THE IMPORTANCE OF FRESHMAN EXPERIENCES IN PREDICTING STUDENTS'
RETENTION DECISIONS

A Thesis
By
JESSICA NICOLE GORE

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APPROVED BY:

_____
Hall P. Beck
Chairperson, Thesis Committee

_____
Douglas A. Waring
Member, Thesis Committee

_____
Rose Mary Webb
Member, Thesis Committee

_____
James C. Denniston
Chair, Department of Psychology

_____
Edelma D. Huntley
Dean, Research and Graduate Studies

FOREWORD

This thesis is written in accordance with the style of the *Publication Manual of the American Psychological Association (6ᵗʰ Edition)* as required by the Department of Psychology at Appalachian State University

The Importance of Freshman Experiences in Predicting Students' Retention Decisions

Jessica N. Gore

Appalachian State University

Abstract

Undergraduate retention is a growing problem; approximately 50% of students who matriculate at American colleges and universities fail to graduate within seven years (National Center for Public Policy and Higher Education, 2002). This study assessed the utility of the *College Persistence Questionnaire Version 2* (*CPQ-V2*) to predict whether freshmen returned for the sophomore year. Between 6 to 8 weeks into their first semester, participants ($n = 701$) from Angelo State University ($n = 166$), Appalachian State University ($n = 333$), and Tusculum College ($n = 202$) responded online to the questionnaire. A series of binary logistic regressions was performed, each predicting retention. Results indicated that variables typically found in the student database (e.g., high school rank, standardized test scores) are of limited value in identifying at-risk students at this point in the process, and that prediction is only moderately increased by adding background variables (e.g., reasons for attending, parent's education) that are not typically collected by universities. On the other hand, the ten Student Experience Scales of the *CPQ-V2* produced a substantial increment in the explained variance. These findings demonstrate the validity of the *CPQ-V2* as a predictor of undergraduate retention and the importance of students' experiences with the academic and social environments in determining persistence decisions.

The Importance of Freshman Experiences in Predicting Students' Retention Decisions

Approximately 50% of students who matriculate at American colleges and universities fail to graduate within seven years (National Center for Public Policy and Higher Education, 2002). Although research on college attrition has had a long history, there has been a recent increase in interest in this line of inquiry (e.g., Astin & Scherrei, 1980; Braxton & Brier, 1989; Braxton, Sullivan, & Johnson, 1997; Davidson & Beck, 2006; Davidson & Beck, 2006-2007; Davidson, Beck, & Milligan, 2009; Metz, 2004-2005; Nicpon et al., 2006-2007; Tinto, 1975, 1993). As budgets have tightened, the financial health of colleges and universities has been increasingly threatened by high attrition rates. Also, the ability of the U.S. to compete in the global economy is becoming more dependent on an educated and skilled workforce. Finally, there is the individual standpoint: the death of a dream. Individuals who do not earn a college degree have lowered expectations in financial earnings, and often they experience a decline in their overall quality of life (U.S. Department of Education, 2001; 2007).

Probably no factor has been more important in stimulating retention studies than the financial problems experienced by many institutions. State schools often receive funding based on the number of students they graduate (e.g., UC Davis Office of Resource Management and Planning, 2004). Retention has become such a prominent issue that some states have implemented incentive programs designed to augment the percentage of students graduating in four years (Education Commission of the States, 2004).

Attrition may have a particularly deleterious effect on the financial well-being of small private colleges. Low retention rates mean that increased resources must be expended

on recruitment. A Noel-Levitz (2007) report found that private four-year institutions spend an average of $1,941 per student on recruitment, compared with $398 for four-year public institutions and only about $121 per student for community colleges. High attrition can also lead to a lowering of academic standards in order to fill the seats that would have otherwise been vacant. In some cases, low retention can result in the closure of the college itself (Lewin, 2008).

Competition in the global market has also heightened interest in undergraduate retention. To successfully compete in the global economy, the U.S. will need a more highly educated and skilled workforce than now exists, one that can adapt to the needs of a rapidly changing and technically demanding work environment. Six out of ten jobs require some postsecondary education and training (Carnevale & Desrochers, 2003). By 2012, the number of jobs requiring advanced skills will grow at twice the rate of those requiring only basic skills (Hecker, 2004; U.S. Department of Labor, 2000). If the U.S. is to enjoy a competitive advantage with respect to other nations, our postsecondary institutions must attract and retain a growing number of students.

Higher education leads to greater opportunities for advancement, greater job security, higher wages, and often better health and retirement benefits (Barfield & Beaulieu, 1999). In 2000, the median annual income was more than 60% greater for persons with a bachelor's degree than for persons with a high school diploma (U.S. Department of Education, 2001). The difference in expected earnings between individuals holding a college and high school degree is growing. Between 1980 and 2005, the adjusted median earnings of those with a

high school diploma decreased by $5,600, while the median earnings of those with a bachelor's or higher degree increased by $2,300 (U.S. Department of Education, 2007).

Variables Affecting Retention

Schools have traditionally used academic variables such as high school grade point average (HSGPA), college admissions tests, and high school coursework (ACT, 1997; Adelman, 1999; Kern, Fagley, & Miller, 1998; Robbins et al., 2003; Tinto, 1997) to identify at-risk students. Research, however, indicates that non-academic factors often have an even greater impact on undergraduates' persistence decisions (e.g., Lau, 2003). A review of the literature identified the following sets of non-academic variables related to retention: institutional and degree commitment, academic and social integration, support services satisfaction, finances, social support, and personality and psychological adjustment (e.g., Astin & Scherrei, 1980; Braxton & Brier, 1989; Braxton et al., 1997; Mallinckrodt, 1988; Metz, 2004-2005; Milem & Berger, 1997; Nicpon et al., 2006-2007; Pascarella, 1985; Stage & Rushin, 1993; Tinto, 1975, 1993).

Institutional commitment is the extent to which students identify with their college or university. The key elements in institutional commitment are students' intentions to re-enroll and to graduate from that school. Degree commitment is the level of importance students attach to earning a diploma. The crucial elements in degree commitment are students' plans to finish the degree, estimates of the likelihood or certainty that a college diploma will be achieved, and their self-appraised commitment to earn the degree (for a review, see Braxton et al., 1997).

Whereas institutional commitment refers to a particular college or university, degree commitment reflects the value the student places on obtaining a diploma from any school. Sometimes institutional commitment and degree commitment coexist in students, but sometimes they do not. For example, a student may see the importance of obtaining a college degree, but feel that his or her current school is not the right one. Other students may enjoy the college they attend, but may not be certain about the value of a college degree. Consequently, it is important to consider and measure the two types of commitment.

Academic and social integrations are included in almost every contemporary causal model of student retention. In addition to their impact on retention, academic and social integration have been studied as outcome measures (for review, see Metz, 2004-2005). For example, Strahan (2002) examined the effects of social anxiety and social skills on social integration.

Tinto's (1975, 1993) theory of student departure proposed that successful student adjustment depends on the sequential steps of separation, transition, and integration into the academic and social realms of college life. This model suggests that persistence is related to the ability of the student to leave his or her previous life and become incorporated into the academic and social life of the institution. This is often a particular challenge for commuter students. Tinto (1988) proposed that students who continue to live at home "may be unable to take full advantage of those (institutional) communities for integration into the social and intellectual life of the college" (p. 443).

Social integration is hypothesized to have a positive effect on grades when students interact with individuals who have strong academic orientations. Tinto (1975, 1993)

contended that higher degrees of amalgamation into social and academic environments also contributes to higher degrees of institutional and goal commitment leading to higher graduation rates, and lower levels of attrition. Although academic and social integration are regarded as critical to understanding retention, there is little consistency regarding the operationalization or measurement of these constructs (for a review, see Milem & Berger, 1997).

The relationship of support services to student retention has been extensively studied (e.g., Astin & Scherrei, 1980; Braxton & Brier, 1989; Johnson, 1997; Pascarella, 1985). Berger and Braxton (1998) found that the efficiency with which rules or regulations are communicated, the fairness of policies, and the amount of student participation in institutional decision making significantly affects retention rates. In a study by Habley and McClanahan (2004), the following three categories of retention efforts were deduced from survey respondents: first-year programs, academic advising, and learning support. Among the most cited efforts were integrating academic advising into some type of first-year program, such as freshman orientation; advising interventions with selected student populations; academic advising centers; centers that combine academic advising with career/life planning; and learning assistance centers (Habley & McClanahan, 2004).

Social support variables address students' interpersonal networks and the extent to which the networks facilitate their decision to pursue a college degree. The following social support measures have been shown to be important influences on retention: encouragement from friends or family members (Mallinckrodt, 1988; Nicpon et al., 2006-2007; Stage & Rushin, 1993), the students' belief that family members expect them to obtain a degree

(Munro, 1981), the caring of faculty (Hoffman, Richmond, Morrow, & Salomone, 2002-2003; Lundquist, Spalding, & Landrum, 2002-2003), and the availability of people within the institution with which to discuss personal problems (Mallinckrodt, 1988).

Financial variables have been the focus in several causal models of retention (Cabrera, Nora, & Castaneda, 1992; Somers, 1995; St. John, Paulsen, & Starkey, 1996). Financial and investment issues are important because many students must pay bills and juggle financial priorities. A central construct of most investment models is that people consider the rewards, costs, and alternatives that are associated with choices. Hatcher, Kryter, Prus, and Fitzgerald (1992) demonstrated that this idea extends to college students' enrollment decisions.

Personality and adjustment variables have also received increased attention over the last decade. Bean and Eaton (2000, 2001-2002) proposed a psychological model of retention that combines strategies students use to deal with stress. This model includes variables that are important in the field of personality such as self-efficacy (e.g., Bandura, 1997), coping strategies (e.g., Aldwin, 2007), and personal control (e.g., Perry, 2003). Recent retention research on individual differences supports the role they play in persistence decisions. Bray, Braxton, and Sullivan (1999) found that positive and negative coping techniques were associated with integration and commitment. Other investigations have also shown personality characteristics are related to attrition. For example, students who are higher in conscientiousness are less likely to drop out of college (Tross, Harper, Osher, & Kneidinger, 2000).

Student perceptions of the academic and social environments have also been associated with retention and other education indices. Davidson, Beck, and Silver (1999)

took this approach in identifying six academic orientations (structure dependence, creative expression, reading for pleasure, academic efficacy, apathy, and mistrust of instructors) that develop as a result of their college experiences. Combinations of those orientations are associated with students' stress levels (Davidson & Beck, 2006), grades (Beck & Davidson, 2001), persistence (Davidson & Beck, 2006-2007), and self-actualization (Davidson, Bromfield, & Beck, 2007).

Academic and Non-Academic Factors Identified by ACT

A critical question at the heart of retention research is: How well can persistence be predicted? A recent meta-analysis by ACT, formerly American College Test (Lotkowski, Robbins, & Noeth, 2004), sought to identify the academic and non-academic variables that best predict college retention. One hundred and nine studies examined the relationship between non-academic and academic factors and postsecondary retention (Lotkowski et al., 2004).

As shown in Table 1, two academic variables, HSGPA and ACT assessment scores, were positively correlated with retention. HSGPA was a better predictor of retention than ACT assessment scores (Lotkowski et al., 2004). The following non-academic factors had a positive relationship with retention: academic related skills, academic self-confidence, academic goals, institutional commitment, socioeconomic status (SES), social support, social involvement, institutional selectivity, and financial support. The strongest predictors were academic-related skills, academic self-confidence, and academic goals. Institutional commitment, social support, institutional selectivity, financial support, and social involvement had moderate relationships. Achievement motivation and general self-concept

had weak relationships. The contextual influence of institutional size had no relationship to college retention.

Overall, SES, HSGPA, and ACT assessment scores combined with institutional commitment, academic goals, social support, academic self-confidence, and social involvement factors accounted for 17% of the variance in retention. These findings have significant implications for developing effective retention programs. Traditionally, retention programs focus on academic factors to identify at-risk students. This approach, however, may miss students who are at-risk for non-academic reasons.

The Development of the *College Persistence Questionnaire*

Recently, Davidson et al. (2009) developed a short instrument, *College Persistence Questionnaire, Version 1 (CPQ-V1)*, that would allow college personnel to: (a) identify students at-risk of dropping out, (b) discover why a given student is likely to leave the institution, and (c) determine the variables that best distinguish undergraduates who will persist from those who will not persist at a particular college or university.

The researchers created an item pool by reviewing approximately 150 studies in the literature and identifying variables that had been associated with retention at one or more schools. Questions were then written reflecting these variables. After three exploratory factor analyses, 53 items were retained for further investigation.

Questions on the *CPQ-V1* were answered on a 5-point Likert-type scale, with a sixth option, *not applicable*, for students who thought the item did not pertain to them. Verbal labels for the response scales depended on the wording of the questions (i.e., if a question asked "how satisfied" students are with an aspect of the college environment, the response

scale ranged from *very satisfied* and *very dissatisfied*. If the question asked "how much" students liked an aspect of the college environment, the end pegs were *very much* and *very little*). The answers were converted to 5-point "favorability" scores, based on whether the response indicated something positive or negative about the student's college experience.

Data were collected from three comprehensive institutions and one large community college. A principal components analysis was performed on the favorability scores of the 53 items using a direct oblimin rotation. An oblique rotation allowed for the possibility of correlations between components. The solution produced six factors with eigenvalues greater than 1.4. All items with pattern coefficients of .40 or higher were retained for further analysis (Tabachnick & Fidell, 2007). A second principal components analysis with a direct oblimin rotation was conducted on the resultant 36 items to ensure that the deletion of questions did not cause substantial changes in the pattern coefficients. The findings from the two analyses were similar. Item deletion did not have a pronounced effect on the coefficients. Correlations between components were small, ranging from -.02 to .27.

Interpretive labels were given following a review of the content of the items within the clusters. They were: Academic Integration, Social Integration, Support Services Satisfaction, Degree Commitment, and Institutional Commitment. A sixth factor was composed of a small subset of items within Personality and Adjustment; however, the items dealt specifically with students' diligence in completing course work. The investigators labeled this component Academic Conscientiousness. The six identified factors appear to parallel prominent groups of variables within the retention literature.

Although these data support the use of the *CPQ-V1*, a much stronger argument could be made if the instrument were shown to actually predict whether students return to college. The researchers sought to investigate the ability of the *CPQ-V1* to predict whether Angelo State University freshmen would return for the sophomore year. Of the 257 freshmen, 146 (57%) returned and 111 (43%) did not return as sophomores (Davidson et al., 2009).

Validity was assessed using a direct logistic regression. Retention was the outcome measure, and mean scores on the six *CPQ-V1* factors were predictors. The results suggested that the sets of *CPQ-V1* factors reliably distinguished between freshmen who did and did not return. Overall 66% of students were successfully classified using .43 as the cutoff point, Nagelkerke $R^2 = .19$, $p < .001$. Of the factors, Institutional Commitment was the best predictor of retention, followed by Academic Conscientiousness and Academic Integration (Davidson et al., 2009).

Social Integration, Support Services Satisfaction, and Degree Commitment did not improve prediction. There is, however, substantial evidence (e.g., Aitken, 1982; Berger & Braxton, 1998; Braxton et al., 1997; Milem & Berger, 1997) that these variables are associated with retention at other colleges and universities. The most probable interpretation of this finding is that the factors that predict retention vary from school to school and from one group of students to another (Metz, 2004-2005; Tinto, 2006-2007).

Davidson et al. (2009) further examined traditional academic indices to assess incremental validity. First standardized test scores (STS) and high school rank (HSR) were entered as a block into the equation. Fifty-nine percent of students were classified correctly using the traditional measures, Nagelkerke $R^2 = .09$, $p < .001$. Then, the *CPQ-V1* factors

were added, Nagelkerke $R^2 = .23$, $p < .001$. The inclusion of *CPQ-V1* factors produced a statistically significant increment in the ability of the model to predict retention. The overall correct classification rate improved to 68% when *CPQ-V1* factors were added to the model.

Although *CPQ-V1* has been shown to be a valid predictor of retention, the instrument could be improved in the following two ways. First, some of the scales might be enhanced with additional items. Second, some variables that the literature identified as associated with attrition did not load on *CPQ-V1* (Davidson et al., 2009). These changes were considered in the development of the *College Persistence Questionnaire, Version 2 (CPQ-V2)*.

A test version of *CPQ-V2* was composed of the 36 factor items from *CPQ-V1*, and 47 new test items were generated. Data were collected from 2,584 undergraduates across four institutions. The favorability scores of the 83 items were assessed via a principal component analysis using a direct oblimin rotation. This yielded ten factors with eigenvalues exceeding 1.0. Items with pattern coefficients of .40 or higher were retained for further analysis (Tabachnick & Fidell, 2007). A second principal components analysis upon the resultant 54 items did not produce substantial changes in the pattern coefficients. Correlations between components were small, ranging from -.02 to .32.

The six scales from *CPQ-V1* were retained, and four new scales were added to *CPQ-V2*. The factors were labeled: Academic Integration, Financial Stress, Social Integration, Degree Commitment, Collegiate Stress, Advising, Scholastic Conscientiousness, Institutional Commitment, Academic Motivation, and Academic Efficacy (Milligan et al., 2009).

Although *CPQ-V2* is a new instrument, it has been used at Angelo State University, Appalachian State University, Catawba College, Greenville Technical Community College, Troy University, Tusculum University, and the University of Cincinnati. For example, Catawba College, a small private college located in the foothills of the Appalachian Mountains, administered the *CPQ-V2* to identify at-risk students. The researchers looked at the relationship between Institutional Commitment and the other nine factors, to determine whether Institutional Commitment could be predicted from the other factors. Institutional Commitment was chosen because it tends to be the best predictor of retention. With the exception of Financial Stress, all the bivariate correlations were statistically significant, $p<.05$. Academic Integration ($r=.54$) and Social Integration ($r=.49$) scales showed the strongest relationship with Institutional Commitment scores. Degree Commitment and Advising, however, were also strongly correlated with Institutional Commitment.

The *CPQ-V2* is a promising instrument (See Appendix A for permission to use the *CPQ-V2* and Appendix B for a copy of the instrument), but additional validation studies need to be conducted. This investigation will assess the ability of *CPQ-V2* to predict whether freshmen will return for the sophomore year. A second objective is to determine if the *CPQ-V2* improves the prediction of retention above that afforded by indices generally available in the student database at matriculation. If the *CPQ-V2* is shown to improve the prediction of retention, a series of equations will be developed that can be used to identify at-risk students. Finally, this study seeks to determine the extent that differences between institutions are accounted for by the variables composing the *CPQ-V2*.

Method

Participants

Participants were 701 freshmen from Angelo State University (*n* = 166), Appalachian State University (*n* = 333), and Tusculum College (*n* = 202). Angelo State and Appalachian State are four-year institutions with master's programs; Tusculum is a small, private, primarily undergraduate college. Students from Angelo State were recruited from sections of Introductory Psychology and received course extra credit. Completing the *CPQ-V2* was one means by which Appalachian State students could fulfill an assignment in their Introductory Psychology classes. All entering Tusculum College freshmen participated as part of their freshman orientation class.

The demographics for the sample were: 56.9% females; 43.1% males; 11.8% Blacks; 76.2% Caucasians; 7.0% Hispanics; 5.0% Asian, Native American and Other. All students were treated in accord with the American Psychological Association Guidelines for Ethical Conduct (American Psychological Association, 2002), and approval was obtained from the Appalachian State University Institutional Review Board (IRB). The IRB Approval Form is included as Appendix C.

Instrument

CPQ-V2 is composed of two main components: the Student Background Form and the Student Experiences Form. The Student Background Form asks students to report information that requires little or no experience with the academic and social environments. Some (e.g., sex, race, graduating class size, native language, financial aid, standardized test scores, high school rank) but not all (e.g., reason for attending, parent's education, goal at

institution) of the information on the Student Background Form is typically collected by schools prior to matriculation.

The Student Experiences Form is composed of questions that require some interaction with the institution, such as "In general how satisfied are you with the quality of instruction you are receiving here?" and "How much have your interactions with other students had an impact on your intellectual growth and interest in ideas?" This section consists of 54 items making up ten factors. Questions were answered on a 5-point Likert-type scale. A sixth option, *not applicable*, was included for students who felt that an item did not pertain to them (e.g., issues of on-campus housing or services for commuter students). Table 2 displays Student Experience items by factor.

Procedure

Respondents were asked to read and sign a consent form (Appendix D) prior to completing the questionnaire. All participants were told that the purpose of the investigation was to determine their views about many aspects of their lives at college and were assured that their answers would remain confidential. Participants from the three schools responded to the *CPQ-V2* online during the first semester of their freshman year. Angelo State and Tusculum College students participated at their convenience at a location of their choice. Appalachian State students were surveyed in groups of 6 to 8 students in a computer lab. Most students completed the *CPQ-V2* in less than 30 minutes. At the conclusion of the session, a screen appeared and thanked them for responding to the questionnaire.

By signing the consent form, students granted permission for researchers to obtain their STS and HSR from the registrar. They also allowed the investigators to determine if

they returned to their respective schools the following fall semester. This metric, freshmen to sophomore persistence, is a commonly-used retention benchmark (Mortenson, 2005).

Results

Each student's high school rank (HSR) was computed [HSR = (Student Rank/ Number of Graduating Class) * 100]; higher percentiles reflect better rankings. Some students' records contained both SAT and ACT scores, and others contained only one of the two test scores. To facilitate comparisons, tables prepared by ACT, Inc. and the Educational Testing Service were used to convert SAT assessment scores to their ACT equivalents, giving standardized test scores (STS). For students who submitted the SAT and ACT, their STS were taken as the higher of the two scores.

Data were screened for univariate and multivariate outliers using procedures recommended by Tabachnick and Fidell (2007). Among the remaining sample ($n = 701$), data were missing on the following variables: Mother's Education ($n = 22$), Father's Education ($n = 42$), Goal at Institution ($n = 13$), ACT or Equivalent ($n = 14$), and High School Percentile ($n = 122$). Students who did not report their Mother's Education, Father's Education, or Goal at Institution presumably did so because they lacked sufficient information to answer the question. Data were missing from the ACT or Equivalent or High School Percentile variables because the institution did not require them to be submitted as part of the admissions package.

For the purposes of analysis, missing data were estimated using a regression approach (Roth, 1994). For example, Mother's Education was regressed upon all other variables. The

resulting equation was then used to estimate Mother's Education for individuals missing that value.

Variables were grouped into the following categories: (a) Student Background indices that are typically collected by institutions (e.g., age, race, graduating class size, high school percentile, STS); (b) Student Background measures that are available to schools but are not usually collected such as parent's education, goal at institution, and reason for choosing a particular college or university; (c) the Student Experience scales of the *CPQ-V2*; and (d) the student's university.

Bivariate correlations were performed relating all variables to retention. Twenty-seven of 44 correlations were statistically significant at $p < .05$. Table 3 presents percentages of responses and correlations with retention for categorical variables. Table 4 displays means, standard deviations, and correlations with retention for continuous variables. The overall retention rate for the sample was 74.1% (Angelo State University = 63.9%, Appalachian State University = 91.3%, and Tusculum College = 63.9%).

Validity of the Student Experience Form as a predictor of freshman retention was assessed using binary logistic regression. Retention was the outcome measure, and mean scores on the ten *CPQ* factors were entered simultaneously as predictors. Results indicated that the ten *CPQ-V2* factors reliably distinguished between freshmen who did and did not return as sophomores, $\chi^2 (10, N = 701) = 161.68$, $p < .001$, Nagelkerke $R^2 = .30$. Overall 80.5% of students were successfully classified using 0.50 as the cutoff point. See Table 5 or the intercorrelations between scales and Table 6 for regression coefficients, Wald statistics, and odds ratios for each predictor. The Wald criterion indicates that Institutional

Commitment was the best predictor of retention, χ^2 (1, $N = 701$) = 57.42, $p < .001$. Three other factors, Degree Commitment, χ^2 (1, $N = 701$) = 6.75, $p = .009$; Financial Strain, χ^2 (1, $N = 701$) = 5.74, $p = .017$; and Collegiate Stress, χ^2 (1, $N = 701$) = 5.29, $p -.021$, also made unique statistically significant contributions to the prediction of retention.

Many schools will use the *CPQ-V2* in conjunction with measures in the student database; therefore, questions of incremental validity are important. A four block binary logistic regression determined the contribution of each set of variables to the prediction equation. First, variables that are typically in the student database were entered as a block into the equation, χ^2 (15, $N = 701$) = 63.74, $p < .001$, Nagelkerke $R^2 = .13$. Variables from the Student Background Form which are not usually in the student database were added on Block 2, χ^2 (27, $N = 701$) = 119.74, $p < .001$, Nagelkerke $R^2 = .23$; χ^2_{INC} (12, $N = 701$) = 56.00, $p < .001$. Variables in Block 1 and 2 comprise indices that required no experience with the institution.

The ten *CPQ-V2* factors were added as Block 3 to the equation, χ^2 (37, $N = 701$) = 211.36, $p < .001$, Nagelkerke $R^2 = .38$; χ^2_{INC} (10, $N = 701$) = 91.63, $p < .001$. Finally, the student's university was entered on Block 4 to determine the extent to which differences among institutions are not accounted for by variables entered into the first three Blocks, χ^2 (39, $N = 701$) = 235.04, $p < .001$, Nagelkerke $R^2 = .42$; χ^2_{INC} (2, $N = 701$) = 23.68, $p < .001$. Table 7 presents regression coefficients, Wald statistics, and odds ratios for each predictor after all of the variables were entered into the equation.

Discussion

The purpose of this study was to determine (a) the ability of *CPQ-V2* to predict if freshmen will return for their sophomore year, (b) if the *CPQ-V2* improves the prediction of retention above that afforded by indices generally available in the student database, and (c) the extent that differences between institutions are accounted for by the variables composing the *CPQ-V2*. A series of binary logistic regressions was used to assess the predictive and incremental validities of the *CPQ-V2*.

The *CPQ-V2* reliably predicted whether or not freshman returned for their sophomore year. Although it is difficult to compare the current study to a meta-analysis, it should be noted that the ten Student Experience scales of the *CPQ-V2* explained 30% of the variance and the ACT study (Lotkowski et al., 2004) found that 23 variables explained 17% of the variance. Of course, information in the Student Background Form would further add to the variability accounted for by the *CPQ-V2*.

Results also indicated that the *CPQ-V2* improves the prediction of retention above that afforded by variables in the student database. Variables typically found in the student database were of limited value in identifying at-risk students, explaining 13% of the variance. When variables from the Student Background Form were added, the variance accounted for increased by 10%. Although this is a moderate increase, data in the Student Background Form may be useful for developing effective school recruitment programs. For example, if a student has friends at the institution they are attending, they may be more likely to remain in college. School administrators could use this information to develop a plan in which they recruit friends of current students.

The ten scales from the Student Experience Form were the best predictors of attrition, augmenting the explained variance by 15%. This finding indicates that it is critical to assess students' interactions with the school's academic and social environments. Extrapolations of these results suggest that questionnaires designed to be administered during orientation or shortly after matriculation are of limited utility in identifying students at-risk.

Finally, institution variables produced a modest increment (4%) in the explained variance, after taking into consideration variance attributable to student database and *CPQ-V2* variables. If the three schools in the sample were entered alone, they would have accounted for 20% of the variance. Thus, most of the differences between schools' retention rates can be explained by differences in the *CPQ-V2* and student database variables.

Applications

How information from the *CPQ-V2* is used depends on whether college personnel are working with individuals or groups of students. The Advisor Portal is a web-based interface that allows counselors, faculty, and advisors to view student level data (Beck & Davidson, 2010). The software permits advisors to assess students' responses to individual *CPQ-V2* items and scales. The Advisor Portal also allows counselors to determine which of their students are most at-risk for dropping out and to explore the reasons why that student is likely to discontinue his or her education. Responses on the *CPQ-V2* often suggest issues that are investigated further during individual counseling sessions. For example, if a student is found to be at-risk because of low academic efficacy, a counselor might examine this issue and search for interventions in the literature which have been shown to be effective.

On the other hand, school administrators and other policy makers may be interested in aggregate or group level data to determine the best predictors at their schools. Acquiring such information is critical to developing a retention program that maximizes the effective use of resources. For instance, a university may be considering building a nightclub to help with its retention problem. The key to whether this will be an effective venture depends, in part, on the reason students are leaving the institution. If they are leaving because of a lack of social integration, then this may be an effective plan. If students are leaving due to academic integration issues, then the nightclub is unlikely to decrease attrition. In this situation, resources may be better spent addressing academic integration in a freshman orientation class.

Additionally, administrators may want to look at differences among groups within the school, which can be crucial for retaining underrepresented populations. Information from the *CPQ-V2* could be used to develop specific programs to meet the needs of students who historically have high attrition rates. For instance, first generation college students may have different needs than the overall student body. Understanding the issues that are most important to this group is the first step in addressing their particular needs.

Another application of the *CPQ-V2* is to help colleges and universities understand if and why their retention programs are successful. At most colleges and universities, the evaluation of retention programs leave much to be desired. If any evaluation takes place, it is usually limited to comparing attrition rates over time. Although this is helpful information, it does not identify specific reasons why retention is increasing or decreasing. With the *CPQ-V2,* one can track fluctuations in factors (e.g., institutional commitment, social and

academic integrations) across years and link that information to the onset of a particular

program.

Future Directions

Like all good psychometric instruments, further research needs to be conducted to

improve the *CPQ-V2*. First, some factors could be enhanced by developing additional items.

For example, the Collegiate Stress and Scholastic Conscientiousness scales are only

composed of four items each. It is likely that these items do not represent all possible

dimensions of these constructs. Research could identify additional items related to factors.

A second way in which the instrument could be strengthened is to test the *CPQ-V2*

with a greater number and a more diverse set of schools. This study demonstrated that the

instrument was successful in predicting whether freshman students at three institutions

returned for their sophomore year. The inclusion of more schools in the sample will help to

support generalizability of the *CPQ-V2*. Furthermore, the three schools in this sample are

brick-and-mortar institutions. It would be valuable to know if the factors that predict

retention in traditional colleges and universities are the same as the ones that predict retention

in e-campuses and online universities.

The *CPQ-V2* could also be improved through confirmatory factor analysis and

structural equation modeling. Confirmatory factor analysis could be used to test the current

model against a new dataset to see if the data fit the model. Structural equation modeling

would allow for the testing of intercorrelations among factors. For example, Institutional

Commitment is the best predictor of student retention; however, it is likely that other factors

(e.g., academic and social integrations, degree commitment) could mediate the relationship

between Institutional Commitment and retention. If the mediating variables are known,

school administrators and other policy makers can increase their Institutional Commitment

by developing programs to increase the related factors.

Conclusions

The *CPQ-V2* predicted whether students returned for their sophomore year, as well as

increased the prediction rates afforded by indices typically available in the student database.

Counselors, faculty, and advisors can view student level data to learn how the student

perceives the college environment, determine which of their students are most at-risk for

dropping out, and explore the reasons why that student is likely to discontinue his or her

education. School administrators and other policy makers can view group level data to

determine the best predictors at their schools so they can develop a retention program that

utilizes resources effectively, look at differences among underrepresented populations within

the school, and understand if and why their retention programs are successful or unsuccessful.

Variables typically found in the student database are of limited value in identifying

at-risk students, and the prediction rate is only moderately increased by adding background

variables that do not require interactions with the institution. Often schools administer

questionnaires during orientation or shortly after matriculation. This study demonstrates the

necessity of assessing students' experiences interacting with the college environment in

determining retention decisions.

References

ACT. (1997). *ACT Assessment technical manual*. Iowa City, IA: Author.

Adelman, C. (1999). *Answers in the tool box: Academic intensity, attendance patterns, and bachelor's degree attainment.* Washington, DC: U.S. Department of Education.

Aitken, N. D. (1982). College student performance, satisfaction and retention. *Journal of Higher Education, 53*, 32-50. doi:10.2307/1981537

Aldwin, C. M. (2007). *Stress, coping, and development.* New York, NY: Guilford.

American Psychological Association. (2002). Ethical principles of psychologists and code of conduct. Retrieved from http://www.apa.org/ethics/code/index.aspx

Astin, A. W., & Scherrei, R. (1980). *Maximizing leadership effectiveness.* San Francisco, CA: Jossey-Bass.

Bandura, A. (1997). *Self-efficacy: The exercise of control.* New York, NY: W. H. Freeman.

Barfield, M. A., & Beaulieu, L. J. (1999). *The changing nature of work in the south: The polarization of tomorrow's workforce.* Mississippi State, MS: Mississippi State University, Southern Rural Development Center.

Bean, J. P., & Eaton, S. B. (2000). A psychological model of college student retention. In J. Braxton (Ed.), *Rethinking the departure puzzle: New theory and research on college student retention* (pp. 48-61). Nashville, TN: Vanderbilt University Press.

Bean, J., & Eaton, S. B. (2001-2002). The psychology underlying successful retention practices. *Journal of College Student Retention: Research, Theory & Practice, 3*, 73-89. doi:10.2190/6R55-4B30-28XG-L8U0

Beck, H. P., & Davidson, W. B. (2001). Establishing an early warning system: Predicting low grades in college students from the Survey of Academic Orientations scores. *Research in Higher Education, 42*, 709-723. doi:10.1023/A:1012253527960

Beck, H. P., and Davidson, W. B. (2010). The College Persistence Questionnaire. Retrieved November 4, 2010 from https://www.beckdavidson.com/welcome/welcome.aspx

Berger, J. B., & Braxton, J. M. (1998). Revising Tinto's interactionalist theory of student departure through theory elaboration: Examining the role of organizational attributes in the persistence process. *Research in Higher Education, 39*, 103-119. doi:10.1023/A:1018760513769

Braxton, J. M., & Brier, E. M. (1989). Melding organizational and interactional theories into student attrition: A path analytic study. *Review of Higher Education, 13*, 47-61.

Braxton, J. M., Sullivan, A. S., & Johnson, R. (1997). Appraising Tinto's theory of college student departure. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. 12, pp. 107-158). New York, NY: Agathon.

Bray, N. J., Braxton, J. M., & Sullivan, A. S. (1999). The influence of stress-related coping strategies on college student departure decisions. *Journal of College Student Development, 40*, 645-657.

Cabrera, A. F., Nora, A., & Castaneda, M. B. (1992). The role of finances in the persistence process: A structural model. *Research in Higher Education, 33*, 571-593. doi:10.1007/BF00973759

Carnevale, A., & Desrochers, D. (2003). *Standards for what? The economic roots of K–16 reform.* Princeton, NJ: Educational Testing Service.

Davidson, W. B., & Beck, H. P. (2006). Using the Survey of Academic Orientations to predict undergraduates' stress levels, *NACADA Journal, 26*, 13-20.

Davidson, W. B., & Beck, H. P. (2006-2007). Survey of Academic Orientations scores and persistence in college freshmen. *Journal of College Student Retention: Research, Theory & Practice, 8*, 297-305. doi:10.2190/H18T-6850-77LH-0063

Davidson, W. B., Beck, H. P., & Milligan, M. (2009). The College Persistence Questionnaire: Development and validation of an instrument that predicts student attrition. *Journal of College Student Development, 50*, 373-390. doi: 10.1353/csd.0.0079

Davidson, W. B., Beck, H. P., & Silver, N. C. (1999). Development and validation of scores on a measure of six academic orientations in college students. *Educational and Psychological Measurement, 59*, 678-693. doi:10.1177/00131649921970107

Davidson, W. B., Bromfield, J. M., & Beck, H. P. (2007). Beneficial academic orientations and self-actualization among college students. *Psychological Reports, 100*, 604-612. doi: 10.2466/PR0.100.2.604-612

Education Commission of the States. (2004). *Completion.* Denver, CO: Author. http://www.ecs.org/html/issue.asp?issueid=182&subissueID=0

Habley, W. R., & McClanahan, R. (2004). *What works in student retention?* Iowa City, IA: ACT.

Hatcher, L., Kryter, K., Prus, J. S., & Fitzgerald, V. (1992). Predicting college student satisfaction, commitment, and attrition from investment model constructs. *Journal of Applied Social Psychology, 22*, 1273-1296. doi:10.1111/j.15591816.1992.tb00950.x

Hecker, D. E. (2004). Occupational Employment Projections to 2012. *Monthly Labor Review, 127*, 80-105.

Hoffman, M., Richmond, J., Morrow, J., & Salomone, K. (2002-2003). Investigating "sense of belonging" in first-year college students. *Journal of College Students Retention: Research, Theory, & Practice, 4*, 227-256. doi:10.2190/DRYC-CXQ9-JQ8V-HT4V

Johnson, J. L. (1997). Commuter college students: What factors determine who will persist and who will drop out? *College Student Journal, 31*, 323-332.

Kern, C. W., Fagley, N. S., & Miller, P. M. (1998). Correlates of college retention and GPA: Learning and study strategies, testwiseness, attitudes, and ACT. *Journal of College Counseling, 1*, 26-34.

Lau, L. K. (2003). Institutional factors affecting student retention. *Education, 124*, 126-136.

Lewin, T. (2008, Dec. 21). Private colleges worry about a dip in enrollment. *The New York Times,* p. A13.

Lotkowski, V. A., Robbins, S. B., & Noeth, R. J. (2004). *The role of academic and non-academic factors in improving college retention: An ACT policy report.* Iowa City, IA: ACT.

Lundquist, C., Spalding, R. J., & Landrum, R. E. (2002-2003). College students' thoughts about leaving the university: The impact of faculty attitudes and behaviors. *Journal of College Student Retention: Research, Theory, & Practice, 4*, 123-133. doi:10.2190/FLAL-7AM5-Q6K3-L40P

Mallinckrodt, B. (1988). Student retention, social support, and dropout intention: Comparison of black and white students. *Journal of College Student Development, 29*, 60-64.

Metz, G. W. (2004-2005). Challenge and changes to Tinto's persistence theory: A historical review. *Journal of College Student Retention: Research, Theory, & Practice, 6*, 191-207. doi:10.2190/M2CC-R7Y1-WY2Q-UPK5

Milem, J. F., & Berger, J. B. (1997). A modified model of college student persistence: Exploring the relationship between Astin's theory of involvement and Tinto's theory of student departure. *Journal of College Student Development, 38*, 387-399.

Milligan, M., Beck, H. P., Davidson, W. B., Kennedy, D. T., Driscoll, K. J., & Hennis, D. R. (2009, February). The factor structure of the College Persistence Questionnaire. Paper presented at the meeting of the Southeastern Psychological Association, New Orleans, LA.

Mortenson, T. G. (2005). Measurements of persistence. In A. Seidman (Ed.) *College student retention* (pp. 31-60). Westport, CT: Praeger.

Munro, B. H. (1981). Dropouts from higher education: Path analysis of a national sample. *American Educational Research Journal, 18*, 133-141. doi:10.2307/1162377

National Center for Public Policy and Higher Education. (2002). *Measuring Up 2002: The State-by-State Report Card for Higher Education.* Retrieved from http://measuringup.highereducation.org/

Nicpon, M. F., Huser, L., Blanks, E. V., Sollenberger, S., Befort, C., & Kurpius, S. E. (2006-2007). The relationship of loneliness and social support with college freshmen's academic performance and persistence. *Journal of College Student Retention: Research, Theory, & Practice, 8*, 345-358. doi:10.2190/A465-356M-7652-783R

Noel-Levitz Higher Education Consulting. (2007). 2007 cost of recruiting report. *National Research Report.* Iowa City, IA: Noel-Levitz, Inc.

Pascarella, E. T. (1985). College environmental influences on learning and cognitive development: A critical review and synthesis. In J. Smart (Ed.), *Handbook of theory and research in higher education* (Vol. 1, pp. 1-61). New York, NY: Agathon.

Perry, R. (2003). Perceived (academic) control and causal thinking in achievement settings. *Canadian Psychological Review, 44*, 312-331.

Robbins, S. B., Davenport, M., Anderson, J., Kliewer, W., Ingram, K., & Smith, N. (2003). *The role of motivation and self-regulatory behaviors on first-year college adjustment.* Unpublished manuscript. Iowa City, IA: ACT.

Roth, P.L. (1994). Missing data: A conceptual review for applied psychologists. *Personnel Psychology, 47*, 537-560.

Somers, P. (1995). A comprehensive model for examining the impact of financial aid on enrollment and persistence. *Journal of Student Financial Aid, 25*, 13-27.

St. John, E. P., Paulsen, M. B., & Starkey, J. B. (1996). The nexus between college choice and persistence. *Research in Higher Education, 37*, 175-220. doi:10.1007/BF01730115

Stage, F. K., & Rushin, P. W. (1993). A combined model of student predisposition to college and persistence in college. *Journal of College Student Development, 34*, 276-281.

Strahan, E. Y. (2002). The effects of social anxiety and social skills on academic performance. *Personality and Individual Differences, 34*, 347-366. doi:10.1016/S0191-8869(02)00049-1

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston, MA: Pearson.

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research, 45*, 89-125. doi:10.2307/1170024

Tinto, V. (1988). Stages of student departure: Reflections on the longitudinal character of student leaving. *The Journal of Higher Education, 59*, 438-455. doi:10.2307/1981920

Tinto, V. (1993). *Leaving college: Rethinking the cause and cures of student attrition.* Chicago, IL: University of Chicago.

Tinto, V. (1997). Classrooms as communities: Exploring the educational character of student persistence. *Journal of Higher Education, 68*, 599-623. doi:10.2307/2959965

Tinto, V. (2006-2007). Research and practice of student retention: What next? *Journal of College Student Retention: Research, Theory & Practice, 8*, 1-19. doi:10.2190/4YNU-4TMB-22DJ-AN4W

Tross, S. A., Harper, J. P., Osher, L. W., & Kneidinger, L. M. (2000). Not just the usual cast of characteristics: Using personality to predict college performance and retention. *Journal of College Student Development, 41*, 323-334.

University of California, Davis, Office of Resource Management and Planning. (2004).

Budgetary and institutional impact of taking longer to graduate. Davis, CA:

University of California, Davis.

U.S. Department of Education. (2001). *Digest of education statistics, 2000.* Washington, DC:

U.S. Department of Education, National Center for Educational Statistics.

U.S. Department of Education (2007). *Fast facts*. Washington, DC: U.S. Department of

Education, National Center for Educational Statistics. Retrieved November 4, 2010

from http:// nces.ed.gov/fastfacts/display.asp?id=77

U.S. Department of Labor. (2000). The Outlook for College Graduates, 1998-2000. In

Getting Ready Pays Off! Washington, DC: U.S. Department of Labor, Bureau of

Labor Statistics.

Table 1

Strength of Relationship of Academic and Non-Academic Factors with College Retention

Factors	Practical Strength	Correlation with Retention
Academic		
High School GPA[a]	Moderate	0.25
ACT Assessment Scores	Moderate	0.12
Non-Academic		
Academic-Related Skills	Strong	0.37
Academic Self-Confidence	Strong	0.36
Academic Goals	Strong	0.34
Institution Commitment	Moderate	0.26
Social Support	Moderate	0.26
Institutional Selectivity	Moderate	0.24
Socioeconomic Status	Moderate	0.23
Social Involvement	Moderate	0.22
Financial Support	Moderate	0.19
Achievement Motivation	Weak	0.07
General Self-Concept	Weak	0.05

Note. Adapted from "The Role of Academic and Non-Academic Factors in Improving College Retention: An ACT Policy Report," by V. A. Lotkowski, S. B. Robbins, and R. J. Noeth, 2004, Iowa City, IA: ACT. Copyright 2004 by ACT, Inc.

[a] GPA = Grade Point Average

Table 2

College Persistence Questionnaire Version 2 Student Experience Items by Factor

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Factor 1: Academic Integration

1. On average across all your courses, how interested are you in the things that are being said during class discussions?
13. In general, how satisfied are you with the quality of instruction you are receiving here?
20. How well do you understand the thinking of your instructors when they lecture or ask students to answer questions in class?
28. How satisfied are you with the extent of your intellectual growth and interest in ideas since coming here?
36. How much of a connection do you see between what you are learning here and your future career possibilities?
43. How concerned about your intellectual growth are the faculty here?
57. How would you rate the quality of the instruction you are receiving here?

Factor 2: Financial Strain

9. How often do you worry about having enough money to meet your needs?
15. How difficult is it for you or your family to be able to handle college costs?
29. When considering the financial costs of being in college, how often do you feel unable to do things that other students here can afford to do?
46. How much of a financial strain is it for you to purchase the essential resources you need for courses such as books and supplies?

Factor 3: Social Integration

2. What is your overall impression of the other students here?

14. How much have your interactions with other students had an impact on your personal growth, attitudes, and values?

24. How strong is your sense of connectedness with others (faculty, students, staff) on this campus?

30. When you think about your overall social life here (friends, college organizations, extracurricular activities, and so on), how satisfied are you with yours?

38. How much have your interactions with other students had an impact on your intellectual growth and interest in ideas?

44. How much do you think you have in common with other students here?

51. How often do you wear clothing with this college's emblems?

Factor 4: Degree Commitment

3. How supportive is your family of your pursuit of a college degree, in terms of their encouragement and expectations?

17. At this moment in time, how strong would you say your commitment is to earning a college degree, here or elsewhere?

27. When you think of the people who mean the most to you (friends and family), how disappointed do you think they would be if you quit school?

32. There are so many things that can interfere with students making progress toward a degree, feelings of uncertainty about finishing you are likely to occur along the way. At this moment in time, how certain are that you will earn a college degree?

41. After beginning college, students sometimes discover that a college degree is not quite as important to them as it once was. How strong is your intention to persist in your pursuit of degree, here or elsewhere?

58. When you consider the benefits of having a college degree and the costs of earning it, how much would you say that the benefits outweigh the costs, if at all?

Factor 5: Collegiate Stress

4. Students differ quite a lot in how distressed they get over various aspects of college life. Overall, how much stress would you say that you experience while attending this institution?

18. How much pressure do you feel when trying to meet deadlines for course assignments?

33. How often do you feel overwhelmed by the academic workload here?

50. How much do other aspects of your life suffer because you are a college student?

Factor 6: Advising

5. How easy is it to get answers to your questions about things related to your education here?

19. How satisfied are you with the academic advising you receive here?

34. How well does this institution communicate important information to students such as academic rules, degree requirements, individual course requirements, campus news and events, extracurricular activities, tuition costs, financial aid and scholarship opportunities?

48. How much input do you think you can have on the decision-making process here (on matters such as course offerings, rules and regulations, and registration procedures)?

56. How would you rate the academic advisement you receive here?

Factor 7: Scholastic Conscientiousness

7. College students have many academic responsibilities. How often do you forget those that you regard as important?

21. How often do you turn in assignments past the due date?

37. How often do you miss class for reasons other than illness or participation in school-related activities?

52. How often do you arrive late for classes, meetings, and other college events?

Factor 8: Institutional Commitment

8. How confident are you that this is the right college or university for you?

22. How much thought have you given to stopping your education here (perhaps transferring to another college, going to work, or leaving for other reasons)?

59. How likely is it that you will re-enroll here next semester?

60. How likely is it you will earn a degree from here?

Factor 9: Academic Motivation

6. In general, how enthused are you about doing academic tasks?

11. Some courses seem to take a lot more time than others. How much extra time are you willing to devote to your studies in those courses?

16. How inclined are you to do most of your studying within 24 hours of a test?

23. How often do you read educationally-related material not assigned in courses?

31. Students vary widely in their view of what constitutes a good course, including the notion that the best course is one that asks students to do very little. In your own view, how much work would be asked of students in a really good course?

39. How often do you encounter course assignments that are actually enjoyable to do?

45. This semester, how much time do you spend studying each week relative to the number of credit hours you are taking? Assume each credit hour equals one hour of studying per week.

53. How much time do you spend proofreading writing assignments before submitting them?

Factor 10: Academic Efficacy

10. How confident are you that you can get the grades you want?

25. How good are you at correctly anticipating what will be on tests beforehand?

40. When you consider the techniques you use to study, how effective do you think your study skills are?

47. When you are waiting for a submitted assignment to be graded, how assured do you feel that the work you have done is acceptable?

54. How much doubt do you have about being able to make the grades you want?

Table 3

Percentages and Correlations with Retention for Categorical Variables

Variable	Percentage	Correlation with Retention
Sex [a]	43.2%	-0.05
Ethnicity: Black	11.8%	-0.05
Ethnicity: Hispanic	7.0%	-0.05
Ethnicity: White	76.3%	0.04
Ethnicity: Other	4.9%	0.04
Residence: Dorm or Residence Hall	81.4%	0.12 **
Residence: Parent or Relative	12.2%	-0.08 *
Residence: Apartment off campus or Other	6.4%	-0.10 *
Native Language [b]	95.9%	-0.04
Financial Aid: Campus Work	11.6%	-0.05
Financial Aid: Scholarship	65.9%	-0.12 **
Financial Aid: Loan	44.7%	-0.07
Financial Aid: Lottery	15.3%	-0.13 **
Financial Aid: Other	6.4%	0.00
Financial Aid: No Aid	18.8%	0.11 **
Reason for Attending: Close By	31.1%	0.05
Reason for Attending: Friends	44.2%	0.19 **
Reason for Attending: Reputation	50.3%	0.14 **
Reason for Attending: Academics	14.3%	0.08 *
Reason for Attending: Relatives	29.8%	0.06
Reason for Attending: Sports	55.0%	0.27 **
Reason for Attending: Location	5.5%	-0.13 **
Reason for Attending: No Apply	3.8%	-0.05
Family (Martial Status) [c]	97.9%	-0.02
Goal at Institution [d]	83.2%	0.15 **

Variable	Percentage	Correlation with Retention
Angelo State University	23.6%	-0.14 **
Appalachian State University	47.3%	0.37 **
Tusculum College	29.1%	-0.28 **

Note. Codes for categorical variables were: Retention (0 = Did not return, 1= Returned);

Sex (0 = Female, 1 = Male); Black (0 = No, 1 = Yes); Hispanic (0 = No, 1 = Yes);

White (0 = No, 1 = Yes); Other (0 = No, 1 = Yes); Dorm or Residence Hall (0 = No,

1 = Yes); Parent or Relative (0 = No, 1 = Yes); Apartment off campus or Other (0 = No,

1 = Yes); Native Language (0= Not English, 1 = English); Work On-Campus (0 = No, 1 =

Yes); Scholarship (0 = No, 1 = Yes); Loan (0 = No, 1 = Yes); Lottery (0 = No, 1 = Yes);

Other (0 = No, 1 = Yes); No Aid (0 = No, 1 = Yes); Close By (0 = No, 1 = Yes);

Friends Attend (0 = No, 1 = Yes); School's Reputation (0 = No, 1 = Yes);

Academic Program (0 = No, 1 = Yes); Family Attended (0 = No, 1 = Yes);

Sports Program (0 = No, 1 = Yes); Appealing Location (0 = No, 1 = Yes); No Apply (0 = No,

1 = Yes); Family (0 = Unmarried, 1 = Married);

Goal at Institution (0 = Do not plan to graduate, 1 = Plan to graduate);

Angelo State University (0 = No, 1 = Yes); Appalachian State University (0 = No, 1 = Yes);

Tusculum College (0 = No, 1 = Yes).

*p<.05

**p<.01

[a] Percentage of male students

[b] Percentage of native English speakers

[c] Percentage of unmarried students

[d] Percentage of students who plan to graduate

Table 4

Means, Standard Deviations, and Correlations with Retention for Continuous Variables

	Mean	*SD*	Correlation with Retention
Student Background Variables			
Graduating Class Size	5.61	1.26	0.11 **
ACT or Equivalent	22.35	3.54	0.13 **
High School Percentile	68.69	19.29	0.17 **
Off Campus Work	1.78	1.10	-0.15 **
Mother's Education	4.08	1.10	0.07
Father's Education	4.09	1.28	0.06
Student Experience Variables			
Academic Integration	0.89	0.53	0.20 **
Financial Strain	-0.04	1.07	0.17 **
Social Integration	0.57	0.68	0.23 **
Degree Commitment	1.59	0.52	0.24 **
Collegiate Stress	-0.01	0.69	0.22 **
Advising	0.78	0.68	0.17 **
Scholastic Conscientiousness	1.22	0.69	0.13 **
Institutional Commitment	1.05	0.92	0.44 **
Academic Motivation	0.00	0.57	0.01
Academic Efficacy	0.58	0.65	0.06

Note. Codes for variables were: Retention (0 = Did not return, 1= Returned);

Graduating Class Size (1 = Did not attend high school during senior year,

2 = Less than 25 students, 3 = 26 to 50 students, 4 = 51 to 100 students, 5 = 101 to 200

students, 5 = 201 to 300 students, 6 = 301 to 400 students, 7 = More than 400 students);

Off Campus Work (1 = 0 hours, 2 = 1-10 hours, 3 = 11-20 hours, 4 = 21-30 hours,

5 = More than 30 hours); Mother's Education (1 = 8 or fewer years of formal education,

2 = Some high school but did not graduate, 3 = Graduated high school or received G.E.D,

4 = Some college but did not receive a 4-year [Bachelor's] degree,

5 = Graduated with Bachelor's degree, 6 = Received Master's degree,

7 = Obtained Doctoral degree); Father's Education (1 = 8 or fewer years of formal education,

2 = Some high school but did not graduate, 3 = Graduated high school or received G.E.D,

4 = Some college but did not receive a 4-year [Bachelor's] degree,

5 = Graduated with Bachelor's degree, 6 = Received Master's degree,

7 = Obtained Doctoral degree). Student Experience scales are between -2.00 and 2.00.

**p<.01

Table 5

Intercorrelations among College Persistence Questionnaire Version 2 Factors

	AI	FS	SI	DC	CS	AD	SC	IC	AM	AE
AI	1.00	0.11	0.43	0.39	0.24	0.48	0.27	0.40	0.32	0.48
FS	--	1.00	0.06	0.17	0.31	0.11	0.12	0.11	-0.06	0.11
SI	--	--	1.00	0.22	0.15	0.38	0.08	0.43	0.11	0.15
DC	--	--	--	1.00	0.19	0.24	0.40	0.31	0.16	0.33
CS	--	--	--	--	1.00	0.18	0.20	0.28	0.05	0.35
AD	--	--	--	--	--	1.00	0.13	0.30	0.19	0.28
SC	--	--	--	--	--	--	1.00	0.16	0.23	0.31
IC	--	--	--	--	--	--	--	1.00	0.03	0.13
AM	--	--	--	--	--	--	--	--	1.00	0.39
AE	--	--	--	--	--	--	--	--	--	1.00

Note. AI = Academic Integration, FS = Financial Strain, SI = Social Integration,

DC = Degree Commitment, CS = Collegiate Stress, AD = Advising,

SC = Scholastic Conscientiousness, IC = Institutional Commitment,

AM = Academic Motivation, AE = Academic Efficacy.

Table 6

Regression of Retention on College Persistence Questionnaire Scales

Retention Variables	B	S.E.	Wald	df	Sig.	Odds Ratio
Academic Integration	-.144	.260	.305	1	.581	.866
Financial Strain	.239	.100	5.744	1	.017	1.270
Social Integration	.225	.170	1.758	1	.185	1.253
Degree Commitment	.514	.198	6.753	1	.009	1.672
Collegiate Stress	.380	.165	5.294	1	.021	1.463
Advising	.108	.168	.413	1	.521	1.114
Scholastic Conscientiousness	.092	.155	.351	1	.553	1.096
Institutional Commitment	.951	.126	57.416	1	<.001	2.589
Academic Motivation	.070	.197	.126	1	.723	1.072
Academic Efficacy	-.325	.193	2.818	1	.093	.723
Constant	-.445	.300	2.197	1	.138	.641

Note. Code for retention variables was 0 = did not return, 1 = returned.

Table 7

Regression of Retention on Student Database Variables, Student Background Form

Variables, College Persistence Questionnaire Scales, and University

	B	S.E.	Wald	df	Sig.	Odds Ratio
Block 1: Student Database						
Sex	-.154	.255	.364	1	.547	.857
Graduating Class Size	.202	.083	5.902	1	.015	1.224
Ethnicity: Black	.095	.637	.022	1	.881	1.100
Ethnicity: Hispanic	-.190	.665	.081	1	.775	.827
Ethnicity: White	-.055	.567	.010	1	.922	.946
Residence: Dorm or Residence Hall	.319	.455	.493	1	.483	1.376
Residence: Parent Or Relative	.669	.484	1.910	1	.167	1.951
Native Language	.037	.630	.003	1	.953	1.038
Financial Aid: Campus Work	.504	.357	1.992	1	.158	1.655
Financial Aid: Scholarship	-.357	.282	1.607	1	.205	.700
Financial Aid: Loan	-.173	.232	.559	1	.455	.841
Financial Aid: Lottery	.147	.352	.173	1	.677	1.158
Financial Aid: Other	.904	.462	3.826	1	.050	2.469
ACT or Equivalent	-.009	.042	.049	1	.826	.991
High School Percentile	.006	.007	.796	1	.372	1.006
Block 2: Student Background Form						
Number of hours worked off campus	-.183	.111	2.693	1	.101	.833
Reason for Attending: Close by	-.098	.266	.136	1	.712	.906
Reason for Attending: Friends	-.322	.271	1.419	1	.234	.724
Reason for Attending: Reputation	-.110	.249	.197	1	.657	.895
Reason for Attending: Academics	.664	.353	3.543	1	.060	1.943
Reason for Attending: Relatives	.795	.298	7.133	1	.008	2.215
Reason for Attending: Sports	.330	.270	1.489	1	.222	1.391
Reason for Attending: Location	.091	.467	.038	1	.846	1.095

Block 2: Student Background Form Continued						
Family	-.109	.764	.020	1	.887	.897
Mother's Education	.012	.124	.010	1	.921	1.012
Father's Education	-.093	.103	.819	1	.365	.911
Goal at Institution	-.199	.294	.459	1	.498	.820
Block 3: Student Experience Form						
Academic Integration	-.024	.292	.007	1	.936	.977
Financial Strain	.036	.121	.091	1	.762	1.037
Social Integration	.098	.196	.250	1	.617	1.103
Degree Commitment	.287	.226	1.624	1	.203	1.333
Collegiate Stress	.346	.183	3.562	1	.059	1.414
Advising	.263	.199	1.736	1	.188	1.300
Scholastic Conscientiousness	.106	.169	.390	1	.532	1.111
Institutional Commitment	.928	.148	39.438	1	<.001	2.530
Academic Motivation	.265	.229	1.335	1	.248	1.303
Academic Efficacy	-.208	.220	.891	1	.345	.812
Block 4: University						
Angelo State University	1.031	.390	6.991	1	.008	2.803
Appalachian State University	1.936	.411	22.221	1	<.001	6.932
Constant	-2.048	1.514	1.830	1	.176	.129

Note. Code for retention variables was 0 = did not return, 1 = returned.

Appendix A: Permission for Use of the College Persistence Questionnaire Version 2

Appalachian
STATE UNIVERSITY

College of Arts and Sciences
Dr. Wiley F. Smith
Department of Psychology
ASU Box 32109
Boone, NC 28608-2109
(828) 262-2272
Fax: (828) 262-2974

March 15, 2008

To Whom It May Concern:

As owner of the copyright, I hereby grant Ms. Jessica N. Gore permission to use the *College Persistence Questionnaire* for the purpose of conducting her thesis.

Sincerely,

Hall P. Beck, Ph.D.

Hall P. Beck, Ph.D.
Professor of Psychology

Appendix B: College Persistence Questionnaire Version 2

College Persistence Questionnaire
Student Information Form, Version 2.0

Please provide the requested information.

Student Identification Number: _____

_____
Last Name: First Name: Middle Initial:

_____
Birth Month: Birth Day: Birth Year:

Please circle the appropriate response to the following questions.

What is your sex:
> Female
> Male

What do you regard to be your ethnic background?
> Asian
> Black
> Hispanic
> Native American
> White
> Other

Approximately how many hours per week do you work on or off campus?
> 0
> 1-10
> 11-20
> 21-30
> More than 30

What type of residence are you now living in or will you live in once school begins?
> A dormitory or residence hall
> Your parent's home
> A fraternity or sorority house
> The home of a relative
> A house or apartment off-campus
> Other

What is your native language?
      English
      Spanish
      Germanic or Slavic (e.g. Russian-Polish-Czech etc.)
      Arabic
      French or Italian
      Asian (e.g. Chinese-Japanese-Korean-Vietnamese etc.)
      Other

What best describes your current situation?
      Married-No Children
      Married-With Children
      Single-No Children
      Single-With Children

What was the highest level of education completed by your mother?
      8 or fewer years of formal education
      Some high school but did not graduate
      Graduated from high school or received G.E.D.
      Some college but did not receive a 4-year (Bachelor's) degree
      Graduated with Bachelor's degree
      Received Master's Degree
      Obtained Doctoral degree
      Do not know level of education completed by mother

What was the highest level of education completed by your father?
      8 or fewer years of formal education
      Some high school but did not graduate
      Graduated from high school or received G.E.D.
      Some college but did not receive a 4-year (Bachelor's) degree
      Graduated with Bachelor's degree
      Received Master's Degree
      Obtained Doctoral degree
      Do not know level of education completed by father

Is this your first semester enrolled at this school (not counting summer school)?
      Yes
      No

Are you a first year student (not counting credits earned in summer or high school)?
      Yes
      No

In terms of credits earned, what is your classification?
>First Year
>Sophomore
>Junior
>Senior

About how large was your graduating class in high school?
>Less than 25 students
>26 to 50 students
>51 to 100 students
>101 to 200 students
>201 to 400 students
>More than 400 students
>Did not attend high school during senior year

Which of the goals listed below best describes what you want to accomplish at this college or university?
>Complete one or two courses
>Complete a number of courses
>Complete a number of courses and then transfer
>Earn a certificate or associates degree
>Earn a certificate or associates degree and then transfer
>Earn a bachelors degree
>Earn a masters or doctoral degree
>Other

Which of the following is most accurate regarding how many online (internet) courses you have taken?
>All online
>More than half online
>About half online
>Less than half online
>Only one online course
>No online courses

If you are receiving financial aid, check the type of aid that applies to you. You may check more than one.
>On-campus work
>Scholarship or grant
>Loan
>State lottery
>Other
>I receive no financial aid

Which of the following were important for you in deciding to attend this institution? You may check more than one.

     It is close by
     Friends attend here
     The school's reputation
     It has the academic program I want
     Family or relatives attended here
     The school's sports program
     The location or area is appealing
     None of the above apply

College Persistence Questionnaire
Student Experience Form, Version 2.0

Instructions: Students differ a great deal from one another in how they feel about their college experiences. This questionnaire asks you about your reactions to many aspects of your life here at this college. Please consider each of the questions carefully, and circle the answer that best represents your thoughts. There are no "right or wrong" answers, so mark your real impressions. There are only 81 questions, and it is very important that you answer all of them. This should take you about 30-35 minutes. Your answers will be treated as confidential information.

Please circle your response to the following items. Be sure to answer each question.

1. On average across all your courses, how interested are you in the things that are being said during class discussions?
   Very interested
   Somewhat interested
   Neutral
   Somewhat disinterested
   Very disinterested
   Not applicable

2. What is your overall impression of the other students here?
   Very favorable
   Somewhat favorable
   Neutral
   Somewhat unfavorable
   Very unfavorable
   Not applicable

3. How supportive is your family of your pursuit of a college degree, in terms of their encouragement and expectations?
   Very supportive
   Somewhat supportive
   Neutral
   Somewhat unsupportive
   Very unsupportive
   Not applicable

4. Students differ quite a lot in how distressed they get over various aspect of college life. Overall, how much stress would you say that you experience while attending this institution?
Very much stress
Much stress
Some stress
A little stress
Very little stress / not applicable

5. How easy is it to get answers to your questions about things related to your education here?
Very easy
Somewhat easy
Neutral
Somewhat hard
Very hard
Not applicable

6. In general, how enthused are you about doing academic tasks?
Very enthusiastic
Somewhat enthusiastic
Neutral
Somewhat unenthusiastic
Very unenthusiastic
Not applicable

7. College students have many academic responsibilities. How often do you forget those that you regard as important?
Very often
Somewhat often
Sometimes
Rarely
Very rarely
Not applicable

8. How confident are you that this is the right college or university for you?
Very confident
Somewhat confident
Neutral
Somewhat unconfident
Very unconfident
Not applicable

9. How often do you worry about having enough money to meet your needs?
   Very often
   Somewhat often
   Sometimes
   Rarely
   Very rarely
   Not applicable

10. How confident are you that you can get the grades you want?
    Very confident
    Somewhat confident
    Neutral
    Somewhat unconfident
    Very unconfident
    Not applicable

11. Some courses seem to take a lot more time than others. How much extra time are you willing to devote to your studies in those courses?
    Very much extra time
    Much extra time
    Some extra time
    A little extra time
    Very little extra time
    Not applicable

12. When interacting with disagreeable people, how often are you courteous to them?
    Always
    Usually
    Sometimes
    Rarely
    Never
    Not applicable

13. In general, how satisfied are you with the quality of instruction you are receiving here?
    Very satisfied
    Somewhat satisfied
    Neutral
    Somewhat dissatisfied
    Very dissatisfied
    Not applicable

14. How much have your interactions with other students had an impact on your personal growth, attitudes, and values?
Very much
Much
Some
Little
Very little
Not applicable

15. How difficult is it for you or your family to be able to handle college costs?
Very difficult
Somewhat difficult
Neutral
Somewhat easy
Very easy
Not applicable

16. How inclined are you to do most of your studying within 24 hours of a test rather than earlier?
Very inclined
Somewhat inclined
A little inclined
Not very inclined
Not at all inclined
Not applicable

17. At this moment in time, how strong would you say your commitment is to earning a college degree, here or elsewhere?
Very strong
Somewhat strong
Neutral
Somewhat weak
Very weak
Not applicable

18. How much pressure do you feel when trying to meet deadlines for course assignments?
Extreme pressure
Much pressure
Some pressure
A little pressure
Hardly any pressure at all
Not applicable

19. How satisfied are you with the academic advising you receive here?
    Very satisfied
    Somewhat satisfied
    Neutral
    Somewhat dissatisfied
    Very dissatisfied
    Not applicable

20. How well do you understand the thinking of your instructors when they lecture or ask students to answer questions in class?
    Very well
    Well
    Neutral
    Not well
    Not at all well
    Not applicable

21. How often do you turn in assignments past the due date?
    Very often
    Somewhat often
    Sometimes
    Rarely
    Very rarely
    Not applicable

22. How much thought have you given to stopping your education here (perhaps transferring to another college, going to work, or leaving for other reasons)?
    A lot of thought
    Some thought
    Neutral
    Little thought
    Very little thought
    Not applicable

23. How often do you read educationally-related material not assigned in courses?
    Very often
    Somewhat often
    Sometimes
    Rarely
    Very rarely
    Not applicable

24. How strong is your sense of connectedness with others (faculty, students, staff) on this campus?
    Very strong
    Somewhat strong
    Neutral
    Somewhat weak
    Very weak
    Not applicable

25. How good are you at correctly anticipating what will be on tests beforehand?
    Very good
    Somewhat good
    Neutral
    Somewhat bad
    Very bad
    Not applicable

26. How frequently do you become jealous of the good fortune of others?
    Never
    Rarely
    Sometimes
    Usually
    Always
    Not applicable

27. When you think of the people who mean the most to you (friends and family), how disappointed do you think they would be if you quit school?
    Very disappointed
    Somewhat disappointed
    Neutral
    Not very disappointed
    Not at all disappointed
    Not applicable

28. How satisfied are you with the extent of your intellectual growth and interest in ideas since coming here?
    Very satisfied
    Somewhat satisfied
    Neutral
    Somewhat dissatisfied
    Very dissatisfied
    Not applicable

29. When considering the financial costs of being in college, how often do you feel unable to do things that other students here can afford to do?
Very often
Somewhat often
Sometimes
Rarely
Very rarely
Not applicable

30. When you think about your overall social life here (friends, college organizations, extracurricular activities, and so on), how satisfied are you with yours?
Very satisfied
Somewhat satisfied
Neutral
Somewhat dissatisfied
Very dissatisfied
Not applicable

31. Students vary widely in their view of what constitutes a good course, including the notion that the best course is one that asks students to do very little. In your own view, how much work would be asked of students in a really good course?
Very much
Much
Some
Little
Very little
Not applicable

32. There are so many things that can interfere with students making progress toward a degree; feelings of uncertainty about finishing are likely to occur along the way. At this moment in time, how certain are you that you will earn a college degree?
Very certain
Somewhat certain
Neutral
Somewhat uncertain
Very uncertain
Not applicable

33. How often do you feel overwhelmed by the academic workload here?
    Very often
    Somewhat often
    Sometimes
    Rarely
    Very rarely
    Not applicable

34. How well does this institution communicate important information to students such as academic rules, degree requirements, individual course requirements, campus news and events, extracurricular activities, tuition costs, financial aid and scholarship opportunities?
    Very well
    Well
    Neutral
    Not well
    Not at all well
    Not applicable

35. When you do not get your own way, how often do you feel resentful?
    Always
    Usually
    Sometimes
    Rarely
    Never
    Not applicable

36. How much of a connection do you see between what you are learning here and your future career possibilities?
    Very much
    Much
    Some
    Little
    Very little
    Not applicable

37. How often do you miss class for reasons other than illness or participation in school-related activities?
    Very often
    Somewhat often
    Sometimes
    Rarely
    Very rarely
    Not applicable

38. How much have your interactions with other students had an impact on your intellectual growth and interest in ideas?
Very much
Much
Some
Little
Very little
Not applicable

39. How often do you encounter course assignments that are actually enjoyable to do? very often
Somewhat often
Sometimes
Rarely
Very rarely
Not applicable

40. When you consider the techniques you use to study, how effective do you think your study skills are?
Very effective
Somewhat effective
Neutral
Somewhat ineffective
Very ineffective
Not applicable

41. After beginning college, students sometimes discover that a college degree is not quite as important to them as it once was. How strong is your intention to persist in your pursuit of the degree, here or elsewhere?
Very strong
Somewhat strong
Neutral
Somewhat weak
Very weak
Not applicable

42. How frequently are you irritated when people ask you for a favor?
Never
Rarely
Sometimes
Usually
Always
Not applicable

43. How concerned about your intellectual growth are the faculty here?
    Very concerned
    Somewhat concerned
    Neutral
    Somewhat unconcerned
    Very unconcerned
    Not applicable

44. How much do you think you have in common with other students here?
    Very much
    Much
    Some
    Little
    Very little
    Not applicable

45. This semester, how much time do you spend studying each week relative to the number
    of credit hours you are taking? Assume each credit hour equals one hour of studying per
    week.
    Many more hours studying than the credit hours
    A few more hours studying than the credit hours
    The same number of hours studying as the credit hours
    A few less hours studying than the credit hours
    A lot less hours studying than the credit hours
    Not applicable

46. How much of a financial strain is it for you to purchase the essential resources you need
    for courses such as books and supplies?
    Very large strain
    Somewhat of a strain
    Neutral
    A little strain
    Hardly any strain at all
    Not applicable

47. When you are waiting for a submitted assignment to be graded, how assured do you feel
    that the work you have done is acceptable?
    Very assured
    Somewhat assured
    Neutral
    Somewhat unassured
    Very unassured
    Not applicable

48. How much input do you think you can have on the decision-making process here (on matters such as course offerings, rules and regulations, and registration procedures)?
Very much
Much
Some
Little
Very little
Not applicable

49. All of us make mistakes in our interactions with other people. If you realize your mistake, how often do you apologize?
Always
Usually
Sometimes
Rarely
Never
Not applicable

50. How much do other aspects of your life suffer because you are a college student?
Very much
Much
Some
Little
Very little
Not applicable

51. How often do you wear clothing with this college's emblems?
Very often
Somewhat often
Sometimes
Rarely
Very rarely
Not applicable

52. How often do you arrive late for classes, meetings, and other college events?
Very often
Somewhat often
Sometimes
Rarely
Very rarely
Not applicable

53. How much time do you spend proofreading writing assignments before submitting them?
    A lot
    Some
    Little
    Very little
    None
    Not applicable

54. How much doubt do you have about being able to make the grades you want?
    Very much doubt
    Much doubt
    Some doubt
    Little doubt
    Very little doubt
    Not applicable

55. Often parents or other people whose opinions are important have unrealistic expectations about how students should perform in college. Thus far, how do you think that those important people would assess your performance?
    Far below the level they expected
    Below the level they expected
    About the level they expected
    Better than they expected
    Much better than they expected
    Not applicable

56. How would you rate the academic advisement you receive here?
    Excellent
    Good
    Fair
    Poor
    Very poor
    Not applicable

57. How would you rate the quality of the instruction you are receiving here?
    Excellent
    Good
    Fair
    Poor
    Very poor
    Not applicable

58. When you consider the benefits of having a college degree and the costs of earning it, how much would you say that the benefits outweigh the costs, if at all?
Benefits far outweigh the costs
Benefits somewhat outweigh the costs
Benefits and costs are equal
Costs somewhat outweigh the benefits
Costs far outweigh the benefits
Not applicable

59. How likely is it that you will reenroll here next semester?
Very likely
Somewhat likely
Neutral
Somewhat unlikely
Very unlikely
Not applicable

60. How likely is it you will earn a degree from here?
Very likely
Somewhat likely
Neutral
Somewhat unlikely
Very unlikely
Not applicable

61. How much does the cost of courses limit how many you take?
Very much
Much
Some
Little
Very little
Not applicable

62. When you think about the advantages and disadvantages of attending this school, how much do you think the advantages outweigh the disadvantages, or vice versa?
Disadvantages far outweigh the advantages
Disadvantages somewhat outweigh the advantages
Disadvantages and advantages are equal
Advantages somewhat outweigh the disadvantages
Advantages far outweigh the disadvantages
Not applicable

63. During the first class session, many instructors present students with an overview of the course. In general, how accurate have these previews been in forecasting what you actually experienced in these courses?
Very accurate
Somewhat accurate
Neutral
Somewhat inaccurate
Very inaccurate
Not applicable

64. How much do the instructors and the courses make you feel like you can do the work successfully?
Very much
Much
Some
Little
Very little
Not applicable

65. Based on your current financial situation, how inclined are you to work more hours per week than you want in order to pay bills?
Very inclined
Somewhat inclined
A little inclined
Not very inclined
Not at all inclined
Not applicable

66. In general, when you receive evaluative feedback from instructors, how useful has it been in figuring out how to improve?
Very useful
Somewhat useful
Neutral
Not very useful
Not at all useful
Not applicable

67. On a typical day, how preoccupied are you with personal troubles?
Very preoccupied
Somewhat preoccupied
A little preoccupied
Not very preoccupied
Not at all preoccupied
Not applicable

68. How much do the faculty at this school care about you?
    Very little
    Little
    Some
    Much
    Very much
    Not applicable

69. How much do you think class attendance should count in grading?
    Very much
    Much
    Some
    Very little
    Not at all
    Not applicable

70. Compared to what you anticipated just before entering college, how much work has been involved in the courses?
    Much less than expected
    Less than expected
    About the same as expected
    More than expected
    Much more than expected
    Not applicable

71. How fair are the tests at this school?
    Very unfair
    Somewhat unfair
    Neutral
    Somewhat fair
    Very fair
    Not applicable

72. The life of a college student typically has both positive and negative aspects. At this time, would you say that the positives outweigh the negatives, or vice versa?
    Positives far outweigh the negatives
    Positives somewhat outweigh the negatives
    Positives and negatives are equal
    Negatives somewhat outweigh the positives
    Negatives far outweigh the positives
    Not applicable

73. How clear have the instructors and syllabi usually been in detailing what you need to do in order to be successful in courses?
Very unclear
Somewhat unclear
Neutral
Somewhat clear
Very clear
Not applicable

74. On a typical day, how much do you worry about getting your work done on time?
Very much
Much
Some
A little
Very little
Not applicable

75. Relative to what you expected when beginning college, how interesting have you found class sessions to be?
Much less interesting
Less interesting
About as interesting as expected
More interesting
Much more interesting
Not applicable

76. How much loyalty do you feel to this college, based on your experiences here?
Very much loyalty
Much loyalty
Some loyalty
Little loyalty
Very little loyalty
Not applicable

77. How often do you encounter course work that makes you wonder whether you can do it successfully?
Very often
Somewhat often
Sometimes
Rarely
Very rarely
Not applicable

78. If you are supposed to complete a reading assignment before the next class session, how likely are you to actually do it?
Very likely
Somewhat likely
Neutral
Somewhat unlikely
Very unlikely
Not applicable

79. How good is your school performance relative to the expectations of your parents or others who are important to you?
Far below their expectations
Below their expectations
About what they expected
Better than they expected
Much better than they expected
Not applicable

80. If the costs of attending college rise in upcoming semesters, how much strain would that place on your personal budget?
A very large strain
Somewhat of a strain
Neutral
A little strain
Hardly any strain at all
Not applicable

81. How organized are you in terms of keeping track of upcoming assignments and tests?
Very organized
Somewhat organized
Neutral
Somewhat disorganized
Very disorganized
Not applicable

Appendix C: IRB Approval Form

Appalachian
STATE UNIVERSITY

INSTITUTIONAL REVIEW BOARD
Research and Graduate Studies
ASU Box 32068
Boone, NC 28608
828.262.2130
Web site: http://www.orsp.appstate.edu/compliance/irb/index.php
Email: irb@appstate.edu
Federalwide Assurance (FWA) #1076
IRB #00001458

To: Hall, Beck
Psychology
CAMPUS MAIL

From: _____
     Dr. Timothy Ludwig, Institutional Review Board

RE: Notice of IRB Approval by Expedited Review (under 45 CFR 46.110)

Date: 2/10/2010

Study #: 09-0146
Study Title: "The relationship of scores on the College Persistence Questionnaire to retention (06-43)

Submission Type: Renewal
Expedited Category: (7) Research on Group Characteristics or Behavior, or Surveys, Interviews, etc.

Renewal Date: 2/10/2010
Expiration Date of Approval: 2/01/2011

This request for renewal has been approved by the above Institutional Review Board for the period indicated.

Investigator's Responsibilities:

Federal regulations require that all research be reviewed at least annually. It is the Principal Investigator's responsibility to submit for renewal and obtain approval before the expiration date. You may not continue any research activity beyond the expiration date without IRB approval. Failure to receive approval for continuation before the expiration date will result in automatic termination of the approval for this study on the expiration date.

You are required to obtain IRB approval for any changes to any aspect of this study before they can be implemented. Should any adverse event or unanticipated problem involving risks to subjects occur it must be reported immediately to the IRB.

Appendix D: Consent Form

Informed Consent for Participants in Research Projects Involving Human Subjects

Title of Project: The relationship of scores on the *College Persistence Questionnaire* to retention

Investigator(s): Hall P. Beck

I. *Purpose of this Research/Project*

The purpose is to examine the correlation between attitudes about academia and college retention rates.

II. *Procedures*

This investigative session involves completing a questionnaire about the college experience and my feelings about the academic environment. It will take no longer than forty-five (45) minutes of my time. I understand that I will respond to two forms. **The first, the Student Information Sheet, asks my name, age, sex, and some questions about my educational background. If I choose not to answer any items on the Student Information Sheet I will still receive credit for participating in this study. An item on the Student Information Sheet asks for my student identification number. My student identification number will allow investigators to obtain information from my student record to be used for research purposes. I recognize that I do not need to grant permission to use information from my student records to gain participation credit.** The second form is called the *College Persistence Questionnaire*. It inquires as to my opinion regarding a number of issues concerning university life.

III. *Risks*

It is extremely unlikely that I will incur psychological, legal, or social harm from my participation in this study. If I feel uncomfortable then I may withdraw at any time without penalty. In addition, I may consult the professors conducting this experiment.

IV. *Benefits*

My participation in this study will benefit me in that it is one means of satisfying a research requirement in Introductory Psychology courses, could result in credit for an upper level psychology course, and is a way for me to see psychology at work. Not only will I study scientific research in the classroom, I will be able to actively learn about it in the laboratory. Society will benefit in that the results of this study may help psychologists understand why people leave college and thus give insight on how to intervene before it is too late.

V. *Extent of Anonymity and Confidentiality*

My answers will be saved on a data file. My name will be recorded in a separate place from the file. My name will be saved in case I need to verify my involvement in the study at a later date. This consent form is stored in a separate place from my data.

VI. *Compensation*

I will receive 45 minutes of research credit (if applicable).

VII. *Freedom to Withdraw*

I am free to leave/withdraw from the investigation at any time without penalty.

VIII. *Approval of Research*

This research project has been approved, as required, by the Institutional Review Board of Appalachian State University

02-10-2010	(Reference #) 06-43	02-01-2011
IRB Approval Date		Approval Expiration Date

IX. *Participant's Responsibilities*

I voluntarily agree to participate in this study and complete the questionnaire given to me and provide the researcher with my student identification number. By signing this form, I confirm that I am at least 18 years of age.

X. *Participant's Permission*

I have read and understand the Informed Consent and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent.

_____ Date_____
Participant's Signature

Should I have any questions about this research or its conduct, I may contact:

Hall P. Beck, Ph.D.   **(828) 262-2725/beckhp@appstate.edu**
Investigator   Telephone/E-mail

Timothy D. Ludwig, Ph.D.   **(828) 262-2712/ludwigtd@appstate.edu**
Administrator, IRB   Telephone/E-mail
Graduate Studies and Research
Appalachian State University
Boone, NC 28608

BIOGRAHPICAL SKETCH

Jessica Nicole Gore was born in Charleston, West Virginia, on December 22, 1984. She received her Bachelor of Arts degree in Psychology and the Associate of Science degree in Business Administration from the University of Charleston in May 2007. In the fall of 2007, she accepted a research assistantship in Psychology at Appalachian State University and began study toward a Master of Arts degree. The Master of Arts degree was awarded in December 2010.

Ms. Gore currently resides in Charleston, WV. She is employed as a Research and Evaluation Associate with Edvantia. In this role, she is responsible for many aspects of research and evaluation, including development of research and evaluation plans and protocols; project task coordination; instrument development; qualitative and quantitative data collection, management and analysis; and formative and summative report writing.