Factors of Student Attrition at an Urban University

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Abstract

This study investigated likely sources of student attrition from an urban university, using the University of Nebraska at Omaha as a case study. Research participants, N=177, were selected through random sampling. Reasons for attrition were investigated under voluntary and compulsory pressures while controlling for demographic factors. Hierarchical regression showed that demographic, voluntary and compulsory factors accounted for 14, 9 and 16 percent, respectively, of attrition likelihood. While enrollment in the College of Business and the College of Information Science and Technology predicted attrition likelihood in the first model, college of enrollment was fully mediated in the third (last) model. Only two compulsory pressure variables, campus self-estrangement and life-school conflict, predicted attrition likelihood in the last model which accounted for 39 percent of attrition likelihood. This study concluded that while both demographic and voluntary factors were important, the most important predictors of attrition likelihood among the students were compulsory pressures.

Keywords: College Attrition, voluntary factors, compulsory factors, School Drop Out

1. Introduction and Literature

The intent of this study was to understand the determinants of student attrition at an urban university (a university located in an urban metropolis). Much work has been done on university student attrition, and meaningful research on this concept can be of great use to educational administrators who wish to increase the graduation rates of their students (Bennett, 2003). Efforts to retain students till graduation day, however, require greater understanding of why they attrite. As expressed by Bennett, withdrawal from a university may result from voluntary or compulsory pressures, and "in order to control retention rates, it is necessary to comprehend why withdrawals happen, as the specific causes of poor retention need to be linked to particular measures for overcoming the problem" (Bennett, 2003, p. 1). Voluntary attrition pressures describe enrollment withdrawals resulting from students' various consciously calculated decisions such as lack of interest in subjects, dislike of fellow students or faculty, feelings of boredom, or feelings of insufficient academic challenge that result in attrition in favor of the pursuit of other more beneficial interests (Bennett, 2003). Unlike voluntary pressures that describe attrition based on a student's active desire or interest to attrite, compulsory pressures describe 'push' conditions that force a student to withdraw even if the student may wish to retain his/her enrollment. Such pressures may include, among others, serious illness, family obligations, poor academic performance (failing too many courses) or financial inability to retain enrollment (Medway & Penney, 1994). The distinction between voluntary and compulsory pressures (Bennett, 2003; Medway & Penney, 1994) serves as the backdrop for the investigation of reasons for attrition in this study.

Voluntary pressures, such as satisfaction with the quality of academic advising and with the quality of academic instruction, could predict student attrition as suggested by Davies (2000) who found in a London college that student attrition might be linked to significantly low opinions of the help students received in selecting their courses. Students who stayed with the college, compared to those who withdrew, tended to have a high opinion of the help they received in selecting their courses. And, in Bennett's study, students who withdrew were highly critical of the quality of teaching they received, and tended to find their programs boring (Bennett, 2003).

According to Medway and Penney (1994), student dissatisfaction with instruction and learning outcomes might result from boring or poorly structured teaching. The dissatisfaction might also come from unannounced changes to programs and/or excessive or poorly timed assessments (Martinez and Munday, 1998). Also, learning styles of students that clashed with teaching styles of staff might negatively affect student satisfaction (Martinez, 2001). Student motivation as another voluntary factor of attrition has also been widely investigated. Motivation essentially describes the forces that act on or within an individual to produce a behavior. It (motivation) includes the direction of behavior, strength of behavior, as well as efforts and the length of time committed to a course of action (Gibson, et al., 2012). Evidence from literature suggest that distinctions between internal (interests, achievements, growth, etc.) and external (social support, positive campus environment, good administration, etc.) factors of student motivation may shape the likelihood of college attrition. McEvoy (2011), for example, found that increasing levels of internal motivation significantly correlated with learning and educational satisfaction of students. This was consistent with an earlier claim by Nicholls (1992) that people with internal motivation had a hunger for talent and tended to have high capability for managing themselves for success. According to Ratelle et al. (2005), one major lesson from these studies of motivation was that those with high internal motivation were likely to persist, and hence, less likely to voluntarily attrite.

Literature on compulsory reasons of attrition indicates that financial stress, as a compulsory reason for withdrawal, appears to have generated opposing views. Callender (1999) for example, indicated that as students needed to work part-time to fund their education, their academic performance had been affected by their need to work many part-time hours. Davies (2000) and Martinez (2001), however, challenged the view that external factors, such as student financial hardship, influenced withdrawal rates to a greater degree than issues related to aspects of the educational experience that institutions themselves could control. As argued by Bennett (2003), a major argument against the proposition that financial hardship was the key determinant of decisions to attrite was the fact that student retention rates often differed vastly among courses containing students from the same socio-economic background. That is, students who experienced similar financial difficulties might have different dropout rates by the type of courses they took; indicating the influence of courses (perhaps course difficulties) over financial stress in the likelihood of attrition. Campus social integration, another compulsory factor, has also been correlated with attrition of students (Bennett, 2003; Tinto, 1993). Tinto (1993) stated that academic and social integration were the two most relevant factors in reducing the attrition of students. In Bennett's descriptions, academic integration addresses students' academic performance, perceptions that students have about their own academic developments, and the extent to which students believe that faculty and staff are personally committed to teaching and being helpful. Social integration, he explained, addresses self-esteem levels, and the nature of student-student relationships as well as student-staff relationships (Bennett, 2003).

Regarding student-student relationships, Martinez and Munday (1998) explained that such relationships often produced unpleasant group dynamics and rooming problems which often generate dissatisfaction and consequently, low social integration among students. The common theme among these authors (Bennett, 2003; Martinez & Munday, 1998; Tinto, 1993) was that the extent to which a student was integrated into his/her campus had direct consequences to his/her likelihood of attrition. Vincent Tinto's seminar works (1975, 1987, 1993), in particular, provides a good foundation for the analysis and understanding of the connections between integration and attrition. In these studies, Tinto demonstrated the presence of a link between pre-college enrollment personal characteristics such as family background, academic preparation and skills, and college institutional experiences that might elicit commitment and produce retention of individual students. His position was that pre-entry factors would shape a student's goals and intentions, and the student's positive social and academic experiences would result in the student's integration into his/her campus, thereby fostering commitment to stay on the campus to achieve his/her goals and intentions. Negative social and academic integration experiences would hinder commitment and produce attrition (Tinto, 1975, 1987, 1993). School-Life and School-Work conflicts have also been linked to student attrition as compulsory pressures resulting, usually, from the demands of the multiple and conflicting roles students play. Ratelle et al. (2005), for example, found that when school interfered with leisure time, students tended to experience poor educational consequences including difficulty concentrating at school, academic hopelessness and intention to drop out. When students experienced these negative academic consequences as a result of school-leisure conflict, they tended to also experience negative consequences related to their mental health (depression, low life satisfaction) which might force them to withdraw from school (Ratelle et al., 2005). Problems of conflicting roles also frequently affect non-traditional students whose multiple roles and stressors might exceed those of traditional students (Lundenberg, 2003).

As reported by Berker and Horn (2003), approximately one-third of all US undergraduate students were working, and as indicated by Lundenberg (2003), non-traditional students (unlike traditional 18-22 year-old students) were often parents and tended to have additional sets of stressors that imposed limitations on their time. Given that there has been a steady increase in the number of non-traditional students who attend institutions of higher education (Giancola et al., 2009), the relevance of both school-life and school-work conflicts to student attrition may be considered highly important. Based on knowledge from literature, the purpose of this research was to understand why students might leave the University of Nebraska at Omaha (UNO) before graduation. Students may leave this university for many reasons including dropping out of school completely or transferring to another university to complete their education. Regardless of where they may go when they leave UNO, the intention of this research was to investigate potential factors of their attrition from the University.

2. Objective and Theoretical Postulates

Based on the dichotomy of attrition factors into compulsory and voluntary pressures described in previous studies (Bennett, 2003; Medway & Penney, 1994), the objective of this study was to understand the extent to which these pressures explained the likelihood of attrition in an urban university, using the University of Nebraska, Omaha (UNO), as a case study. The ultimate intent in this study was to understand which of the two sets of pressures more significantly explained attrition than the other, as well as understand how each variable in each set of pressures individually predicted the likelihood of attrition. The University of Nebraska, Omaha (UNO) was of special interest for this study because, in addition to ease of accessibility by the authors, it is located in the Omaha metropolis which boasted a population of over 865,000 people in 2010 (City Population, 2014). University statistics obtained from the office of institutional effectiveness (OIE) for Fall 2014 (OIE, 2014) indicated that the university was mostly commuter, with only about eleven (10.5) percent of its over 15,000 student population living on-campus. The student-body is often described as mainly working class and about 33 percent were nontraditional age students (students older than 24 years old). Because of its working class nature, the majority of the student body must work to fully pay for (or subsidize) their educational and living expenses. Except for its almost even-split gender distribution (51 percent women, 49 percent men), the student population was mostly demographically homogenous. The student body was about 70 percent White, with approximately 91 percent identifying as Nebraskan (86 percent) and Iowan (6 percent) residents. The majority of the Nebraskan students (76 percent) were from only three Nebraska counties (Douglas, Sarpy and Lancaster) near the university location (OIE, 2014).

Due to the working-class nature of the student body at UNO, as earlier mentioned, we postulated in this study that compulsory pressures would most likely serve as the dominant reasons for student attrition than voluntary pressures. This was based on our assumptions that voluntary pressures would minimally (if at all influential) explain attrition among the students. This is because the student body had historically comprised of students who attended the university mainly to obtain necessary credentials to upgrade their employment outcomes, and this appears to remain a dominant reason for enrollment from anecdotal information. Because of their need to obtain good credentials for post college employments, we assumed that personal internal conditions such as low academic interests, low motivations and low satisfaction with quality of education would not pressure the students to attrite. We, therefore, held the assumption that the desire of the students to obtain their employment credentials would outweigh any dissatisfaction they might have with their educational experiences, thereby not constituting compelling reasons for the students to attrite. Conversely to our assumptions regarding voluntary pressures, we assumed that compulsory pressures would provide greater explanations for student attrition from the university because of the potential interactive effects of the following assumed logical factors: 1) Working too many hours (due to financial Stress): As a predominantly working class university, a large majority of the student population work to pay for their educational and living expenses. Financial stress might, therefore, force many students to work many (or too many) hours, which might interfere with their (students) abilities to obtain necessary grades to retain their educational enrollment. 2) Work demands: Due to the need to work, many students might work multiple jobs, and some students might even occupy leadership positions in their employments. The demands from multiple jobs, especially leadership roles that might involve high stress, might conflict with educational demands, thereby forcing students to attrite from college. 3) Family demands: We assumed that various family demands, especially those involving roles played by nontraditional students might clash with educational role expectations, thereby increasing the likelihood of attrition among students who played these roles.

Table1. List and Definitions of all Research Variables (See Table 2 for all Operational Items)

Dependent Research Variable

Likelihood of Attrition: The perceived likelihood that the respondent will permanently leave UNO before graduation. Measured in ordinal values; 1= Least Likely, 6 = Most Likely to Attrite.

Independent Research Variables

Motivation: Extent of personal internal drive for academic success. Measured in ordinal values: 1 = Least Motivated, 6 = Highly Motivated.

Satisfaction with Quality of Education: Extent of perceived level of satisfaction with overall university educational quality. Measured in ordinal values; 1= Least satisfied, 6 = Highly Satisfied.

Satisfaction with Faculty: Extent of perceived level of satisfaction with university faculty. Measured in ordinal values; 1= Least satisfied, 6 = Highly Satisfied.

Satisfaction with Quality of Academic Advising: Extent to which the respondent is satisfied with the overall quality of academic advising received at UNO. Measured in ordinal values; 1= Least Satisfied, 6 = Highly Satisfied.

Satisfaction with University Environment: Extent to which the respondent is satisfied with the overall relationship between self and the social atmosphere of UNO. Measured in ordinal values; 1= Least Satisfied, 6 = Highly Satisfied.

Satisfaction with Quality of Academic Support Services: The extent to which the respondent is satisfied with the quality of academic support services such as the writing center, computer labs on campus, the financial aid office, and other support staff. Measured in ordinal values; 1 = Least/not Satisfied, 6 = Highly Satisfied.

Integration: Extent of positive social involvement with the campus. Measured in ordinal values; 1= Least/not integrated, 6 = Highly Integrated.

Campus Self-Estrangement: Extent of negative social disconnection from the campus. Measured in ordinal values; 1= Least/not estranged, 6 = Highly Estranged.

Urbanism: Perception of the extent of available urban activities and opportunities for involvements outside of the university. Measured in ordinal values; 1= Low/no Availability, 6 = High Availability.

School-Life Conflict: Extent to which the demands of schooling activities are perceived to interfere with the demands of personal life. Measured in ordinal values; 1= Least Presence of school-life conflict, 6 = Highest Presence of school-life conflict.

Life-School Conflict: Extent to which the demands of personal life activities are perceived to interfere with the demands of school activities. Measured in ordinal values; 1 = Least Presence of life-school conflict, 6 = Highest Presence of life-school conflict.

Gender: Gender of respondents measured as “Woman” = 1 or “Man” = 0.

Race/Ethnicity: Race of respondents measured as “Racial/Ethnic Minority” = 0 or “Not a Racial/Ethnic Minority” = 1. This dichotomy was preferred over a breakdown of data into specific racial/ethnic categories due to the small population of minorities in the predominantly non-Hispanic White university.

College: Respondent’s college of enrollment at the university. Measured in nominal values; “Arts & Sciences”, “Business Administration”, “Communication, Fine Arts & Media”, “Information Sciences & Technology”, “Education”, or “Public Affairs & Community Service”—[each college coded 1, while others =0]

Academic Class Rank: Academic class standing at the university measured as “Lower Class” (freshman and sophomore) = 1, and “Upper Class” (Junior and “Senior) = 0.

Grade Point Average (GPA): Respondents self-reported academic grade point average in real numbers.

Marital Status: Marital status measured as “Traditional Student” (Single with no children) = 1,and “Nontraditional Student” (Single with children, Married with no children, or Married with children) = 0.

Employed: Respondents employment status measured as “Yes” (I have a paying job) = 1, and “No” (I do not have a paying job) = 0.

Average hours worked: A self-reported average of the number of hours worked weekly by the respondent measured in integers.

These roles might include spousal roles, parenting roles and caring for chronically ill and/or elderly parents. 4) Urbanism: We defined urbanism, for the purpose of this research, as characteristics of an urban metropolis, such as high job availability, opportunities for good jobs and high income without a university degree, and a high availability of entertainment activities that might lure students away from the university or impede their abilities to succeed academically.

Our assumption was that many students in an urban university would participate extensively in these urban activities and become trapped by them, such that they would be unable to obtain necessary grades to retain their academic enrollments and, would therefore, be forced to dis-enroll from the university. Overall, we postulated that after controlling for the effects of demographic and voluntary factors, compulsory pressures would serve as the dominant factors of student attrition at UNO.

3. Method

This study was designed to use primary data since no established secondary data that fully met the needs of this study were available for analysis. A questionnaire was constructed for an electronic survey of the student body at UNO. The questionnaire contained demographic questions (academic class rank, gender, race-ethnicity, college, etc.), scales for measuring voluntary attrition factors (satisfaction with quality of education, satisfaction with faculty, satisfaction with academic support services, motivation, etc.), scales of compulsory factors of attrition (school-life conflict, life-school conflict, campus self-estrangement, urbanism, employment status, etc.) and likelihood of attrition. All variables and variable definitions are in table 1. All scales were Likert-type, six-point summated rating (Strongly Agree = 6; Strongly Disagree =1), and designed such that higher scores represented greater presence of each measured variable.

A random sample of email addresses of 564 students was obtained from the university's office of institutional effectiveness (OIE), and all 564 students were solicited to participate in this study. The 564 sample size was a 50 percent oversample beyond the 376 responses needed for a representative sample of 15,000 students at 95 percent confidence level, a margin of error of 5 percent and a response distribution of 50 percent.
The 50 percent oversample was used to increase response likelihood based on an estimated non-response rate of 50 percent. The responses of the first 50 students were used to test the reliability and validity of each scale using factor analysis, principal component method with no rotation. Upon manual elimination of poorly loaded items (all items that loaded most highly on components other than the factor component), in the factor analysis for each variable scale, all final items for each variable scale loaded only on the factor (first) component. The final items for each scale and scale statistics are presented in table 2.

Only students who were at least 19 years old (IRB conformity requirement to avoid obtaining parental consent) and had completed at least one semester of academic work at the university were solicited to participate in this study. We deemed the completion of at least one semester of academic work necessary to be able to give knowledgeable responses to some of the questions (such as satisfaction questions) on the survey. In total, 177 students participated in the survey (31.4 percent return rate) but only 117 responses were sufficiently completed to be useful for final analysis, yielding a useful response rate of 20.7 percent. The demographic characteristics of the 117 participating students revealed that 26 percent (N = 30) of them were lower class students by academic class rank (freshmen and sophomore classes), they were predominantly women (70 percent, N = 82) and they were overwhelmingly non-racial ethnic minority (i.e. non-Hispanic White, 83 percent, N = 97). In addition, the students were mainly traditional (76 percent, N = 89) and 86 percent of them (N = 100) were working in paid employment. Each of the six colleges in the university was also represented (though none statistically representative) in the sample (see table 3 for full sample descriptions).

Table 2: Factor Analysis Using Principal Component Method and Chronbach's Reliability Alpha for all Conceptual Variables

Variable Scales	Factor Component 1
Scale of Motivation for Academic Success	
1. Earning good grades is important to me.	.902
2. My academic success is very important to me.	.885
3. I am eager to earn my bachelor's degree.	.816
4. My education is the key to my future occupational success.	.726
5. I strive to get the best grade possible in each of my exams.	.842
6. I strive to produce excellent work for each of my class projects.	.810
Chronbach's Alpha	.908
Scale of Satisfaction with Quality of Education	
1. Satisfaction with quality of educational instruction	.837
2. Satisfaction with quality of class assignments.	.770
3. Satisfaction with quality of learning in your classes.	.819
4. Satisfaction with intellectual stimulation in your classes.	.881
5. Satisfaction with quality of critical thinking stimulated in your classes.	.818
6. Satisfaction with quality of knowledge acquired in your major.	.862
7. Satisfaction with practical applicability of knowledge being acquired.	.759
8. Satisfaction with quality of analytical reasoning encouraged in my classes.	.926
9. Satisfaction with amount of communication required in my classes.	.807
10. Satisfaction with encouragement of diverse perspectives in my classes.	.824
11. Satisfaction with problem solving skills taught in my classes.	.868
12. Satisfaction with level of academic rigor in my classes.	.874
Chronbach's Alpha	.960
Scale of Satisfaction with Faculty	
1. Quality of educational instruction given by instructors.	.673
2. Willingness of instructors to guide students in their academic work.	.847
3. Accessibility of instructors outside of the lecture.	.699
4. Quality of feedback instructors typically give you for your work.	.717
5. Readiness of instructors to give assistance to you when you need it.	.875
6. Professionalism in how instructors present themselves.	.853
7. Amount of empathy instructors give to students.	.870
8. Efforts of instructors to prepare students for future success.	.701
9. Willingness of instructors to provide guidance in non-academic matters when requested.	.876
10. Willingness of instructors to socialize with students.	.869
Chronbach's Alpha	.936
Scale of Satisfaction with Quality of Academic Advising	
1. How genuinely interested your academic advisor appears in your academic success.	.834
2. How readily available your academic advisor is when you need advising.	.847
3. How well your advisor guides you in effectively selecting courses toward graduation.	.922
4. How knowledgeable your academic advisor in about your academic program.	.895
5. Your academic advisor's level of friendliness during your advising sessions.	.845
6. How much time given to you by your academic advisor during your advising sessions.	.826
7. How well your academic advisor answered all your advising questions to your satisfaction.	.921
8. How well your academic advisor linked your major with potential future career jobs.	.889
Chronbach's Alpha	.955

Scale of Satisfaction with University Environment	
1. Ability to make friends on campus.	.782
2. Adequacy of recreational/entertainment activities for extra-curricular participation on campus (e.g. Sports, swimming, jogging, television, music, dancing).	.913
3. Availability of social clubs for campus involvement.	.917
4. Level of friendliness of the campus climate.	.876
5. General campus safety.	.799
6. Availability of good food throughout the day.	.716
7. Academically stimulating atmosphere.	.701
Chronbach's Alpha	.912
Scale of Satisfaction with Quality of Academic Support Services	
1. Educational technology on campus is sufficiently adequate for my educational needs.	.805
2. There are sufficient computer labs on campus to meet my educational needs.	.855
3. The information services support staff are very helpful when I need them.	.891
4. The writing center provides adequate services when I need help with my writing assignments.	.812
5. The financial aid office is very helpful to me when I apply for financial.	.721
Chronbach's Alpha	.871
Scale of Social Integration on Campus	
1. I am very active in participation in social clubs on campus.	.745
2. I have made many friends at this university.	.791
3. I enjoy volunteering at campus events.	.770
4. I frequently attend extra-curricular events on campus.	.865
5. I regularly interact with other students outside of the classroom.	.829
6. I enjoy hanging out on campus.	.760
7. Some fellow students rely on me for certain things.	.835
8. Some people on campus will notice my absence if I'm away from campus for an extended period of time.	.864
9. I feel a strong sense of connection with other students on campus.	.914
Chronbach's Alpha	.939
Scale of Campus Self-Estrangement from Campus	
1. I do not think there is much to get out of this university.	.918
2. The university offers me very little in terms of my future success.	.847
3. I don't feel a sense of pride to be a student at this university.	.866
4. It is hard for me to see the true purpose of this university in my life.	.904
5. I often feel no good is going to come out of attending this university.	.928
6. Nothing is more boring for me than being on the UNO campus.	.922
7. Time drags on too slowly when I am on campus.	.934
8. Simply put, I would rather be anywhere else than be on campus.	.910
Chronbach's Alpha	.967
Scale of Urbanism	
1. Living in Omaha provides opportunities for good employment without a college degree.	.835
2. Living in Omaha provides opportunities for working many hours each week.	.885
3. The city of Omaha provides me with sufficient entertainment when I need it.	.780
4. I can make good income working in Omaha without a college degree.	.761
Chronbach's Alpha	.830

Scale of School-Life Conflict	
1. After school, I come home too tired to do some of the things I like to do.	.753
2. At school, I have so much work to do that it takes away from my personal interests.	.839
3. My family/friends dislike how often I am pre-occupied with my schoolwork while I am at home.	.776
4. My schoolwork takes up time that I would rather like to spend with family/friends.	.863
5. My school interferes with my responsibilities at home such as yard work, cooking, cleaning, repairs, shopping, childcare, etc.	.838
Chronbach's Alpha	.872
Scale of Life-School Conflict	
1. My personal demands are so great that it takes away from my schoolwork.	.793
2. My professors and classmates dislike how often I am preoccupied with my personal life while at school.	.765
3. My personal life takes up time that I would rather like to spend on my schoolwork.	.917
4. My home/personal life interferes with my responsibilities at school such as getting to school on time, finishing my projects, studying for class, and getting ready for exams.	.917
5. My home/personal life keeps me from spending the amount of time I would rather like to spend on my schoolwork.	.938
Chronbach's Alpha	.916
Scale of Likelihood of Attrition from UNO	
1. Based on how things are going in my life today, it is likely that I will leave UNO before I graduate with my degree.	.907
2. Depending on job opportunities that may present themselves to me, I may leave UNO before I graduate with my degree.	.919
3. The thought of leaving UNO before I graduate with my degree has crossed my mind several times.	.846
4. It is very possible that I will leave UNO before I graduate with my degree.	.929
5. If an attractive offer comes my way before I graduate, I will likely leave UNO to take advantage of the offer.	.829
6. If things don't change for the better at UNO, I will likely leave before graduation.	.930
7. I am perfectly fine with leaving UNO before I graduate with my degree.	.932
8. I am not sure if college is truly for me.	.819
9. I will likely leave UNO before graduation if I have sufficient reason to do so.	.795
10. I am not sure that I will be at UNO long enough to graduate with my degree.	.883
11. I often wonder whether or not I should continue my education at UNO.	.920
Chronbach's Alpha	.968

Table 3: Demographic Characteristic Distribution of Research Participants

Demographic Characteristics	Sample Frequency	Percent* of Sample
ACADEMIC CLASS RANK		
Lower Class Students	30	26
Upper Class Students	85	73
Not reported	2	2
GENDER		
Man	33	28
Woman	82	70
Not reported	2	2
RACE-ETHNICITY		
Racial/Ethnic Minority	18	15
Not Racial/Ethnic Minority	97	83
Not reported	2	2
COLLEGE ENROLLEMENT		
Arts and Sciences	43	37
Business Administration	13	11
Communication, Fine Arts, & Media	16	14
Information Science & Technology	8	7
Education	15	13
Public Affairs & Community Service	20	17
Not reported	2	2
CURRENT MARITAL STATUS		
Traditional Student	89	76
Non-Traditional Students	28	24
PAID EMPLOYMENT		
No	14	12
Yes	100	86
Not reported	3	3

*Percentages may not equal 100 due to rounding effects.

4. Tests and findings

4.1. Correlations

Two-tailed bivariate correlations were conducted among all independent variables and against the likelihood of attrition as dependent variable. All the independent variables were block-entered into the correlation equation by their classifications (demographic, voluntary pressure, and compulsory pressure) consistently with the theoretical postulates of this research. Findings, shown in table 4, indicated that three demographic variables (academic class rank, r = .182; enrollment in the college of business, r = .248 and enrollment in the college of information science and technology, r = .191) were positively correlated with the likelihood of attrition. This indicated that academic lower class students (freshmen and sophomore), students in the College of Business and those enrolled in the College of Information Science and Technology had a greater likelihood of attrition than their respective student counterparts. Among the voluntary pressure variables studied, motivation (r = -.283), satisfaction with quality of education (r = -.306), satisfaction with faculty (r = -.333) and satisfaction with academic support services (r = -.183) were all significantly inversely correlated with likelihood of attrition. That is, the higher the presence of each of these variables, the lower the likelihood of attrition among the students. For the compulsory pressure variables, only campus self-estrangement (r = .466) and life-school conflicts (r = .340) were significantly correlated with attrition likelihood. This showed that the higher the levels of campus self-estrangement and life-school conflicts experienced by the students, the greater the students' likelihood of attrition. No other variable in any variable classification was significantly correlated with attrition likelihood.

Table 4: Correlation Matrix of all Research Variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
Dependent Variable												
1. Likelihood of Attrition	1											
Demographic Variables												
2. Gender	-.092	1										
3. Race	-.011	.044	1									
4. Academic Class Rank	.182*	.070	.038	1								
5. Marital Status	-.026	.071	-.061	.283**	1							
6. Job	-.067	.361***	.068	.042	-.005	1						
7. Hours Worked Weekly	-.075	-.098	.022	-.259**	-.321**	---	1					
8. GPA	.001	.142	.017	-.008	-.055	.131	.012	1				
9. College: Arts & Sciences	-.081	.053	-.211*	-.042	.054	-.157	-.186	-.082	1			
10. College: Business	.248**	-.077	.154	.042	-.057	.050	.132	-.039	-.270**	1		
11. College : Communication, Fine Arts & Media	-.098	.199*	.173	.051	.107	.151	.031	.160	-.303**	-.141	1	
12. College: Information Science & Technology	.191*	-.431***	-.164	.074	.073	-.106	-.114	-.111	-.207*	-.096	-.108	1
13. College: Education	.015	.132	.167	.068	.035	.067	.054	.137	-.292**	-.136	-.153	-.104
14. College: Public Admin. & Community Service	-.166	-.013	-.055	-.111	-.118	.032	.110	-.057	-.346**	-.161	-.181	-.123
Voluntary Pressure Variables												
15. Motivation	-.283**	.259**	.226*	-.060	-.097	.094	.032	.186*	-.007	-.107	.035	-.335***
16. Satisfaction with Quality of Education	-.306**	.075	.151	.011	-.077	.097	.051	.102	-.137	-.037	.087	-.192*
17. Satisfaction with Faculty	-.333***	.156	.190*	-.059	.027	.075	-.054	.034	.001	-.106	.161	-.262**
18. Satisfaction with Quality of Academic Advising	-.146	-.019	.039	-.025	.040	.056	-.161	-.002	.065	-.141	-.085	-.103
19. Satisfaction with University Environment	-.071	.028	-.064	-.046	-.046	-.018	-.006	.111	.010	-.097	.041	-.194*
20. Satisfaction with Quality of Academic Support Services	-.183*	.104	.008	-.009	.029	.068	-.018	-.031	.158	-.116	-.043	-.247**
Compulsory Pressure Variables												
21. Integration	.014	-.043	-.069	-.057	.122	-.017	-.119	.124	.025	-.075	.094	-.110
22. Campus Self-Estrangement	.466***	-.064	-.097	.086	.139	-.014	-.009	-.091	-.051	.206*	-.089	.135
23. Urban Privileges	-.009	-.125	-.055	.061	.032	.024	.006	.035	.016	-.143	-.005	.025
24. School-Life Conflict	.104	.170	-.061	-.128	-.142	.161	.090	.162	.110	-.089	-.019	-.170
25. Life-School Conflict	.340***	.076	.030	-.033	-.241**	.149	.239*	-.043	.121	.139	-.118	-.135

	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
13. College: Education	1											
14. College: Public Admin. & Community Service	-.174	1										
15. Motivation	.148	.137	1									
16. Satisfaction with Quality of Education	.113	.136	.598***	1								
17. Satisfaction with Faculty	.011	.094	.509***	.771***	1							
18. Satisfaction with Quality of Academic Advising	-.039	.192*	.195*	.374***	-.468***	1						
19. Satisfaction with University Environment	.070	.085	.229*	.387***	.451***	.319***	1					
20. Satisfaction with Quality of Academic Support Services	.014	.104	.361***	.530***	.621***	.357***	.626***	1				
21. Integration	.042	-.036	.168	.229*	.243**	.091	.439***	.192*	1			
22. Campus Self-Estrangement	-.007	-.104	-.326***	-.551***	-.467***	-.205*	-.338***	-.299**	-.133	1		
23. Urban Privileges	.086	.010	.086	.086	.284**	.251**	.420***	.387***	.209*	-.183*	1	
24. School-Life Conflict	-.010	-.063	.045	.045	-.169	-.031	-.058	-.042	-.121	.223*	-.104	1
25. Life-School Conflict	-.084	.003	-.069	-.069	-.208*	-.122	-.100	-.065	-.147	.285**	.035	.390***

* Significance at P = .05 ** Significance at P = .001 *** Significance at P = .0001

4.2. Hierarchical Regression

To determine the relative significant contributions of each classification (or set) of independent variables to predicting the likelihood of attrition among the students, the hierarchical regression method was used for analysis. Three models representing the three classifications of independent variables; demographic, voluntary and compulsory pressures were analyzed for their respective individual and collective abilities to explain attrition likelihood. In the interest of parsimony, and because all variables that were not significantly correlated with the likelihood of attrition (in the correlation matrix) offered no appreciable contributions to the regression equation, only those variables that were significantly correlated with attrition likelihood, in each variable classification, were included in the hierarchical regression equation as three distinct models.

Model 1 -The Demographic Model: The three variables (academic class rank, enrollment in the College of Business and enrollment in the College of Information Science and Technology) that significantly correlated with likelihood of attrition were block-entered into the hierarchical regression equation. This allowed us to assess the independent contributions of the demographic model, and to be able to control for its compounding effects on variance in the likelihood of attrition. The analysis found only enrollments in the College of Business (β = .268) and the College of Information Science and Technology (β = .210) as predictors of likelihood of attrition.

Academic class rank, as an individual variable, failed as a unique predictor of attrition likelihood, but the entire model significantly accounted for 14 percent (R^2 = .140, p = .001) of the variance in the likelihood of attrition.

Model 2 -Voluntary Pressures: The variables of voluntary pressures were added into the hierarchical equation in addition to the demographic model variables that were already present in the equation. The total model (demographic variables + voluntary pressure variables) significantly accounted for 23 percent (R^2 = .228, p = .000) of the variance in attrition likelihood, but the variables of voluntary pressures, alone, significantly contributed an additional 9 percent (ΔR^2 = .088, p < .05) to the variance in the likelihood of attrition. Findings regarding individual variables in model 2 showed that the predictive value of enrollment in the Business College for likelihood of attrition was partially mediated with a lower standardized beta value (β = .244, p = .00) than in the first model. Also in model 2, the standardized beta value of enrollment in the College of Information Science and Technology as a predictor of attrition likelihood was fully mediated. Aside from enrollment in the College of Business, no other individual variable in model 2 uniquely significantly predicted the likelihood of attrition among the students.

Table 5: Hierarchical Regression Beta Values for all Variables that Significantly Correlated with Likelihood of Attrition (in each model)

Variables	Model 1	Model 2	Model 3
Constance	21.374	43.774	8.062
Demographic Variables			
Class	.163	.160	.137
College: Business Administration	.268**	.244**	.146
College: Information Science & Technology	.210*	.137	.154
Voluntary Pressures			
Motivation		-.074	-.110
Satisfaction with Quality of Education		-.167	.063
Satisfaction with Faculty		-.165	-.083
Satisfaction with Academic Support Services		.114	.078
Compulsory Pressures			
Campus Self-Estrangement			.366***
Life-schoolConflict			.233**
Model Statistics			
R	.374	.477	.622
R^2	.140	.228	.387
ΔR^2	---	.088*	.159***
F-Value	6.015	4.507	7.356
P-Value	.001	.000	.000

* Significance at P = .05 ** Significance at P = .001 *** Significance at P = .0001

Model 3 – Compulsory Pressures

In the third and final model, compulsory pressure variables were added to the hierarchical regression equation. This was the full model of our hierarchical analysis as it contained variables from the previous two models in addition to the variables of compulsory pressures (demographic + voluntary + compulsory). The results of this analytical step indicated that the full model accounted for 39 percent (R^2 = .387, p = .000) of the variance in the likelihood of attrition among the students. Also in the third model, the variables of compulsory pressures by themselves uniquely accounted for additional 16 percent (ΔR^2 = .159, p = .000) of the variance in the likelihood of attrition among the students, after controlling for the contributions of the first two models to the likelihood of attrition. Also in this model, results showed that enrollment in the College of Business became fully mediated as a predictor of attrition likelihood, and no other variable uniquely predicted attrition likelihood except for the two compulsory variables; life-school conflict (β = .233, p = .000) and campus self- estrangement (β = .366, p = .000). This result showed that campus self-estrangement and life-school conflict, respectively, were the two most powerful unique predictors of likelihood of attrition among the students at UNO.

5. Discussion and Conclusion

This study followed a theoretical postulate derived mainly from the work of Bennet (2003) and Medway and Penny (1994) of the distinction between voluntary and compulsory factors of college attrition among students. The core of this distinction is that students attrite either because of a consciously calculated decision in which the perceived benefits of withdrawing from college are expected to outweigh perceived costs of withdrawing, or for reasons of forced attrition, even if the students may prefer to stay enrolled. Because voluntary attrition is based on the assumption of a conscious cost-benefit analysis of college enrollment by a student, the logic in Bennett's (2003) work is that a student withdraws from college in search of, or to enjoy better conditions elsewhere. Conversely, a student may attrite, not because of a better deal elsewhere, but because of unfavorable or hostile conditions in a current college, and he/she is, therefore, forced to attrite, regardless of his/her preference to retain his/her enrollment. By extension of logic, therefore, attrition for voluntary reasons may be classified as "pulled" while attrition for compulsory reasons may be termed "pushed". This (voluntary-compulsory) dichotomy is akin to the classic immigration/migration push-pull theory that explains population movements as either instigated by various unfavorable conditions at present location (i.e. push conditions) or by perceived favorable (i.e. pull) conditions at a destination (see Bogue 1969; Lee, 1966).

Based on the assumption that students at the University of Nebraska, Omaha, a traditionally commuter urban university, enrolled mostly as a necessity for obtaining credentials for employment (perhaps, especially, for the metropolitan labor market), we postulated that they would be highly motivated (internally) to succeed for the sake of obtaining the credentials that brought them to college. With such internal motivation, they would be less likely to attrite for voluntary pressures, but compulsory pressures may force their withdrawal. While our postulate is logical and well supported by the results of our hierarchical regression, a careful review of our results demonstrated significant contributions of other variables to attrition beyond compulsory pressures. The inclusion of the demographic model in our analysis was intended to help assess the contributions of demographic variables to attrition likelihood separately from our theoretical models. This was important because earlier studies had reported various demographic statistics which indicated that attrition was highest among first year students and progressively reduced in subsequent years (Davidson & Muse, 1994; Murtaugh et al., 1999; Ohio University Office of Institutional Research, 2013; Tinto, 1996). Also, racial-ethnic minorities (except Asian-American students) had higher attrition rates than non-Hispanic Whites (Astin, 1997; Murtaugh et al., 1999; Peltier et al., 1999), and significant difference in attrition by gender produced mixed results (Leppel, 2002; Reason, 2001; St. John et al., 2001).

While race and gender did not emerge as predictors of attrition likelihood in this present study, our hierarchical analysis showed demographic characteristics playing a part in explaining attrition potentials among the students studied. First, enrollment in the Colleges of Business and Information Science and Technology significantly predicted attrition likelihood in our demographic model test and, second, with the inclusion of academic class rank, the entire demographic model significantly accounted for 14 percent of the likelihood of attrition among the students. It will, therefore, behoove university officials to investigate and resolve the structural conditions that produced high likelihood of attrition among business and information science and technology students. Similar structural measures are recommended for the differences between academic lower and upper ranked students. While the difference between the two ranks of students did not predict attrition potentials in our regression models, bivariate correlations showed that lower class ranks (freshmen and sophomores) were significantly more likely to attrite than higher ranked academic classes consistently with findings of previous studies (Astin, 1997; Davidson & Muse, 1994; Murtaugh, Burns & Schuster, 1999; Ohio University Office of Institutional Research, 2013; Tinto, 1996). Reasons for higher attrition likelihood among the freshmen and sophomore classes than among the junior and senior classes were beyond the scope of this study, but it is highly recommended that the university make necessary structural measures to see a higher percentage of these students make it to graduation day. Our postulate regarding voluntary and compulsory pressures can best be said to have produced mixed results. This is because while none of the variables under voluntary pressures individually predicted attrition likelihood, motivation, satisfaction with quality of education, satisfaction with faculty and satisfaction with quality of academic support services were all significantly inversely correlated with attrition likelihood in bivariate analysis. Also, the combined effects of these four voluntary pressure variables significantly accounted for nine (9) percent of the likelihood of attrition among the students.

Additionally, the combined effects of the demographic and voluntary variables (model 2) accounted for 23 percent in the variance of the likelihood of attrition. This shows that while our postulate that attrition would be explained by compulsory pressures was fully supported by regression findings, other model explanations were also statistically supported. In that only the variables of compulsory pressures individually significantly predicted attrition likelihood in our final model analysis, our postulate regarding compulsory pressures appears most pressing for attention by university officials. Aside from their each unique ability to predict attrition likelihood, the combined effect of the two compulsory pressure variables (campus self-estrangement and life-school conflicts), accounted for 16 percent, while the final full model itself accounted for 39 percent of the likelihood of attrition among the students. This means that conditions that produced both campus self-estrangement (the strongest predictive factor) and life-school conflicts ought to be investigated and structurally remedied by university officials in the interest of lowering or preventing attrition as much as possible.

In final analysis, the major take-away from this study is that because compulsory pressures accounted for the largest portion of reasons for likelihood of attrition, students at the University of Nebraska, Omaha, indicated that they were more likely to be "pushed out" than "pulled away" as reasons for their attrition. Being pulled away is, however, also important, regardless how little (9 percent) it might contribute to attrition likelihood. It is, therefore, important for university officials to pay attention to both explanatory models in their efforts to provide structural remedies for these sources of attrition. We opine that demographic explanations (14 percent) of attrition are symptomatic of structural conditions that might reflect the consequences of voluntary or compulsory (or both) pressure(s), and that, structural remedies to both pressures would most likely resolve demographic conditions of attrition likelihood. While it may be reasonable to make suggestions for structural solutions as we have recommended, we refrained from making particular suggestions for structural solutions because actual solutions require additional analyses that exceed the scope of this study. We, however, find it necessary to recommend that the university paid attention to these suggestions regardless of (or in addition to) its current efforts to curb attrition and improve retention.

6. Limitations

A limitation exists in the ability to use the findings of this study to make generalizations about attrition of students in urban universities. Two major reasons account for this limitation. First, this study was conducted in only one urban university in a particular location in the US. For a reliable generalization to be made about attrition in urban universities in general, more students from a representative sample of urban universities across the country will be required to participate in a study like this. Second, our effort at collecting a representative sample through random sampling did not produce an adequate sample size to achieve sample representativeness. The desire for good quality data prevented us from reverting to availability sampling which could have easily produced a larger sample size, but which would have also returned us to the problem of non-representativeness and, hence, limitations in generalization of findings. We, therefore, chose to use data collected through random sampling because of its quality over availability sample. Given the outlined limitation of this study, therefore, caution is encouraged while making generalizations about its findings. Lastly, this study focused only on undergraduate students, hence, any reference to attrition from this study, should be limited to that category of students.

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