g., getting
along with roommates). Female students were much more likely to seek help and support from this office, and this may at least partially account for the results observed in this study (DeBerard & Julka, 2000).

The results demonstrating predictive power of SAT scores and high school GPA for academic achievement were expected and aligned with results from prior studies examining relationships among these variables (Anastasi, 1988; Daugherty & Lane, 1999; Galicki & McEwen, 1989; Wolfe & Johnson, 1995). In general, universities which are more selective in terms of high school GPA and SAT should expect greater achievement and retention among their freshman.

Coping emerged as a significant predictor of achievement, which corresponds with the findings of Brown & Cross (1997), but differs from Ryland et al. (1994), who found no relationship between coping and academic achievement. Given the various methods of assessing coping skills, it is difficult to ascertain if these differences are related to artifacts of measuring coping in different ways. Our findings showed that acceptance-focused coping was related to poor academic achievement. This type of coping involves blaming oneself for one's problems. It is possible that this coping style may lower effort, as internal attributions for failure may result in an increasing sense of helplessness, which may in turn lower achievement. Indeed, "people who believe they have the ability and hold high expectations of success work harder, persist longer, and often perform better on intellectual and manual tasks" (Brown, 1998, p. 275). More research is needed to examine how different means of coping may impact academic success.

Total level of social support was a significant independent predictor of academic achievement, which confirmed our hypothesis and adds to previous literature relating to social support and college academic achievement (Cutrona et al., 1994). It seems likely that during times of increased stress associated with the transition to college (Fisher & Hood, 1987), that social support may be a useful way of insulating the individual from the harmful impact of stress. Counseling center outreach and welcoming student activities may be ways of encouraging students to attain and utilize social support during the transition to college.

Both drinking and the SF-36 PCS scale were significantly related to academic achievement. However, when the effects of other variables were accounted for, neither the SF-36 PCS scale nor drinking was a significant predictor of achievement. These findings are surprising, as drinking has been shown as related to achievement in other research (Maney, 1990; Musgrave-Marquart et al., 1997). Smoking, however, emerged as a significant predictor of achievement even after accounting for the influence of other predictors. This speaks to the need for greater health promotion and education efforts in order to reduce smoking, which, of course, is also related to additional long-term health problems. Additionally, it appears that smoking is significantly related to escape-avoidance coping behaviors. Thus, rather than addressing their stress and other issues head on, seeking social support, or other positive means of coping, smokers were more like to use escape avoidance coping, and performance less well academically.

The results obtained with the SF-36 MCS scale indicated that overall level of mental health was a significant independent predictor of achievement. While the SF36 PCS did not emerge as a significant predictor of achievement or retention, it is likely that this subscale may be useful as a
screening instrument in a primary care college health setting. Given the SF-36 asks about both physical and mental health questions, this may be a good measure to use in student health settings in order to give a brief indication of both physical and mental health. Further research into the utility of this measure with college students seems warranted.

A central limitation of this study involves the sample used. The students were enrolled in a rather selective private northwest university, so it is unclear how well the results would generalize to the US college population as a whole. Students from the institution where this study was conducted tend to come from supportive, two-parent homes, and are relatively high academic achievers. Students in this study were selected from courses (psychology/sociology) which are required course for all students and thus we felt our students represented a reasonable cross section of the university population. We believe it would be most prudent to generalize these results to private US college students only. An additional study with public college students would be required to infer the external validity of the model for this population.

In conclusion, this study demonstrated the utility of model to predict academic achievement but not college student retention. The academic achievement predictive model has particular import for college student personnel that are looking for ways to identify students who are at risk for poor first year academic difficulties. College counselors might also use these data as an impetus for furthering development of health behavior modification programs (smoking/binge drinking reduction). Future research should consider other psychosocial factors that might predict freshman retention.

Table 1 Descriptive Statistics for Time 1 Demographic, Academic, Health, and Psychosocial Variables

Legend for Chart:

A - Variable
B - Frequency/Mean
D - Min/Max
E - SD

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>1=Male</td>
<td>27.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2=Female</td>
<td>72.1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School GPA</td>
<td></td>
<td>2.23-4.20</td>
<td>0.389</td>
<td></td>
</tr>
<tr>
<td>SAT Total Score</td>
<td></td>
<td>820-1430</td>
<td>140.7</td>
<td></td>
</tr>
<tr>
<td>Smoke (Number of cigarettes per day)</td>
<td>1=None</td>
<td>87.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2=6 or less</td>
<td>12.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3=between 7-19</td>
<td>0.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4= &gt; 19</td>
<td>0.0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Drinking (Number of times consumed five or more drinks in one sitting in last month) 
1= None 64.2% 
2= Once 11.3% 
3= Twice 6.9% 
4= 3-5 times 9.8% 
5= 6-9 times 3.9% 
6= 10 or more times 3.9% 

SF-36 Physical Composite 53.6 
31.1-66.43 6.20 
SF-36 Mental Health Composite 44.2 
15.9-64.7 10.52 

Total Social Support 5.9 
1-12 1.17 
Acceptance Coping 4.3 
0-12 2.9 
Escape-Avoidance Coping 7.3 
0-21 4.3 

Table 2 Intercorrelations Among Predictor Variables

Legend for Chart:
A - Variables
B - 1
C - 2
D - 3
E - 4
F - 5
G - 6
H - 7
I - 8
J - 9
K - 10

A | B | C | D
---|---|---|---
E | F | G |
H | I | J |
K |

1. Gender 1.00
2. High School G.P.A. .14(*) 1.00
3. S.A.T. Total Score -.17(*) .39(*) 1.00
4. Smoking -.14(*) -.39(*) -.12 1.00
5. Drinking -.01 -.31(*) -.02
<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>.25(*)</td>
<td>-.10</td>
</tr>
<tr>
<td>High School G.P.A.</td>
<td>.67(*)</td>
<td>-.20(*)</td>
</tr>
<tr>
<td>S.A.T. Total Score</td>
<td>.30(*)</td>
<td>-.02</td>
</tr>
<tr>
<td>Smoking</td>
<td>-.37(*)</td>
<td>.04</td>
</tr>
<tr>
<td>Drinking</td>
<td>-.35(*)</td>
<td>.09</td>
</tr>
<tr>
<td>SF-36 Physical Composite</td>
<td>.22(*)</td>
<td>-.07</td>
</tr>
<tr>
<td>SF-36 Mental Health Composite</td>
<td>-.01</td>
<td>-.01</td>
</tr>
<tr>
<td>Total Social Support</td>
<td>.19(*)</td>
<td>-.10</td>
</tr>
<tr>
<td>Acceptance-Focused Coping</td>
<td>-.24(*)</td>
<td>.01</td>
</tr>
<tr>
<td>Escape-Avoidance Coping</td>
<td>-.21(*)</td>
<td>.07</td>
</tr>
</tbody>
</table>

(1) Retention variable coding: 1 = continued/2 = discontinued

Table 3 Pearson R and Point Biserial Correlations of Demographic, Academic History, Health, and Psychosocial Variables with 1st "rear Cumulative Gpa and Retention(1)
Table 4 Simultaneous-entry linear regression predicting academic achievement from demographic, stress, social support, and coping variables (1)

Legend for Chart:
A - Variables
B - β
C - t

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>.17</td>
<td>3.28(*)</td>
</tr>
<tr>
<td>High School G.P.A.</td>
<td>.52</td>
<td>8.38(*)</td>
</tr>
<tr>
<td>S.A.T. Total Score</td>
<td>.14</td>
<td>2.49(*)</td>
</tr>
<tr>
<td>Smoking</td>
<td>-.25</td>
<td>-3.88(*)</td>
</tr>
<tr>
<td>Drinking</td>
<td>.07</td>
<td>1.03</td>
</tr>
<tr>
<td>SF-36 Physical Composite</td>
<td>.02</td>
<td>.43</td>
</tr>
<tr>
<td>SF-36 Mental Health Composite</td>
<td>-.12</td>
<td>-2.03(*)</td>
</tr>
<tr>
<td>Total Social Support</td>
<td>.11</td>
<td>2.19(*)</td>
</tr>
<tr>
<td>Acceptance-Focused Coping</td>
<td>-.14</td>
<td>-2.44(*)</td>
</tr>
<tr>
<td>Escape-Avoidance Coping</td>
<td>.04</td>
<td>.60</td>
</tr>
<tr>
<td>(Constant)</td>
<td></td>
<td>-1.62</td>
</tr>
</tbody>
</table>

(1) $R^2 = .56$

(*) $p < .05$

References


~~~~~~~~

By M. Scott DeBerard, Utah State University; Glen I. Spielmans, Utah State University and Deana C. Julka, University of Portland

If you have any problems or questions, contact Technical Support at http://support.epnet.com/contact/askus.php or call 800-758-5995.

This e-mail was generated by a user of EBSCOhost who gained access via the SOUTHEASTERN OKLAHOMA STATE UNIV account. Neither EBSCO nor SOUTHEASTERN OKLAHOMA STATE UNIV is responsible for the content of this e-mail.