

RELATIONSHIPS AMONG RETENTION, SATISFACTION, AND ACADEMIC
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ABSTRACT

The purpose of this quantitative research study was to examine survey and institutional data of NDSU current and former undergraduate students to describe, measure, and explore relationships among student retention, satisfaction, and academic performance. The study was guided by three research questions that examined factors that may predict satisfaction or intent on the part of students to re-enroll at an institution if given the hypothetical opportunity to do so. It further examined those variables for indication as to whether students remain enrolled at the institution because they are satisfied or if they elicit satisfaction within themselves during enrollment as a result of choosing to remain enrolled at the institution. Student responses to the National Survey of Student Engagement, Student Satisfaction Inventory and Sophomore Experience Survey instruments, along with institutional data were used to create variables for analysis. Potential predictive variables for this study were selected based on Rusbult's (1980) investment theory.

Linear regression was used to equate the responses for the focal variables related to overall satisfaction and desire to choose the institution again, as the survey instruments used different Likert scales for responses. The researcher used path analysis to develop a model of the relationship and direction between relevant variables associated with satisfaction and retention.

The model shows that student commitment to enroll again at the institution is the only predictor of the same over time. Student commitment to enrollment at the institution does have a positive relationship with on overall satisfaction, faculty contact, and GPA, but their overall satisfaction does not predict whether they would enroll again at the institution if they were able to hypothetically choose to do so. The model also shows that relationships and interactions with faculty and peers affects students' overall satisfaction but does not have an effect on their

willingness to choose to enroll again. The model additionally indicates that students tend to remain at the institution and are thus satisfied versus remaining at the institution because they are satisfied. The results also indicate that student retention tends to model individual investment models to a greater extent than individual consumer satisfaction models.

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CHAPTER 1. INTRODUCTION

Higher education institutions need to retain and graduate students well prepared to influence the affairs of society. Retaining students not only demonstrates commitment on behalf of both the student and the institution, but it also affects the financial well-being of both. Student retention has long been a priority for higher education institutions.

College degrees have replaced high school diplomas as a mainstay for economic sustainability. The National Center for Education Statistics, in their 2014 back to school statistics, reported in 2012 approximately 73 percent of young adults (ages 25-34) holding a bachelor's degree or higher were employed year-round in the labor force versus 65 percent of associate degree holders, 59 percent of those holding some college education, 60 percent of high school completers, and 49 percent of those without a high school diploma or equivalent (U.S. Department of Education, 2014a). College degrees have also been noted to increase responsible citizenship (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008).

In 2012, North Dakota State University's (NDSU) president, Dr. Dean Bresciani, noted in his State of the University address that, "[w]e will in the future better retain, graduate on time and place in jobs the best student class profiles in NDSU history" (Bresciani, 2012). Retention is especially important to North Dakota institutions of higher education as the 2013 North Dakota Legislature enacted a new funding formula that will be based on a completed student credit hour basis (North Dakota Century Code, 2014).

Key to an institution's ability to retain students is to satisfy their needs and expectations (Bryant, 2006; Joyce, 2009; Kuh et al., 2008; Schreiner, 2009; Schreiner & Juillerat, 1993; Schreiner & Nelson, 2013). Student satisfaction models have been based on a long tradition of consumer theory (Bryant, 2006).

There was a time when institutions were selective about admission and financial ability. Nowadays, applicants are in the position of being selective and smart consumers about where to enroll. Attracting, and keeping students enrolled, is essential to an institution's economic viability.

Statement of the Problem

Efforts to implement interventions to assist with reducing attrition have been concerted since the 1960s. In that time, there have been numerous studies to examine student attrition and/or graduation rates. ACT in 2011 reported that at Ph.D. granting institutions in the United States, approximately 22% of students do not return for their sophomore year (as cited in Morrow & Ackermann, 2012). Federal graduation rates have been calculated for more than a decade. In that time the completion rates have improved, but NDSU's graduation and retention rates have been below the national average for students seeking a bachelor's degree at 4-year public institutions. The national 2012 six-year graduation rate for first-time, full-time undergraduate students who began their pursuit of a bachelor's degree at a 4-year degree-granting institution in fall 2006 was 59 percent. For that same cohort, NDSU's graduation rate was 53 percent (U.S. Department of Education, 2014b).

Student satisfaction has been regularly assessed since the early 1990s with the development of the Student Satisfaction Inventory (SSI) (Schreiner & Juillerat, 1993). A goal of this tool was to assist institutions with proactively preventing dissatisfaction by promoting student success and retention (Juillerat, 1995). The SSI builds on a long tradition of consumer theory which asserts that students behave similar to consumers as they have a choice of where they will attend (Bryant, 2006). NDSU student satisfaction also lags behind peer and national rates.

Based on consumer theory, it is the assumption that students are retained because they are satisfied or ipso facto that we retain students by satisfying them. But there are also investment models that would argue that a continued relationship is based on a multitude of factors that cannot be identified as mere satisfaction (Drigotas & Rusbult, 1992; Rusbult, Martz, & Agnew, 1998). Instead, one could argue that students are retained because of financial, physical, and/or mental investment in the institution.

Purpose of the Study

The purpose of this quantitative research study was to examine survey and institutional data of NDSU current and former undergraduate students to describe, measure, and explore relationships among student retention, satisfaction, and academic performance. The need for the study continues to stem from NDSU's graduation and satisfaction rates being below peer and national rates.

Research Questions

The following research questions guided the study:

1. Are there variables that predict a student's level of satisfaction over time?
2. Are there variables that predict a student's desire to enroll again at NDSU if given the hypothetical choice to do so over time?
3. Are students retained at NDSU because they are satisfied or are they satisfied because they are here?

Definition of Terms

Attrition: the loss of first-time freshmen from an academic institution. This is generally presented as a percentage.

CFI (Comparative Fit Index): is a fit statistic that assesses the relative improvement in fit of the researcher's model in comparison to a baseline model (Kline, 2005). Rule of thumb for the CFI is values greater than roughly .90 may indicate a reasonably good fit (Hu & Bentler, 1999).

Coefficient alpha reliability (Cronbach's alpha): a measure of internal consistency that measures the extent to which items are measuring the same thing.

Concurrent validity: a measure to test whether survey questions measure a theoretical construct in the same way others have measured it at about the same time (National Survey of Student Engagement, 2014a).

Consequential validity: a measure to test whether the results of a survey have been interpreted and used as intended (National Survey of Student Engagement, 2014a).

Construct validity: a measure to test how well a group of items on a survey actually measures the theoretical concept (National Survey of Student Engagement, 2014a).

Content validity: a measure to test that the questions in a survey cover all aspects of the scale or construct (National Survey of Student Engagement, 2014a).

Convergent validity: along with discriminate validity, is a subcategory of construct reliability and measures items that theoretically should be related to see if in fact they are observed to be related.

Data quality: a quality indicator that refers to how the data represents the phenomena being measured including the completeness of data (National Survey of Student Engagement, 2014a).

Equivalence: a reliability measure of the correlation of scores between different versions of the same instrument or between instruments that measure the same or similar constructs (National Survey of Student Engagement, 2014a).

Grade Point Average (GPA): colleges report grades on a four-point scale from 0.0 to 4.0. The GPA is calculated by dividing the total amount of grade points earned by the total amount of credit hours attempted.

Internal consistency: is a test to measure the reliability of the data to the extent of which a group of items measure the same construct by how well they intercorrelate, or how well they vary together (National Survey of Student Engagement, 2014a).

Internal reliability: assesses the consistency of responses on a test or survey.

Item bias: a quality indicator that arises when an item is not able to treat all participants equally. Bias occurs when one group of respondents scores higher than another group (identified by gender, ethnicity, or other demographic characteristics) even though both groups have the attribute(s) which the item intends to measure (National Survey of Student Engagement, 2014a).

Known groups validity: a measure to test whether survey results from one group match those of other known groups from previous studies (National Survey of Student Engagement, 2014a).

Measurement error: a quality indicator that refers to the precision and accuracy of an instrument, and investigations of the potential uncertainty in a measurement (National Survey of Student Engagement, 2014a).

Mode analysis: a quality indicator that refers to the situation where participant responses differ due to the administration mode (e.g., web versus paper) (National Survey of Student Engagement, 2014a).

NFI (Bentler-Bonett normed fit index): a normed predictive fit index for models. Models with generally good fit would have an $NFI \geq .90$ (Bentler & Bonett, 1980).

NNFI (Non-normed Fit Index): is a non-normed predictive fit index for models that compensates for the effect of model complexity. This fit is sometimes also referred to as TLI (Tucker-Lewis Index). Rule of thumb for fit is $\geq .95$ (Hu & Bentler, 1999).

Nonresponse effects/bias: a quality indicator which arises when people who choose to participate in a survey are systematically different from those who do not (National Survey of Student Engagement, 2014a).

NSSE: is an acronym for the National Survey of Student Engagement and is a survey that has been around since 2000. It is administered to a random sample of first-year and senior students from bachelor's degree granting institutions. The instrument gauges the engagement of students and the impacts of a range of activities that impact student learning (National Survey of Student Engagement, 2012). The NSSE utilizes a four-point Likert scale for its questions related to overall satisfaction and desire to enroll again at the same institution.

Persistence: is an individual phenomenon by which students persist to a goal (Reason, 2009).

Predictive validity: a measure to test to what extent a score on a scale or test can predict some outcome measures in predicted ways (National Survey of Student Engagement, 2014a).

Response process validity: a measure to test whether or not respondents understand the questions on a survey the way they were intended (National Survey of Student Engagement, 2014a).

Retention: is an organizational phenomenon by which colleges and universities retain students (Reason, 2009). Generally expressed as a percent, it represents first-time degree seeking students that remain at an academic institution.

RMSEA (root mean squared error of approximation): Considered to be more of a badness of fit versus goodness of fit index since the higher the value of the index the worse the fit, the RMSEA measures the error of approximation in a model. Models with an RMSEA of $\leq .06$ are considered to have a relatively good fit between the hypothesized model and the observed data (Hu & Bentler, 1999).

Sampling error: a quality indicator that estimates the margin by which the true score on a given item could differ from the reported score (National Survey of Student Engagement, 2014a).

Satisfaction: fulfillment of a need or want (Satisfaction, n.d.).

Self-selection bias: a quality indicator that arises when participants who choose to enter or participate in a study are different from those that do not (National Survey of Student Engagement, 2014a).

SES: is an acronym for the Sophomore Experiences Survey. Headed by Dr. Laurie Schreiner, Professor of Higher Education at Azusa Pacific University in Azusa, California, the SES collects information on a national basis about sophomore success (Azusa Pacific University, 2014). The SES utilizes a six-point Likert scale for its questions related to overall satisfaction and desire to enroll again at the same institution.

Social desirability: a quality indicator that refers to the tendency of respondents to provide answers they think are more socially acceptable (National Survey of Student Engagement, 2014a).

SSI: is an acronym for the Student Satisfaction Inventory™ which is a national survey conducted by Noel-Levitz to assist campuses with increasing retention and degree completion. The survey instrument utilizes a two-dimensional approach to assessment of student satisfaction by doing gap analysis of students ratings of importance of a topic or issue and their satisfaction with the same item (Noel-Levitz, n.d.). The SSI utilizes a seven-point Likert scale for its questions related to overall satisfaction and desire to enroll again at the same institution.

Temporal stability: a measure of reliability which refers to the consistency of scores over time. The consistency would be evidenced based on the correlation of the score on two occasions (National Survey of Student Engagement, 2014a).

TLI (Tucker-Lewis Index): is a nonnormed predictive fit index for models that compensates for the effect of model complexity. This fit is sometimes also referred to as NNFI (Nonnormed Fit Index). Rule of thumb for fit is $\geq .95$ (Hu & Bentler, 1999).

Importance of the Study

With the growing mobility of students and the increasing ease of accessing institutional profile information, NDSU needs better information on the satisfaction of their students. Many studies have been done that focus on factors that affect academic performance, retention, and satisfaction. There is a research gap in assessing whether or not students are being retained because of their satisfaction with the institution or if they elicit satisfaction within themselves due to their investment in the institution and attainment of their degree.

Increased actual satisfaction will impact the perceptions of alumni, which will ultimately assist the institution with recruitment, retention, and alumni giving. Better information can assist the institution in efforts to raise both graduation and satisfaction rates. Information from this study could be used by the University, and other similarly situated institutions, to assist with intervention strategies and performance enhancement initiatives to assist in both retention and attrition of students while also increasing satisfaction.

Limitations of the Study

This study is limited based on the responses of only those that chose to respond to the surveys.

Organization of Remaining Chapters

Chapter 2 reviews the related literature and research on student satisfaction and retention. Chapter 3 describes the methodology and procedures used in the study, including data sources and analysis. Chapter 4 outlines the results of the analysis and findings of the study. Chapter 5 contains a summary of the study and its findings, conclusions, and recommendations for further study.

CHAPTER 2. REVIEW OF RELATED LITERATURE

Student satisfaction has been known to be affected by pre- and post-enrollment factors; however the effect on satisfaction and retention over time is less defined. This chapter reviews the literature related to: (a) pre-enrollment factors, (b) post-enrollment factors, and (c) retention as it relates to student satisfaction. The chapter's conclusion offers a synopsis of what is known through the literature and what is un-known about the topic of satisfaction and retention over time.

Pre-Enrollment Factors

There are many factors that influence student satisfaction and success well before they enter an institution of higher education. Such factors include socioeconomic status, self-concept, race, religious orientation, racial composition, high school GPA, high school rank, SAT and ACT scores, and gender. While an institution may not be able to influence pre-enrollment factors, admission standards and reputation of an institution do play into the type of students that are enrolled and thus can affect the overall satisfaction experienced with the institution of enrollment (Astin, 1993).

Students enter higher education with a clear desire to persist. Over 90 percent of incoming freshman have noted a strong desire to finish a degree while 91 percent reported being “deeply committed” to their educational goals (Noel-Levitz, 2013a). Four-year public students also reported that future career opportunities ranked as the number-one enrollment factor (Noel-Levitz, 2013c). The second highest enrollment factor was cost to attend an institution (Noel-Levitz, 2013c), and nearly one-quarter (23 percent) of incoming male freshman question whether or not a college education is worth their time, money, and effort (Noel-Levitz, 2013a).

Institutional preference has also been shown to be a key indicator in student satisfaction. At four-year public institutions, the percent of those attending their institution of first choice is reported around 60 percent (Noel-Levitz, 2013c).

A student's GPA has been found to have an effect on the academic success and satisfaction of higher education students. In a study by Kuh et al. (2008), they created a model to estimate the effects of student background characteristics on first year GPA and found that a student's demographic characteristics, pre-college experiences and prior academic achievements accounted for 29 percent of the variance in first-year grades.

Although Kuh et al. (2008) did find that measures of prior academic achievement had the strongest influence on first-year GPA, earlier studies had found that background characteristics and pre-college behavior were non-trivial in first year performance (Astin, 1993; Pascarella & Terenzini, 2005), and that ACT/SAT and high school GPA only explained a modest amount of variance of a student's academic performance (Sparkman, Maulding, & Roberts, 2012). But weighted high school GPA and SAT scores have shown a strong positive effect on persistence (Caison, 2007; Tinto, 1993; Wolniak, Mayhew, & Engberg, 2012) and GPA has long-term effects on satisfaction (Schreiner, 2009).

Overall, pre-enrollment factors have shown variable amounts of influence in success and satisfaction models. The effects are sometimes only noted as modest or non-trivial and not a pre-determinant of either graduation or satisfaction with an institution. The effect of pre-enrollment factors on satisfaction over time has not been evaluated.

Post-Enrollment Factors

A significant amount of research has been done on post-enrollment factors that affect student achievement. Most notably the focus has been more on post-enrollment as studies have

shown modest impact of demographic and pre-enrollment factors on academic achievement after the first year (Astin, 1993; Kuh et al., 2008; Pascarella & Terenzini, 2005).

Two leading post-enrollment factors that affect persistence and that may influence satisfaction as implied in research (Astin, 1993; Joyce, 2009; Levitz, Noel, & Richter, 1999; Noel, Levitz, Saluri, & Associates, 1985) are student contact with peers and contact with faculty (Astin, 1993; Caison, 2007; Morrow & Ackermann, 2012). Terenzini and Pascarella (as cited in Caison, 2007) researched and reviewed a number of studies in the early 1980s about predicting persistence. They report that although peer contact is important to persistence, faculty contact was found to be vital to retention.

Astin (1993) also reported that next to peer group interaction, faculty represent the most significant aspect to affect student development. The interaction between faculty and students was found to have positive correlations on all academic attainment outcomes. An interesting finding in Astin's examination of research institutions is that institutional policies related to effective teaching are given little priority at institutions that hire large numbers of research-orientated faculty.

The National Survey of Student Engagement has been around since 2000 as a way to assess instructional practices and a wide range of activities that impact student learning. Their results also show that increased student-faculty interaction is connected with more positive perceptions. They also found that those student-faculty interactions promote better relationships with peers and administrative personnel (National Survey of Student Engagement, 2012).

Pascarella and Terenzini also conducted a broad meta-analysis of research and literature that explored over 900 research articles and books, and found that perhaps the single best predictor of attaining a bachelor's degree was undergraduate grades (as cited in Griffel, 2007).

DeBarard, Spielmans, and Julka (2004) also note that there is a consistent relationship between college academic achievement and retention. They were able to confirm that higher performing students persisted in their studies to a greater degree than lower performing students. This again provides a connection between academic attainment, persistence and ultimately graduation.

Joyce (2009) concluded that academic and campus life satisfaction of students were excellent predictors for future enrollment intentions. Noel-Levitz (2013c) found that students with higher GPAs were significantly more satisfied and likely to re-enroll. In Gaskell's (2009) literature review on satisfaction and retention, she found that across all the articles she reviewed, proactive student support, feedback on assessment, and contact with teaching support services were keys to retention, and that actual student satisfaction was a less reliable indicator of retention due to various less examined post-enrollment factors such as career-related goals.

Overall Student Satisfaction

Low student satisfaction and attrition. Low student satisfaction at an institution has been found to affect attrition. Satisfaction with an institution can change over time as the level of satisfaction of freshmen has been found to be higher than that expressed by seniors (Billups, 2008). When students are dissatisfied overall with their experience at an institution, they often will become drop-outs (Bryant, 2006). Attrition in turn, can have a negative effect on future enrollment as attrition can affect the reputation of an institution (Miller, 2003, May; Nichols, 2009).

Browne, Kaldenberg, Browne, and Brown (1998) in their research found that even if students were satisfied with their academic program, their likelihood of recommending the university to others was influenced by the extent of and satisfaction with their interactions with

students and university personnel. The findings suggest the importance of universities addressing student overall satisfaction.

Prospective students in the market today have ready access to information about institutional enrollment and graduation rates. Prospective students can use this information to form a perceived fit with the university, and the information allows them to form an opinion about the risk of their investment with the institution.

Student satisfaction and retention. Successful institutions know that student retention is a by-product of student success and satisfaction (Juillerat, 1995; Noel et al., 1985). Attrition rates have also been found to reduce by half for each year past the first that an institution can retain a student (Levitz et al., 1999). The challenge is engaging students beyond their first year as their sense of community decreases and the feelings of isolation increase (Billups, 2008).

Miller (2003, May) reports that colleges and universities with higher satisfaction levels experience higher retention and graduation rates, lower loan default rates, and increased alumni giving (as cited in Bryant, 2006; as cited in Obiekwe, 2000, November). Students that are highly satisfied are more likely to remain at the institution and ultimately graduate from college (Billups, 2008). A strong relationship has also been found between retention, student satisfaction, and selection of students with similar values as the institution, or what would be a sense of good fit between the student and the institution (Schertzer & Schertzer, 2004).

Campus life outside the classroom has been shown by Peters (1988) to also be essential to student satisfaction with their educational experience (as cited in Billups, 2008). Outside classroom experience can include contact with faculty and peers, on-campus activities, community engagement, and volunteerism.

Student involvement has been shown to have a significant effect on both social and academic factors involving undergraduate education. Astin (1985, 1987) and Tinto (1975, 1987, 1993) have examined student involvement over many years and have proposed theories that student success in college is directly related to a student's ability to become involved in their college environment. This involvement includes both psychological and behavioral involvement. According to both Astin (1985) and Tinto (1993) social integration of a student into their undergraduate environment is a significant determinant of student retention.

Tinto's student integration model (1975, 1987, 1993) studied student persistence and examined the academic and social factors that affect a student's decision to leave an institution. Tinto found that the more involved a student is with their institution and community, the more likely they would be to overcome obstacles and remain enrolled.

Astin (1985) conducted an extensive amount of research on student involvement and found a strong relationship between involvement and student retention and social and intellectual development. Astin postulated five student involvement theories: (a) involvement refers to the investment of physical and psychological energy in various objects that might be quite general or very specific, (b) involvement occurs along a continuum, (c) involvement has both qualitative and quantitative features, (d) the amount of student learning is directly proportional to the quality and quantity of student involvement, and (e) the effectiveness of any educational policy or practice is directly related to whether or not it increases student involvement (as cited in Gasser, 2008).

While "involvement" has been well documented to have a significant impact on a student's undergraduate experience and their likelihood to persist (Astin, 1993) there is limited evidence on the implications of volunteerism or service-learning to a student's overall success

(Astin, Sax, & Avalos, 1999). There is evidence that volunteerism during the undergraduate experience is associated with earning higher degrees, diversity, donating to one's alma mater, and continued volunteerism beyond college (Astin et al., 1999).

While volunteering or participating in service-learning did not show considerable impact on a student's post-graduation satisfaction or income, it was found to have an effect on the student's perception of how well their undergraduate experience prepared them for work (Astin et al., 1999), which in turn may have an effect on student's overall satisfaction with their institution. Astin, Sax, and Avalos (1999) also found that undergraduate service involvement had a positive effect on student aspirations to obtain advanced degrees. This again may assist in increasing retention as students may become more committed to completing their undergraduate degrees in order to work towards an advanced degree.

Satisfaction, engagement, and commitment. Tinto's theory of student integration is widely cited in regards to student retention. Tinto (1975) postulated that withdrawal from postsecondary education was due to inadequate social and academic integration. Tinto argued that student experiences influence their commitments and intentions. This is not dissimilar to interdependence and investment models as related to personal relationships (Drigotas & Rusbult, 1992; Rusbult, 1980; Rusbult et al., 1998).

Elliott and Healy (2001) also examined factors that attract and retain students and found that student centeredness (consisting of six items related to university efforts to convey student importance), campus climate (seventeen items related to campus pride and a sense of belonging), and instructional effectiveness (fourteen items which includes academic experience and faculty effectiveness), have a strong impact on student satisfaction. Utilizing data from the SSI instrument, their research also examined student's perceived importance of education

experiences. Their results found that student-centeredness and campus climate were not noted by students as some of the most important factors to them in their educational experience yet they were found to affect their overall satisfaction.

Beginning with a student's first-year experience, Borden (1995) found that establishing a connection to their advisor or a key faculty member had an effect on student satisfaction with their first-year experience. A sense of belonging is a key factor to retaining students. When students have the sense of being rejected and are not able to develop a sense of belonging with their institution, they are more likely to leave the institution (O'Keeffe, 2013). Social support has been found to be positively related to academic persistence (Nicpon, Huser, & Blanks, 2006). Additionally, the student perceived quality of those faculty-student relationships has been found to have an effect on satisfaction over the extent of those relationships (Billups, 2008).

Braxton and Lee (as cited in Reason, 2009) consistently found a link among student social integration, student commitment to an institution, and persistence. The authors found that greater social integration led to greater institutional commitment at residential institutions. The author concludes that engagement matters to persistence (Reason, 2009). Likewise, Tinto (1975) had proposed that retention could be increased by the construction of college and classroom programs which would integrate students into the ongoing social and intellectual life of the institution.

Schreiner (2010) found that students did not consider themselves to be thriving in college unless they were in a positive relationship with others at the institution. The students' perceptions of thriving were found to be highly correlated with their satisfaction with their college experience. Schreiner additionally notes that universities should not necessarily focus on

the areas with the largest gap scores but instead on areas that will have a greater impact on overall satisfaction.

Beyond the reported satisfaction, Elliott and Healy (2001) determined that a feeling of belonging could be attributed to student experiences with classroom interactions, rigor of the curriculum, positive feelings about classroom and social interactions, connections to faculty and a sense of fit with the campus culture (as cited in Billups, 2008). Gaskell's (2009) literature review also identified the importance of contact with teaching staff and timely feedback.

Whereas engagement and commitment theories have shown an effect on student retention, satisfaction has also been found to be a key predictor of retention (Noel-Levitz, 2013b; Schreiner, 2009). There is a limited amount of research purely on student satisfaction. Schreiner (2009) noted there is surprisingly little research empirically linking student satisfaction to retention. Many models try to assimilate satisfaction based on a student's intent to persist (Astin, 1993; Joyce, 2009; Noel et al., 1985).

In Gaskell's (2009) literature review on satisfaction and retention, she found that despite the fact that customer satisfaction in the service industry leads to customer retention, student satisfaction in education may or may not be important in regards to retention. Carroll, Ng and Birch (2009) reported that even when students are not satisfied they will persist due to other factors such as career-related goals (as cited in Gaskell, 2009), suggesting that there may be more than satisfaction involved with retention such as an investment or relationship with the institution.

Interdependence and investment model. Rusbult's investment model (1980) in regards to personal relationships suggests that stability is a function of three components: degree of satisfaction, quality of alternatives, and magnitude of investments. The combined impact of these

variables defines commitment (Drigotas & Rusbult, 1992; Rusbult, 1980). Rusbult's primary goal of the investment model (1980) is to predict satisfaction with and degree of commitment to ongoing relationships. The relationships could be romantic, friendship, business, etc. Possibly Rusbult's investment model theory can be applied to student satisfaction and commitment. Student satisfaction and commitment were not part of Rusbult's research.

Several principles of Thibaut and Kelley's interdependence theory (1959) were used as the basis for Rusbult's investment model. Interdependence theory states that satisfaction and attraction is a function of the difference between the outcome value of the relationship and the individual's expectations or comparison of the value of the relationship (as cited in Rusbult, 1980). The investment model assumes that individuals are generally motivated to maximize rewards while minimizing costs. The model states that commitment to a relationship is affected by not only the values of the current relationship and perceived values of alternatives, but also by the size of the investment by the individual. Rusbult posits that satisfaction with and attraction to a relationship is simply a function of the two outcome values and the perceived rewards and costs of each (Rusbult, 1980).

Rusbult, Martz and Agnew (1998) designed an instrument to measure four key persistence predictors of interpersonal relationships including commitment level, satisfaction level, quality of alternatives, and investment size. These authors found that commitment level was the most direct and powerful predictor of persistence. However, Rusbult (1980) notes that an individual's commitment cannot be viewed as simple satisfaction with the relationship nor the merits of the partner or partnership; rather the investment made to the relationship, along with the outcome or alternative outcome values, is a strong determinant of the stability of the relationship or the commitment to continuing the relationship.

Measuring Satisfaction and Engagement

Wiers-Jenssen, Stensaker and Grøgaard (2002) discussed the difficulty in studying student satisfaction because the factors that are perceived to be important to students vary by field of study, by institution type, and by institution. Brennan and Williams (2003) also note the difficulty of defining satisfaction due to the complexity of what it means to the individual students.

An instrument has been developed to assess the extent to which students engage in educational practices associated with high levels of learning and development. The National Survey of Student Engagement (NSSE) developed this survey, which it launched in 2000 and updated in 2013. In addition to asking questions about students satisfaction, the questionnaire collects information in five categories which include: participation in educationally purposeful activities, institutional requirements and challenging coursework, perceptions of the college environment, estimates of educational and personal growth, and background and demographic information (National Survey of Student Engagement, 2014b).

Through their years of research, NSSE has found that increased faculty and student interaction is connected to more positive perceptions of student relationships on campus and in the classrooms. They also obtained results that showed that higher levels of engagement were associated with higher rates of retention (National Survey of Student Engagement, 2012).

There is one instrument administered by Noel-Levitz (Noel-Levitz, n.d.), the Student Satisfaction Inventory (SSI), that specifically attempts to measure satisfaction with different aspects of higher education. From the consumer perspective, satisfaction with college factors occurs when an expectation is met or exceeded (Juillerat, 1995; Noel-Levitz, n.d.). The SSI debuted in 1994 and is based on consumer theory originating with the work of Cardozo(as cited

in Bryant, 2006). A pilot project and validity study of the instrument were conducted in 1993 before the instrument was made available.

The instrument views the students as consumers and measures their satisfaction and priorities on a wide range of issues related to college life and learning (Noel-Levitz, 2011). The instrument measures the importance or expectations of campus services and life, and the student's satisfaction with the same (Juillerat, 1995). The gap between expectations and perceived delivery can then be used by institutions to either alter services or change perceptions.

The SSI for four-year institutions uses 12 retention indicators that measure student importance and satisfaction: academic advising, campus climate, campus support services, concern for the individual, instructional effectiveness, admissions and financial aid effectiveness, registration effectiveness, responsiveness to diverse populations, safety and security, service excellence, student centeredness, and campus life (Noel-Levitz, 2013c).

In the time since its debut, Noel-Levitz has found five specific observations in regards to student satisfaction: what is most important to students has stayed important, satisfaction levels overall have risen at four-year public institutions, financial aid factors have increased in importance in enrollment decisions, importance and satisfaction shifts in financial items, and importance and satisfaction shifts in campus climate items (Noel-Levitz, 2011).

Using the SSI instrument, student satisfaction has been linked with retention (Schreiner, 2009). Although the data was not necessarily on repeat survey takers, Schreiner (2009) also found that satisfaction indicators almost doubled their ability to predict retention beyond demographic and institutional factors based on academic class levels. Schreiner found that institutional features became more predictive of retention the longer a student was enrolled.

Public institutions also face an additional challenge in regards to maintaining or increasing satisfaction over time as they may have less one-on-one time with students or at least a perceived lower ability to meet the specific needs of students. Noel-Levitz (2013c) reports that satisfaction scores for public institutions are lower and perceives it may be due to students not receiving the same level of individual attention and service that they would at smaller, especially private, institutions. High research-orientated institutions, such as NDSU, may also find lower satisfaction levels if institutional policies do not focus on effective teaching (Astin, 1993).

The Carnegie Foundation has metrics to assign the research rank of an institution. The Carnegie rank of an institution can strongly influence the reputation of an institution and its attractiveness to incoming undergraduate and graduate students. The higher rank, the more initial attraction there is for a student to being part of a research university. Moreover, a first-year student's odds of persisting more than quadrupled if they were enrolled at a Carnegie classified research university with high or very high research activity (Schreiner, 2009). NDSU is a research university with very high research activity (Carnegie Foundation, 2014).

NDSU has made a concerted effort to examine retention. In October 2012, NDSU's President Dean Bresciani noted in his State of the University address the university was in its first year of a new Student Success Tuition Model, which encourages students to take at least 15 credits. The goal of the model is to increase both retention and graduation rates (Bresciani, 2012). Additionally, in December 2012, the university charged its Council on Retention to further examine the retention issue and make recommendations to improve persistence.

For NDSU, satisfaction over time is an especially important factor to analyze as the State of North Dakota in May 2013 altered the funding formula for higher education institutions such that it will be based partly on credit hours successfully completed at the institution (North

Dakota Century Code, 2014). The challenge NDSU faces is increasing satisfaction while also increasing or maintaining its research status. Devoting one-on-one attention to students can be more challenging at public research universities. However, being a high research activity university can also be a strength for NDSU due to the type of student that is attracted to these types of institutions according to research noted by Schreiner (2009).

Conceptual Framework

Using Rusbult's (1980) investment model as a conceptual framework, this study was designed to assess student satisfaction and commitment to continued enrollment at their institution. The study will examine four dimensions of a student's relationship with the university: (a) commitment level (social and academic engagement including faculty and peer contact, community involvement, and general overall academic performance), (b) satisfaction level (overall satisfaction with the university), (c) quality of alternatives (satisfaction with initial choice of institution); and (d) investment size (academic rank, degree goal, financial dependence and financial aid availability) to determine if identified variables predict persistence based on the investment model of commitment processes (Rusbult et al., 1998).

Summary of Literature Findings

The literature did show that there are pre-enrollment and post-enrollment factors that affect the persistence of students. Many of the studies infer that retention of students means they are satisfied. Goals by institutions to focus merely on retention alone will not meet the needs of the institutions for increasing satisfaction among students. Student satisfaction is important to continued enrollment and any efforts to increase enrollment. Academic performance is related to both retention and satisfaction. Additionally, based on investment theory, satisfaction alone does

not determine commitment to continuing with a relationship, in this instance the relationship being with the institution, but that the investment made contributes to the commitment.

Although there has been many efforts to measure student satisfaction and retention, there is minimal information available in the literature dedicated specifically to what student satisfaction actually means and its effect on retention, and none about longitudinal trends of intra-institutional and intra-student satisfaction. There is great interest in deciphering whether an institution is meeting student expectations and needs and the extent to which institutions can responsibly infer that continued enrollment is implying satisfaction. Moreover, there is a need to know (a) to what extent student satisfaction is due to the student investment costs associated with continued enrollment at the institution and (b) to what extent institutional efforts to increase retention actually have an effect on satisfaction. Student engagement can be viewed as an additional emotional investment that students make in their institution.

In the review of literature, the data is taken from students at different points during their academic career. Research has focused on satisfaction and outcomes as related to students at a specific point in time of their studies. There is a lack of literature that examines student satisfaction over time. Having repeat data on students would assist with finding factors that may affect satisfaction over time. The lack of data in the literature on intra-student changes in levels of satisfaction over time was the major impetus for this study.

CHAPTER 3. METHODOLOGY AND PROCEDURES

Based on the potential impact of pre- and post-enrollment factors noted in Chapter 2, this study was designed to examine these factors in the context of intra-student changes over time in satisfaction and/or whether to have attended NDSU in the first place. The study will specifically look at questions that directly examine student satisfaction and their opinions as to whether or not they would have made the same enrollment decision again if given the hypothetical opportunity to make the decision again. The analysis will examine survey responses from students that have answered these specific questions at two or more times during their academic career at NDSU to explore for relationships between changes in responses to these two survey items and other survey items that are known to be or might be indirect indicators of satisfaction. The guiding question is “to what extent do ‘negative’ responses of students to the satisfaction and/or ‘do over’ items change over time for these same students in factors known to be, or might be, related to student satisfaction with their institution. In other words, to what extent does the combined investment of time, money, other resources, relationships, etc. in NDSU ameliorate or raise responses in the satisfaction and/or ‘do over’ items.

Data Sources

This study was conducted in two parts. The first part of the study is based on survey design methods using both archival and current data to create a common scaling of survey responses. The common scale enabled data comparison from similar but differently worded survey questions such that changes in student survey responses could be analyzed over time. Archived data was collected from students between spring 2007 and 2013 from seven separate surveys using three separate instruments, the NSSE, SSI and SES. Current data was collected

spring 2014 to provide a basis for recoding the ordinal data of SSI seven-point scale and SES six-point scale to the four-point scale of NSSE.

The second part of the study utilized various statistical techniques to analyze factors that may impact student satisfaction over time. Variables utilized were generated from student self-reported responses, admissions demographics, and transcript data.

Institutional Review Board Approval

In compliance with research with human subjects, Institutional Review Board (IRB) approval was received on May 14, 2013 with continuation approvals in 2014 and 2015. As the current study analyzed data that already had been collected, the application was reviewed under expedited category 5 which is research involving materials (data, documents, records, or specimens) that have been collected, or will be collected solely for non-research purposes (such as medical treatment or diagnosis). This study's IRB approval of protocol is #XX13245.

NDSU's Federal Wide Assurance number is FWA00002439.

Instruments

Although there is limited or no research on intra-student satisfaction changes over time, there are at least three known instruments that specifically ask satisfaction specific questions, the NSSE, SSI, and SES. NDSU has utilized each of these instruments. The additional data collected spring 2014 for response category equating purposes provided a fourth, quasi-data set because some of these 104 respondents had completed one of the national surveys as well. Two questions from each survey were similar in wording that asked about (a) a student's overall satisfaction with their experience at the institution and (b) whether that student, given the hypothetical opportunity, would enroll again at the same institution. These two questions provided the starting point for this study.

National Survey of Student Engagement. The NSSE instrument (Appendix A) was conceived in 1998 as a new way to emphasize effective teaching practices and to understand student engagement in educationally purposeful activities. Russ Edgerton of the Pew Charitable Trusts organized a group of scholars to explore the creation of a national survey. The design team consisted of Alexander Astin, Gary Barnes, Arthur Chickering, Peter Ewell, John Gardner, George Kuh, Richard Light, Ted Marchese, and C. Robert Pace. The first instrument was pilot tested in 1999 which was followed by the first full-scale national administration in 2000 (National Survey of Student Engagement, 2014c). The NSSE instrument collected information in five categories (a) participation in educationally purposeful activities, (b) institutional requirements and the challenging nature of coursework, (c) perceptions of the college environment, (d) estimates of educational and personal growth since starting college, and (e) background and demographic information (National Survey of Student Engagement, 2014b). The survey had 99 questions that utilized several different Likert scale questions as well as categorical questions. The survey instrument was updated in 2013 (Appendix B) but the two questions specifically utilized for this study did not change in the updated version.

The NSSE instrument is routinely assessed as to validity, reliability and other quality indicators, which are included in the instrument's Psychometric Portfolio. Forms of validity utilized include response process validity, content validity, construct validity, concurrent validity, predictive validity, known groups validity, and consequential validity. Forms of reliability utilized include internal consistency, temporal stability, and equivalence. Other quality indicators utilized include self-selection bias, item bias, measurement error, data quality, mode analysis, nonresponse effects/bias, sampling error, and social desirability. Some of these

measures are not statistically measurable and are instead evaluated by experts (National Survey of Student Engagement, 2014a).

The internal consistency of the instrument was measured and found to be reliable. The Cronbach's alpha for engagement indicators ranged from .77 to .89 for first-year students and from .78 to .90 for seniors. Cronbach's alpha for the deep learning scales ranged from .699 to .853 for first-year students and from .715 to .856 for seniors. Cronbach's alpha for gains scaled ranged from .828 to .869 for first-year students and from .823 to .877 for seniors. The most recent measure of the temporal stability in 2011 also found the instrument reliable with a Pearson's r correlation for the overall analyses with a range of .749 for first-year student-faculty interaction and .924 for senior enriching educational experiences (National Survey of Student Engagement, 2014a).

The construct validity of the instrument was measured and found to be an excellent fit for both first-year students and seniors (fit indices $> .95$ and RMSEA = .05). The first-year student model was an excellent fit ($\chi^2 = 18,038.91$, $df = 51$, NFI = .98, NNFI = .98, CFI = .98, RMSEA = .047) as was the senior student model ($\chi^2 = 22,467.21$, $df = 51$, NFI = .97, NNFI = .96, CFI = .97, RMSEA = .050) (National Survey of Student Engagement, 2014a).

Student Satisfaction Inventory™. The SSI instrument (Appendix C) was developed by Drs. Laurie Schreiner and Stephanie Juillerat with assistance from Noel-Levitz, LLC. The SSI was released in 1994 and is administered by Noel-Levitz. NDSU uses the SSI form A which evaluates student expectations and level of satisfaction on 12 scales including (a) academic advising effectiveness, (b) campus climate, (c) campus support services, (d) concern for the individual, (e) instructional effectiveness, (f) admissions and financial aid effectiveness, (g) registration effectiveness, (h) responsiveness to diverse populations, (i) safety and security, (j)

student centeredness, and (k) campus life. The survey had 116 questions that utilized several different Likert scale questions as well as categorical questions (Noel-Levitz, n.d.).

The SSI instrument has shown exceptionally high internal reliability. Cronbach's coefficient alpha is .97 for the set of importance scores and is .98 for the set of satisfaction scores. It also demonstrates good score reliability over time; the three-week, test-retest reliability coefficient is .85 for importance scores and .84 for satisfaction scores (Noel-Levitz, n.d.).

Convergent validity of the SSI was assessed by correlating satisfaction scores from the SSI with satisfaction scores from the College Student Satisfaction Questionnaire (CSSQ), another statistically reliable satisfaction instrument. The Pearson correlation between these two instruments ($r = .71$; $p < .00001$) is high enough to indicate that the SSI's satisfaction scores measure the same satisfaction construct as the CSSQ's scores, and yet the correlation is low enough to indicate that there are distinct differences between the two instruments (Noel-Levitz, n.d.).

Sophomore Experiences Survey. The SES instrument (Appendix D) was developed by a team of researchers headed by Dr. Laurie Schreiner as part of the Thriving Project at Azusa Pacific University in Azusa, California. The Thriving Quotient is the basis for the SES. The survey has been administered nationally since 2007. This instrument is administered online and gathers information on intellectual, social, and psychological engagement to assess which aspect of the campus experience affect students ability to thrive (Schreiner, 2010). The survey had 142 questions that utilized several different Likert scale questions as well as categorical questions (Azusa Pacific University, 2014).

Coefficient alpha reliability of the 25-item Thriving Quotient instrument is $\alpha = .88$. Confirmatory factor analysis indicated thriving was a higher-order construct comprised of five

factors: Engaged Learning ($\alpha = .87$), Academic Determination ($\alpha = .80$), Social Connectedness ($\alpha = .77$), Diverse Citizenship ($\alpha = .78$), and Positive Perspective ($\alpha = .84$). This model was an excellent fit to the dataset ($\chi^2_{(123)} = 651.15$, $p = .000$; RMSEA = .053 with 90% confidence intervals from .049 to .057; CFI = .954; TLI = .943) (Schreiner, Kalinkewicz, McIntosh, & Cuevas, 2013, November).

Additional constructs used for the SES are Psychological Sense of Community ($\alpha = .85$, $\chi^2_{(1)} = 11.21$, $p < .001$, CFI = .998; RMSEA = .059); Spirituality ($\alpha = .95$, $\chi^2_{(1)} = 8.53$, $p = .003$, CFI = .999; RMSEA = .051); and Student-Faculty Interaction ($\alpha = .86$, $\chi^2_{(9)} = 47.52$, $p = .025$, CFI = .996; RMSEA = .038) (Schreiner et al., 2013, November).

Data Collection

All data used in this study were collected or generated by NDSU's Office of Institutional Research and Analysis (OIRA). The survey respondents were members of the NDSU undergraduate student body between spring 2007 and spring 2014.

The NSSE instrument is administered to freshmen and seniors and was administered in the spring semesters of 2007, 2009, 2011, and 2013. The SSI instrument was administered spring semesters of 2008 and 2010 to all underclassmen. The SES instrument was targeted to sophomores and was administered spring 2009.

An additional online survey was administered to a stratified sample of students to gauge their responses to two out of three of each of the questions related to overall satisfaction and perspective on enrolling again in order provide a basis for equating the different Likert scales of SSI and SES to the NSSE scale. This survey was administered spring of 2014.

Key Variables

In order to address the research questions, there are two focal variables in regards to overall satisfaction and choosing NDSU again given the choice, and several covariates related to pre- and post-enrollment, faculty and peer interaction, community involvement, finances, as well as general demographics. The specific pre-enrollment variables initially selected to be analyzed included high school GPA (Caison, 2007; Kuh et al., 2008; Schreiner, 2009; Tinto, 1993; Wolniak et al., 2012), ACT score (Caison, 2007; Schreiner, 2009; Sparkman et al., 2012; Tinto, 1993; Wolniak et al., 2012), and selection of NDSU as a first choice institution as reported on ACT/SAT exams (Noel-Levitz, 2013c). Post enrollment factors included GPA (DeBerard et al., 2004; Griffel, 2007; National Survey of Student Engagement, 2012; Noel-Levitz, 2013c), academic college (Wiers-Jenssen et al., 2002), academic rank (Billups, 2008; Schreiner, 2009), and degree goal (e.g., bachelor, master, doctorate, certificate, etc.) (McGrath & Braunstein, 1997). Variables related to student contact with faculty (Astin, 1993; Caison, 2007; Morrow & Ackermann, 2012), student contact with peers (Astin, 1993; Caison, 2007; Morrow & Ackermann, 2012; National Survey of Student Engagement, 2012), community involvement (Beehr, LeGro, Porter, Bowling, & Swader, 2010), and financial burden (Noel-Levitz, 2011, 2013c) were also initially selected to be evaluated using responses from specific questions in the NSSE, SSI, and SES instruments. Additional general demographic characteristic variables (gender, age, etc.) were also initially selected (Astin, 1993; Kuh et al., 2008; Pascarella & Terenzini, 2005).

Specific questions identified for use in the analysis of faculty interaction from the 2007-2011 NSSE instruments included the following.

- 1.n. In your experience at your institution during the current school year, about how often have you discussed grades or assignments with an instructor?
- 1.o. In your experience at your institution during the current school year, about how often have you talked about career plans with a faculty member or advisor?
- 1.q. In your experience at your institution during the current school year, about how often have you received prompt written or oral feedback from faculty on your academic performance?
- 7.d. Have you done or do you plan to work on a research project with a faculty member outside of course or program requirements before you graduate from your institution?
- 8.b. Mark the box that best represents the quality of your relationships with faculty members at your institution.

Specific questions identified for use in the analysis of faculty interaction from the 2013 NSSE instrument included the following.

- 3.a. During the current school year, about how often have you talked about career plans with a faculty member?
- 5.e. During the current school year, to what extent have your instructors provided prompt and detailed feedback on tests or completed assignments?
- 11.e. Have you done or do you plan to work with a faculty member on a research project?
- 13.c. Indicate the quality of your interactions with faculty at your institution.

Specific questions identified for use in the analysis of peer interaction from the 2007-2011 NSSE instruments included the following.

- 1.h. In your experience at your institution during the current school year, about how often have you worked with classmates outside of class to prepare class assignments?
- 1.t. In your experience at your institution during the current school year, about how often have you discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)?
- 8.a. Mark the box that best represents the quality of your relationships with other students at your institution.

Specific questions identified for use in the analysis of peer interaction from the 2013 NSSE instrument included the following.

- 1.h. During the current school year, about how often have you worked with other students on course projects or assignments?
- 13.a. Indicate the quality of your interactions students at your institution.

Specific questions identified for use in the analysis of community involvement from the 2007-2011 NSSE instruments included the following.

- 1.k. In your experience at your institution during the current school year, about how often have you participated in a community-based project (e.g. service learning) as part of a regular course?
- 6.a. During the current school year, about how often have you attended an art exhibit, play, dance, music, theater, or other performance?
- 7.b. Have you done or do you plan to do community service or volunteer work before you graduate from your institution?
- 10.f. To what extent does your institution emphasize attending campus events and activities (special speakers, cultural performances, athletic events, etc.)?

Specific questions identified for use in the analysis of community involvement from the 2013 NSSE instrument included the following.

- 12. About how many of your courses at this institution have included a community-based project (service-learning)?
- 1.d. During the current school year, about how often have you attended an art exhibit, play or other arts performance (dance, music, etc.)?
- 15.e. About how many hours do you spend in a typical 7-day week doing community service or volunteer work?
- 14.h. How much does your institution emphasize attending campus activities and events (performing arts, athletic events, etc.)?

The NSSE instrument does not have any specific questions about student finances.

General questions identified for use in the analysis from the 2007-2011 NSSE instruments included the following.

- 10.b. To what extent does your institution emphasize providing the support you need to help you succeed academically?
- 10.e. To what extent does your institution emphasize providing the support you need to thrive socially?
- 24. Are you a student-athlete on a team sponsored by your institution's athletics department?

General questions identified for use in the analysis from the 2013 NSSE instrument included the following.

- 14.b. How much does your institution emphasize providing support to help students succeed academically?

- 14.e. How much does your institution emphasize providing opportunities to be involved socially?
- 35. Are you a student-athlete on a team sponsored by your institution's athletic department?

Specific question identified for use in the analysis of faculty interaction from the SSI instrument included the following.

- 14. My academic advisor is concerned about my success as an individual.
- 19. My academic advisor helps me set goals to work toward.
- 39. I am able to experience intellectual growth here.
- 41. There is a commitment to academic excellence on this campus.
- 44. Academic support services adequately meet the needs of students.
- 47. Faculty provide timely feedback about student progress in a course.

Specific question identified for use in the analysis of peer interaction from the SSI instrument included the following.

- 1. Most students feel a sense of belonging here.
- 46. I can easily get involved in campus organizations.

The SSI instrument does not have any specific questions about community involvement.

Specific questions identified for use in the analysis of student finances from the SSI instrument included the following.

- 12. Financial aid awards are announced to students in time to be helpful in college planning.
- 17. Adequate financial aid is available for most students.
- 66. Tuition paid is a worthwhile investment.

General questions identified for use in the analysis from the SSI instrument included the following.

- 24. The intercollegiate athletic programs contribute to a strong sense of school spirit.
- 37. I feel a sense of pride about my campus.
- 114. When I entered this institution, it was my: (select level of choice).

Specific question identified for use in the analysis of faculty interaction from the SES instrument included the following.

- 89. How often have you met with a professor during office hours this year?
- 90. How often have you discussed career plans or goals with a professor this year?
- 93. How often have you met with your academic advisor this year?
- 99. Rate your satisfaction with the amount of contact you have had with faculty this year.
- 100. Rate your satisfaction with the quality of the interaction you have had with faculty this year.

Specific questions identified for use in the analysis of peer interaction from the SES instrument included the following.

- 10. Rate your agreement with the statement, I often discuss with my friends what I'm learning in class.
- 48. Rate your agreement with the statement, I feel like I belong here.
- 49. Rate your agreement with the statement, I have friends on this campus upon whom I can depend.
- 80. How involved are you in student organizations on campus currently?
- 85. How involved are you in campus events and activities currently?

- 101. Rate your satisfaction with your experiences with your peers on this campus this year.

Specific questions identified for use in the analysis of community involvement from the SES instrument included the following.

- 45. I have the power to make a difference in my community.
- 84. How involved are you in community service currently?

Specific questions identified for use in the analysis of student finances from the SES instrument included the following.

- 73. Rate your agreement with the statement, I am confident that the amount of money I'm paying for college is worth it in the long run.
- 77. Rate your agreement with the statement, I feel very discouraged about the amount of debt I'm incurring to pay my college bills.

General questions identified for use in the analysis from the SES instrument included the following.

- 112. When you chose to attend this institution, was it your first choice?
- 115. Are you a student athlete?

Focal variables. The two variables that are the focus of this study are overall satisfaction (OS) and choose again (CA). In order to compare the two variables across all three survey instruments, the SES question as to CA needed to be reverse coded so the responses were asked in a similar direction and could be compared from time one to time two.

The two questions used from the NSSE instrument utilized a four-point Likert scale and were:

1. How would you evaluate your entire educational experience at this institution (1 poor, 2 fair, 3 good, 4 excellent)?

2. If you could start over again, would you go to the same institution you are now attending (1 definitely no, 2 probably no, 3 probably yes, 4 definitely yes)?

The two questions used from the SSI instrument utilized a seven-point Likert scale and were:

1. Rate your overall satisfaction with your experience here thus far (1 not satisfied at all, 2 not very satisfied, 3 somewhat dissatisfied, 4 neutral, 5 somewhat satisfied, 6 satisfied, 7 very satisfied).

2. All in all, if you had it to do over again, would you enroll here (1 definitely not, 2 probably not, 3 maybe not, 4 I don't know, 5 maybe yes, 6 probably yes, 7 definitely yes)?

The two questions used from the SES instrument utilized a six-point Likert scale and were:

1. Your overall experiences on this campus so far (1 very dissatisfied, 2 somewhat dissatisfied, 3 dissatisfied, 4 satisfied, 5 somewhat satisfied, 6 very satisfied).

2. If I had to do it over again, I would choose to attend a different college/university (1 strongly disagree, 2 somewhat disagree, 3 disagree, 4 agree, 5 somewhat agree, 6 strongly agree).

Procedure for reverse coding. The SES instrument question regarding interest in enrolling again asked the question about enrolling at a different institution instead of at the institution they were already enrolled at as the other two instruments did. In order to have the responses reflect interest in enrolling at NDSU again, the item values were reverse coded to match the direction of the other Likert scale responses.

Procedure for equating. Although the NSSE, SSI, and SES each contain equivalent items regarding OS and CA, the three instruments use three different Likert scales to record responses and are thus incommensurate. Therefore it was necessary to rescale some of these scores to a common scale. Specifically, the CA and OS items from the SSI (seven-point scale) and SES (six-point scale) were transformed to a four-point scale (the NSSE was already on a four-point scale so rescaling was unnecessary).

This was especially necessary in order to compare responses from repeat survey responders that responded to more than one of the survey instruments. The responses of the survey to assist with calibrating the data was administered in spring 2014 by the NDSU OIRA and were used to equate the SSI seven-point and the SES six-point responses to the four-point scale of NSSE; the source of the majority of the data. Only the CA and OS items from the NSSE, SES, and SSI were administered to this sample.

The responses to the calibrating survey questions that were in the SES and the SSI instruments were compared to the respondents same response to the corresponding NSSE instrument question first by a distributional method and then again by a linear regression method.

Conditional discrete probability distribution method. The initial attempt to equate scores was with the use of conditional discrete probability distribution derived from the calibration data as it allowed for the equating of SES and SSI responses to whole number 1 to 4 responses such that it can be easily compared to the NSSE instrument's four-point scale. Respondents were given the NSSE questions and either the SES or the SSI questions in regards to OS and CA. Using this method, since no respondents to the SSI questions responded with a "4" which is "neutral" for OS and "I don't know" for CA, the SSI "4"'s were disregarded in the larger data set. Responses were mapped out and assigned a probability that was applied to the larger data

set. SPSS was used to randomly assign responses to the SES and SSI instruments based on the probability of response established by this data set.

Responses to the calibrating survey caused some of the data to have an equating response to a number lower than what would be expected. Specifically, the responses to overall satisfaction provided some responses of not very satisfied, dissatisfied, and somewhat dissatisfied where the expected value at “2”, or not very satisfied or dissatisfied was greater than the expected value at “3” or somewhat dissatisfied. Additionally there was the concern that data was lost by ignoring the items scored as “4” by respondents on the 2008 and 2010 SSI instrument.

In addition to the data providing somewhat non-indicative responses, the assignment of the probability to each data item is a random process, which cannot be replicated and introduced an additional source of error to the data. Although the desire was to work with an equated four-point scale, the amount of error was significant when examining change in responses over time so alternative equating methods were explored.

Linear regression method. Based on the responses to the equating instrument providing unexpected values and introducing additional error, linear equating (Livingston, 2004) was used as the next viable option. Four regression equations were needed to convert the CA and OS items for the SSI and SES. The first regression model predicted the CA score on the NSSE from the CA score on the SSI. In essence, this provided a simple linear transformation to convert the seven-point SSI scores to an equivalent four-point score. Similarly, there was a model for the CA score on the SES, a model for the OS score on the SSI, and a model for the OS score on the SES. As shown in Table 3.1, four linear regression models were computed from the calibration data.

The final step in the rescaling process was to round the rescaled values produced by the equations.

Table 3.1

Models for Linear Equating

Instrument/Variable	Conversion	Model
SSI/CA ^(a)	7 to 4	$y = .753247 + .428571(x)$
SSI/OS ^(a)	7 to 4	$y = .709150 + .374183(x)$
SES/CA ^(b)	6 to 4	$y = .372340 + .654255(x)$
SES/OS ^(b)	6 to 4	$y = .818878 + .468537(x)$

Note: (a) model based on $n = 33$; (b) model based on $n = 29$. In the model, y refers to the converted variable for either time 1 or time 2 and x refers to the raw data for time 1 or time 2.

Reliability of rescaled scores. Simple correlation analysis was used to assess the reliability of the rescaled scores. A correlation coefficient was computed for each linearly rescaled item score and the item in its original (raw) scale. Additionally, the correlations for the original item and the scores rescaled by the conditional distribution method were also calculated.

Table 3.2

Correlations with Raw Data by Method Used for Equating CA Responses

	SES 2009		SSI 2008		SSI 2010	
	LR	D	LR	D	LR	D
Correlation	.966	.927	.956	.824	.947	.883
Sample Size	94	94	61	61	204	204

Note: LR is the linear regression method and D is the conditional discrete probability distribution method.

Table 3.3

Correlations with Raw Data by Method Used for Equating OS Responses

	SES 2009		SSI 2008		SSI 2010	
	LR	D	LR	D	LR	D
Correlation	.860	.625	.851	.695	.910	.720
Sample Size	94	94	61	60	204	184

Note: LR is the linear regression method and D is the conditional discrete probability distribution method.

As these results show, the linear equating method produced a very strong correlation for all items (all > .85). Furthermore, the linear equating method consistently outperformed the conditional distribution method (usually by a wide margin). Consequently, all subsequent data analysis utilized the CA and OS scores rescaled via the linear equating method.

Important covariates. The initially identified questions and data identified for the covariates were further examined to ensure that there was adequate data across repeat survey takers for analysis. The questions identified were additionally evaluated for a common theme to include in the analysis. The resulting data set included only respondents that answered the OS and CA questions at two time points.

Faculty contact and interaction covariate (FC). The FC variable was used to evaluate if faculty contact and interaction had an effect on OS or CA over time. This variable was created for each time point for each respondent by taking all responses to the identified instrument questions below and averaging the result. The resulting value was rescaled to a value between 1 and 4 using linear transformation for comparison purposes between time 1 and time 2.

Specific questions used in the analysis of faculty interaction from the 2007-2011 NSSE instruments included the following.

- 1.q. In your experience at your institution during the current school year, about how often have you received prompt written or oral feedback from faculty on your academic performance?
- 8.b. Mark the box that best represents the quality of your relationships with faculty members at your institution.

Specific questions used in the analysis of faculty interaction from the 2013 NSSE instrument included the following.

- 5.e. During the current school year, to what extent have your instructors provided prompt and detailed feedback on tests or completed assignments?
- 13.c. Indicate the quality of your interactions with faculty at your institution.

Specific questions used in the analysis of faculty interaction from the SSI instrument included the following.

- 41. There is a commitment to academic excellence on this campus.
- 44. Academic support services adequately meet the needs of students.
- 47. Faculty provide timely feedback about student progress in a course.

Specific questions used in the analysis of faculty interaction from the SES instrument included the following.

- 99. Rate your satisfaction with the amount of contact you have had with faculty this year.
- 100. Rate your satisfaction with the quality of the interaction you have had with faculty this year.

Peer contact and interaction covariate (PC). The PC variable was used to evaluate if peer contact and interaction had an effect on OS or CA over time. This variable was also created

for each time point for each respondent by taking all responses to the identified instrument questions below and averaging the result. The resulting value was rescaled to a value between 1 and 4 using linear transformation for comparison purposes between time 1 and time 2.

The specific question used in the analysis of peer interaction from the 2007-2011 NSSE instruments included the following.

- 8.a. Mark the box that best represents the quality of your relationships with other students at your institution.

The specific question used in the analysis of peer interaction from the 2013 NSSE instrument included the following.

- 13.a. Indicate the quality of your interactions students at your institution.

Specific questions used in the analysis of peer interaction from the SSI instrument included the following.

- 1. Most students feel a sense of belonging here.
- 46. I can easily get involved in campus organizations.

Specific questions used in the analysis of peer interaction from the SES instrument included the following.

- 48. Rate your agreement with the statement, I feel like I belong here.
- 101. Rate your satisfaction with your experiences with your peers on this campus this year.

Other covariates. Additional covariates were used to evaluate if they had an effect on OS or CA over time.

Institution of first choice. A variable was used to identify students that self-identified selecting NDSU as their first choice to attend based on responses to the survey instruments. This variable was coded as either they chose NDSU as a first choice or not.

The specific question used to create the variable for analysis from the SSI instrument included the following.

- 114. When I entered this institution, it was my: (select level of choice).

The specific question used to create the variable for analysis from the SES instrument included the following.

- 112. When you chose to attend this institution, was it your first choice?

The NSSE instrument did not have a question about a student's institution of first choice.

Gender. Information on the gender of the student respondent was generated from institutional data.

ACT. Student ACT composite scores were utilized as a pre-enrollment academic control as they were provided to the institution upon a student's application for enrollment.

GPA. Student term GPA was used as a post-enrollment variable for academic success from institutional data for the semester in which they took the survey instrument.

Credit hours passed (HP). The number of credit hours passed by a student was established from institutional data for survey respondents. Hours passed was used based on the point in time at which each respondent took the survey to examine for differences that could be attributed to a more accurate reflection of academic rank (freshman, sophomore, junior, senior) than what was self-reported.

Time span. A variable was created that identified the time span between the first and last survey response. Last survey response was used as some individuals could have taken more than

two surveys. This variable was used to examine if time between survey responses has an effect on student response to OS and CA.

Omitted covariates. Either due to lack of individual data, consistency, or not enough similarity between the instruments, some of the initially identified variables were ultimately omitted from the analysis.

Community involvement. Initially one of the main covariates for analysis, however there were not questions in all three instruments that addressed community involvement. Although the NSSE and SES instruments had questions related to a student's involvement in the larger community of the university, the SSI did not. Data from all three instruments was necessary for analysis.

Financial burden. Also initially identified as one of the main covariates for analysis; there were again not questions in all three instruments to address the financial burden of students. Although the SES and SSI instruments had questions, the larger data set of the NSSE instrument did not have any questions related to financial burden. Data from all three instruments was necessary for analysis.

Athlete. A variable of interest was whether or not a respondent was a student-athlete. The athlete variable was generated from student responses to questions on the survey instruments. Although the NSSE and SES had a question as to whether or not a student was an athlete, this variable was ultimately omitted as there were not enough respondents (n=11) that identified as a student-athlete to provide a valid sample.

Age. All three instruments asked respondents to select their age category, however none of the instruments used a similar scale for age and did not allow for similar enough categories for analysis.

High school GPA. The dataset for respondents did not consistently have information for high school GPA. Since data was not available consistently and ACT® composite scores were available, this covariate was not ultimately used for analysis.

Institutional choice as reported by ACT. Initial presumption of institution of first choice raw data was that the data was for a student's first institution of choice. Upon further review of the instrument used, the question was about the type of institution the student intended on attending instead of which institution; thus this variable was not of use for this analysis.

Degree goal. The SES, SSI and 2013 NSSE instruments do ask a question as to the degree goal of the student; however the majority of the data is from individuals that took the NSSE 2007-2011 instruments making the sample size too small for analysis.

Academic college. This variable was not used as the sample size became too small when separated out by academic college.

Data Analysis

Data collected from Likert scale responses were recoded to numeric values. The raw web-based survey data was transferred to Microsoft Excel. The Microsoft Excel files were converted to SPSS and R files. Reverse coding and equating was done as described above under procedures for reverse coding and equating.

Path analysis. Path analysis is a process for analyzing, testing, and representing the causal relationship between variables. Its primary purpose in this analysis was to establish relationship and direction as to whether or not students remain enrolled at NDSU because of a sense of satisfaction or growing satisfaction, or if they elicit satisfaction within themselves during enrollment as a result of choosing to remain enrolled at NDSU. Additional factors were used to test the fit of the model. Stata 14 was used to create the models (StataCorp, 2015).

The origins of path analysis has been attributed to geneticist Sewall Wright going back as early as 1918 to examine the effects of hypothesized models (Garson, 2014; Lleras, 2005). Wright modeled the inheritance traits in generations of guinea pigs and laboratory animals, and is also credited with path tracing rules and path diagrams as a graphical way to represent hypothesized models. Wright (1921, 1934, 1953, 1960a, 1960b, 1978, 1983, 1984) described his efforts and methods in several publications about path modeling (Garson, 2014).

Descriptive and nonparametric statistics. Various statistical analyses were conducted using the OS and CA variables for students that completed more than one survey to assess student responses and changes in responses over time.

CHAPTER 4. RESULTS

The purpose of this study was to determine if students remained at the university because they were satisfied, or if students' sense of satisfaction was more based on the fact that they were still here at the university and therefore elicited satisfaction within themselves.

Student Respondent Demographics and Background Information

Data utilized for this analysis was from survey respondents that completed the two primary questions, overall satisfaction with their entire experience at the university and whether or not they would enroll again if they had the hypothetical opportunity to start over, on at least two separate survey administrations between 2007 and 2013 (n=394). Students that took the SSI and SES surveys in 2009 were not included in this data unless they had taken a third survey in order to assure that there was at least a one-year time lapse between responses. Using the two surveys from spring 2009 would not provide a time difference between these two administrations of the surveys to create meaningful data for the purposes of this study.

Gender composition of the survey respondents was 45.4 percent male (n=179) and 54.6 percent female (n=215). NDSU's general undergraduate student population between fall 2010 and fall 2014 ranged from 56 percent to 57 percent male and 43 percent to 44 percent female.

The time difference between the first time a student took a survey and the last time was also used to help define the sample population and ranged from one year to six years. Percentage of respondents with a one-year time lapse were 32.7 percent (n=129), a two-year time lapse were 30.5 percent (n=120), a three-year time lapse were 22.6 percent (n=89), a four-year time lapse were 12.7 percent (n=50), a five-year time lapse were .3 percent (n=1), and a six-year time lapse were 1.3 percent (n=5).

Path Analysis

An exploratory (model-generating) path analysis was conducted using the relevant variables defined in Chapter 3. A list of the numerical variables and their abbreviations are provided in Table 4.1. There were also two dichotomous variables: gender (female, male) and student's institution of first choice (NDSU was the student's first choice, NDSU was not the student's first choice). Basic descriptive statistics for these variables is given in Table 4.2, and the correlation matrix is given in Table 4.3. Path models were estimated in Stata 14 using maximum likelihood. In particular, maximum likelihood with missing values was used since missing values were assumed to be missing at random.

Table 4.1

Initial Set of Numerical Variables

Variable	Abbreviation Code	
	Initial Measurement	Final Measurement
Overall satisfaction	OS1	OS2
Choose again	CA1	CA2
Peer contact (satisfaction)	PC1	PC2
Faculty contact (satisfaction)	FC1	FC2
Term GPA	GPA1	GPA2
Credit hours passed	HP1	HP2

Note. Initial measurement is the first time a respondent took one of the surveys. Final measurement is the last time a respondent took one of the surveys.

Table 4.2
Descriptive Statistics

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	Min	Max
OS1	394	2.89	.621	1	4
OS2	394	2.93	.726	1	4
CA1	394	3.15	.832	1	4
CA2	394	3.06	.892	1	4
FC1	391	2.86	.607	1	4
FC2	379	2.85	.637	1	4
PC1	394	3.16	.603	1.25	4
PC2	377	3.25	.616	1	4
GPA1	391	3.23	.671	1	4
GPA2	359	3.36	.689	0.273	4
HP1	383	48.89	28.835	8	177
HP2	379	108.10	30.452	19	221

Initial (baseline) model. This was an overall exploratory process that used model trimming. The initial (or baseline) model in the trimming process is typically a saturated model. Specifically, a saturated path model contains all possible connections among the observed variables. In this particular instance this was achieved by allowing for all correlations among the exogenous variables (i.e., the variables measured at time 1), all paths from exogenous variables to endogenous variables (i.e., the variables measured at time 2), and all possible disturbance (error) correlations. This produced a model with 66 parameters to be estimated, and there are exactly 66 unique correlations among the observed variables (see Table 4.3); hence, the model is said to be saturated.

Table 4.3

Correlation Matrix for Numerical Variables

	OS1	OS2	CA1	CA2	FC1	FC2	PC1	PC2	GPA1	GPA2	HP1	HP2
OS1	1 (394)											
OS2	.3619 (394)	1 (394)										
CA1	.4495 (394)	.3666 (394)	1 (394)									
CA2	.2910 (394)	.6227 (394)	.4446 (394)	1 (394)								
FC1	.3207 (391)	.3133 (391)	.2572 (391)	.2015 (391)	1 (391)							
FC2	.2818 (379)	.5053 (379)	.2279 (379)	.4230 (379)	.2319 (376)	1 (379)						
PC1	.4596 (394)	.3642 (394)	.4101 (394)	.2500 (394)	.4552 (391)	.2067 (379)	1 (394)					
PC2	.2802 (377)	.4994 (377)	.2199 (377)	.4067 (377)	.2304 (374)	.4833 (377)	.3988 (377)	1 (377)				
GPA1	.1118 (391)	.0742 (391)	-.0205 (391)	.0874 (391)	.0908 (388)	.1017 (376)	.0112 (391)	.0368 (374)	1 (391)			
GPA2	-.0112 (359)	.1173 (359)	-.1146 (359)	.095 (359)	-.0099 (357)	.1000 (359)	-.0258 (359)	.0813 (357)	.5367 (358)	1 (359)		
HP1	-.0572 (383)	-.0782 (383)	-.1317 (383)	-.0342 (383)	-.0034 (380)	-.0271 (378)	-.0287 (383)	.0573 (376)	.0472 (381)	.0642 (359)	1 (383)	
HP2	.0156 (379)	.0375 (379)	-.0627 (379)	.0104 (379)	.0129 (376)	-.0649 (379)	.0478 (379)	.1135 (377)	.1078 (376)	.2126 (359)	.5473 (378)	1 (379)

Note. The number of observations for each correlation is shown in parentheses.

Model trimming process. The overall trimming process involves the systematic removal of non-significant parameter estimates (paths) and variables. The first step in this model trimming process was to test each of the categorical variables for invariance across groups (i.e., verify a lack of moderation). Gender was the first categorical variable tested by constraining all structural paths to be equal across the two gender groups. Based on the standards identified by Hu and Bentler (1999) for goodness of fit, this model was found to have a very good fit ($\chi^2(36) = 42.608, p = .208$; RMSEA = .031; CFI = .993; TLI = .980). Additionally, no modification indices (MIs) were greater in value than 10 after removing the gender variable, indicating no important paths have been omitted from the model (Kline, 2005).

The institution of first choice was the other categorical variable tested. Constraining structural paths across groups produced a model with good fit ($\chi^2(36) = 50.034, p = .060$; RMSEA = .044; CFI = .985; TLI = .957). Again, no MIs greater than 10 were produced for this model. Thus, students' first choice of institution also has no significant moderating effect on any of the relationships among the other variables in the model; therefore, both of these categorical variables are dropped from the model.

The next major step in the model trimming process was to eliminate unnecessary paths from the model. This was accomplished by the stepwise removal of non-significant structural paths. Ultimately, paths that were not significant at the .05 significance level were omitted from the model. From the original 66 paths, numerous paths were deleted (23 in total); most notably the path from OS1 to CA2 was removed. Since this is an exploratory analysis, all correlations among the exogenous variables (the time 1 initial measurement variables) and among the disturbances of the endogenous variables (the time 2 final measurement variables) were allowed

to remain in the final model. In path analysis each endogenous variable has a disturbance which represents unobserved or latent variables (Kline, 2005).

Final path model. This model was found to have a very good fit ($\chi^2 (23) = 27.899, p = .220$; RMSEA = .023; CFI = .995; TLI = .988). Although the overall model fit is not crucial in exploratory studies, the fit of this model shows that there have not been an excessive number of paths trimmed from the model. Finally, there were no MIs greater than 10; hence, there are no important paths missing from this final model. The final model is shown in Figure 4.1, and the standardized and unstandardized path estimates are given in Table 4.4. In Figure 4.1, the number on the path model arrows shows the path estimates and represents a hypothesis about causation. The path estimate is the standardized regression coefficient, or beta weight, of the direct effect of an independent variable on a dependent variable (Garson, 2014). The path estimates (or coefficients) can be interpreted based on the recommendation by Cohen (1988) for correlations in the social sciences. Standardized path coefficients of less than .10 typically indicate a small effect; values around .30 indicate a moderate or typical effect; and values $\geq .50$ are considered to have a large effect. The correlations among the exogenous variables (Table 4.5) and among the disturbances (Table 4.6) are also provided.

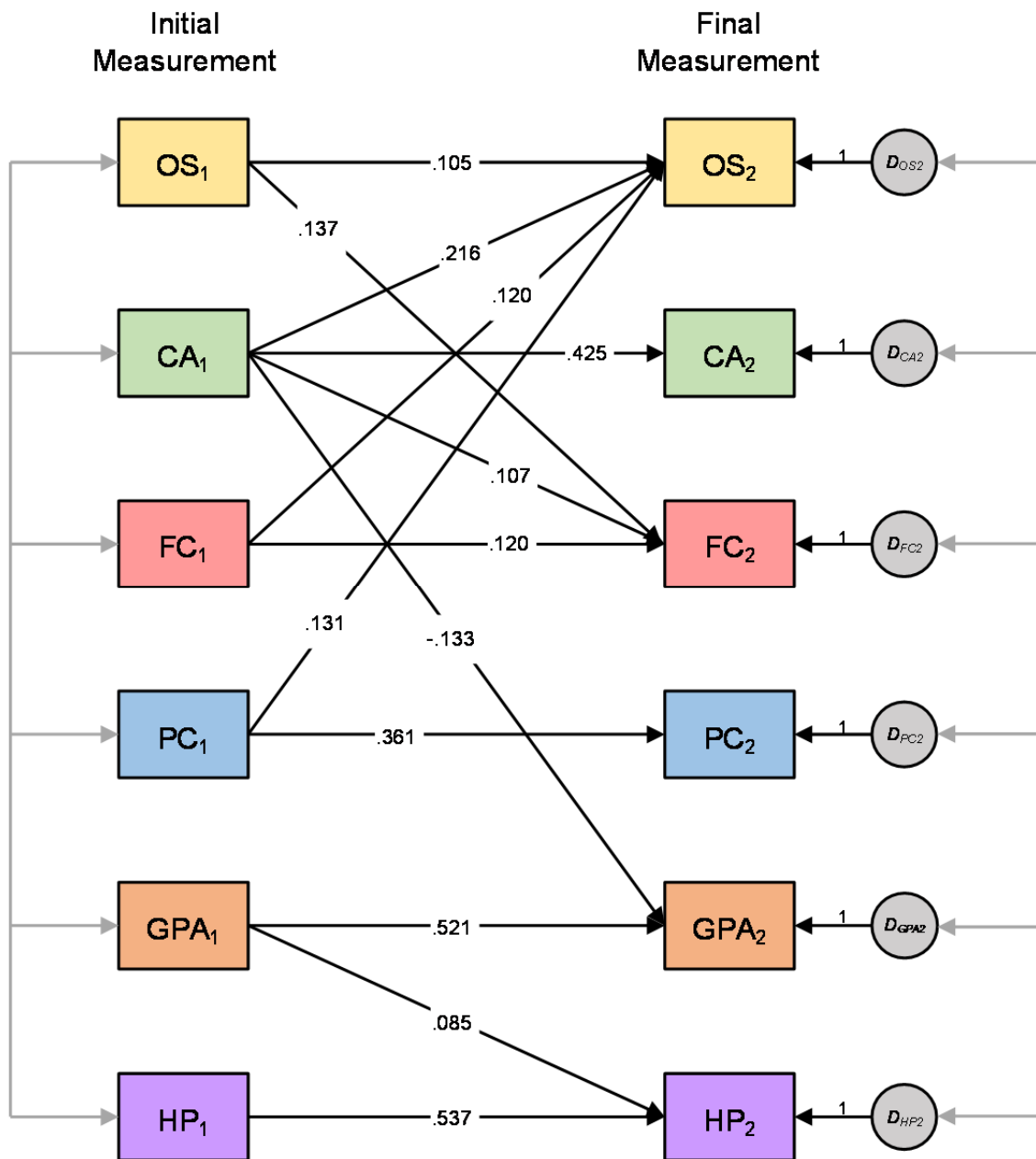


Figure 4.1. Path Estimates for the Final Model. Note that the “comb” (paths shown in light grey) denotes that all indicated variables are allowed to correlate in the model. The darker lines with single arrowhead indicate implied causal relationship between the two variables. All path estimates are shown in Table 4.4, and the correlations are shown in Tables 4.5 and 4.6.

Table 4.4

Path Estimates from the Final Path Model

Path	Standardized Path Est.	Unstandardized Path Est.	<i>z</i>	<i>p</i>	95% CI for Std. Est.
OS1 → OS2	.105	.120	2.38	.017	[.019, .192]
CA1 → OS2	.216	.183	4.68	< .001	[.125, .306]
FC1 → OS2	.120	.140	2.88	.004	[.038, .202]
PC1 → OS2	.131	.154	2.93	.003	[.043, .219]
CA1 → CA2	.425	.451	10.61	< .001	[.347, .504]
OS1 → FC2	.137	.138	2.75	.006	[.039, .234]
CA1 → FC2	.107	.081	2.18	.029	[.011, .204]
FC1 → FC2	.120	.124	2.60	.009	[.030, .210]
PC1 → PC2	.361	.363	8.64	< .001	[.279, .443]
CA1 → GPA2	-.113	-.093	-2.62	.009	[-.198, -.028]
GPA1 → GPA2	.521	.529	13.75	< .001	[.447, .596]
GPA1 → HP2	.085	1.921	2.00	.045	[.002, .168]
HP1 → HP2	.537	.044	14.99	< .001	[.467, .607]

Table 4.5

Correlations among Exogenous Variables

	OS1	CA1	FC1	PC1	GPA1	HP1
OS1	1					
CA1	.450	1				
FC1	.323	.2598845	1			
PC1	.4596448	.4101364	.4558528	1		
GPA1	.1147846	-.017	.0880552	.0096267	1	
HP1	-.0596051	-.1315037	-.009	-.0292748	.0422513	1

Table 4.6

Correlations among Disturbances

	D _{OS2}	D _{CA2}	D _{FC2}	D _{PC2}	D _{GPA2}	D _{HP2}
D _{OS2}	1					
D _{CA2}	.5478231	1				
D _{FC2}	.4259628	.3486479	1			
D _{PC2}	.4045832	.3434468	.4364271	1		
D _{GPA2}	.1568004	.1223352	.1018934	.1078375	1	
D _{HP2}	.0807086	.0254351	-.0842104	.0711633	.1920269	1

Note. Disturbances are denoted by the letter “D” followed by the endogenous variable in subscript to which it belongs. Disturbances represent the unobserved (latent) variables.

Descriptive and Nonparametric Statistics

Further examination of the data was done to see if and how much student responses were changing over time. The OS and CA questions were examined to see if specific student satisfaction increased, decreased, or remained the same. Respondents had to have answered both questions at both time 1 and 2 ($n=394$). Time 1 is identified as the first time they responded to a survey and time 2 is the last point in time they responded to a survey. The equated responses for OS and CA based on the NSSE four-point scale were utilized. The equated responses were assigned values of 1 to 4 where a response of 1 indicates less satisfaction or less likelihood to enroll again and a 4 signifies greater satisfaction or a greater likelihood to enroll again.

Change in overall satisfaction (OS). Descriptive statistics was used to identify the percent of respondents that answered to each response at time 1 (Table 4.7) and time 2 (Table 4.8) in regards to their overall satisfaction. Table 4.9 represents the cumulative response for students at time 1 and time 2, which provides an overall picture of how students responded and if there was a change in their responses over time. Table 4.10 provides frequency and percent of students whose responses increased, decreased, or remained unchanged from time 1 to time 2. Table 4.11 provides a cumulative look at changes in student responses from those that did not change their response from time 1 to time 2.

Additionally, a paired t-test was performed on the data. The paired t-test assumes that the distribution of differences is normal. The average difference between time 1 and time 2 for OS was 0.038, which is a decrease of 1.31% from 2.893, or only 0.06 standard deviation of OS1. The paired t-test showed no statistical difference between the responses at time 1 and time 2 ($t = .987, p = .324$). Since the survey was an ordinal-scaled instrument, a more appropriate, non-parametric equivalent test, the Wilcoxon signed-rank test was also performed. This test also

indicated no significant statistical difference between the OS responses at time 1 and time 2 ($Z = -1.363, p = .173$). The marginal homogeneity test was also run on the data to test the extent of the association/relationship/correlation, if you will, between OS1 and OS2 ($\chi^2 = -0.987, p = .357$). It is the difference between OS1 and OS2, and the difference between CA1 and CA2 relative to the strengths of association between OS1 and OS2, OS1 and CA1, CA1 and CA2, and OS2 and CA2 that provide the deepest level of interpretation of these data regarding which variable, satisfaction or choose to enroll at NDSU again, is the more dominate when it comes to retaining students at NDSU.

Table 4.7

Student Response to OS at Time 1

Response	Frequency	Percent	Cumulative Percent
1	16	4.06	4.06
2	51	12.94	17.01
3	286	72.59	89.59
4	41	10.41	100.00
Total	394	100.00	

Note. The response values shown are the equated values, where more satisfaction is reflected by greater values.

Table 4.8

Student Response to OS at Time 2

Response	Frequency	Percent	Cumulative Percent
1	17	4.31	4.31
2	67	17.01	21.32
3	236	59.90	81.22
4	74	18.78	100.00
Total	394	100.00	

Note. The response values shown are the equated values, where more satisfaction is reflected by greater values.

Table 4.9

Student Responses to OS at Time 1 (OS1) and Time 2 (OS2)

OS1 response	OS2 response				Total
	1	2	3	4	
1	4	9	3	0	16
2	6	10	35	0	51
3	6	47	173	60	286
4	1	1	25	14	41
Total	17	67	236	74	394

Note. The response values shown are the equated values, where more satisfaction is reflected by greater values. OS1 had a mean of 2.893 with a standard deviation of .621. OS2 had a mean of 2.931 with a standard deviation of .726 (Paired t-test, $t = .987, p = .324$; Wilcoxon signed-rank test based on negative ranks, $Z = -1.363, p = .173$; Marginal homogeneity test, $\chi^2 = -0.987, p = .357$).

Table 4.10

Change in OS Responses from Time 1 to Time 2

Change	Frequency	Percent	Cumulative Percent
-3	1	0.25	0.25
-2	7	1.78	2.03
-1	78	19.80	21.83
0	201	51.02	72.84
1	104	26.40	99.24
2	3	0.76	100.00
Total	394	100.00	

Note. Change is calculated as OS2 – OS1.

Table 4.11

Cumulative Change in OS Responses from Time 1 to Time 2

Response	Frequency of Responses							
	OS1	No Change from OS1	Changed by at least 1 from OS1	Changed by 1	Changed by at least 2 from OS1	Changed by 2	Changed by at least 3 from OS1	Changed by 3
1	16	4	12	9	3	3	0	0
2	51	10	41	41	0	0	0	0
3	286	173	113	107	6	6	0	0
4	41	14	27	25	2	1	1	1
Total	394	201	193	182	11	10	1	1
Percent Change		51.0		46.2		90.9		100.0

Note. The response values shown are the equated values, where more satisfaction is reflected by greater values. Change is calculated as the absolute value of OS2 – OS1.

Change in student desire to enroll again (CA). Descriptive statistics was used to identify the percent of respondents that answered to each response at time 1 (Table 4.12) and time 2 (Table 4.13) in regards to their willingness to choose to enroll at NDSU again if given the hypothetical opportunity to do so. Table 4.14 represents the cumulative response for students at time 1 and time 2, which provides an overall picture of how students responded and if there was a change in their responses over time. Table 4.15 provides frequency and percent of students whose responses increased, decreased, or remained unchanged from time 1 to time 2. Table 4.16 provides a cumulative look at changes in student responses from those that did not change their response from time 1 to time 2.

Again, a paired t-test was performed on the data. The average difference between time 1 and time 2 for CA was -0.094, which is a change of -2.98% or 0.11 standard deviation of CA1. The paired t-test showed marginal statistical difference between the responses at time 1 and time 2 ($t = -2.048, p = .041$); students were slightly less inclined to choose to enroll again at time 2 than at time 1. Since the survey was an ordinal-scaled instrument, a more appropriate, non-

parametric equivalent test, the Wilcoxon signed-rank test was performed to supplement this analysis. Similar results indicated marginal significance between the CA responses at time 1 and time 2 ($Z = -1.737, p = .083$). A Marginal Homogeneity Test was also run on the data with similar results ($\chi^2 = -2.04, p = .047$).

Table 4.12

Student Response to CA at Time 1

	Response	Frequency	Percent	Cumulative Percent
1		16	4.06	4.06
2		63	15.99	20.05
3		161	40.86	60.91
4		154	39.09	100.00
Total		394	100.00	

Note. The response values shown are the equated values, where greater likelihood to choose to enroll again if given the hypothetical opportunity is reflected by greater values.

Table 4.13

Student Response to CA at Time 2

	Response	Frequency	Percent	Cumulative Percent
1		24	6.09	6.09
2		74	18.78	24.87
3		152	38.58	63.45
4		144	36.55	100.00
Total		394	100.00	

Note. The response values shown are the equated values, where greater likelihood to choose to enroll again if given the hypothetical opportunity is reflected by greater values.

Table 4.14

Student Responses to CA at Time 1 (CA1) and Time 2 (CA2)

CA1 response	CA2 response				Total
	1	2	3	4	
1	5	5	4	2	16
2	8	26	24	5	63
3	7	29	80	45	161
4	4	14	44	92	154
Total	24	74	152	144	394

Note. The response values shown are the equated values, where greater likelihood to choose to enroll again if given the hypothetical opportunity is reflected by greater values. CA1 had a mean of 3.150 with a standard deviation of .832. CA2 had a mean of 3.056 with a standard deviation of .892 (Paired t-test, $t = -2.048$, $p = .041$; Wilcoxon signed-rank test based on positive ranks, $Z = -1.737$, $p = .083$; Marginal homogeneity test, $\chi^2 = -2.04$, $p = .047$).

Table 4.15

Change in CA Responses from Time 1 to Time 2

Change	Frequency	Percent	Cumulative Percent
-3	4	1.02	1.02
-2	21	5.33	6.35
-1	81	20.56	26.90
0	203	51.52	78.43
1	74	18.78	97.21
2	9	2.28	99.49
3	2	0.51	100.00
Total	394	100.00	

Note. Change is calculated as CA2 – CA1.

Table 4.16

Cumulative Change in CA Responses from Time 1 to Time 2

Response	Frequency of Responses							
	CA1	No Change from CA1	Changed by at least 1 from CA1	Changed by 1	Changed by at least 2 from CA1	Changed by 2	Changed by at least 3 from CA1	Changed by 3
1	16	5	11	5	6	4	2	2
2	63	26	37	32	5	5	0	0
3	161	80	81	74	7	7	0	0
4	154	92	62	44	18	14	4	4
Total	394	203	191	155	36	30	6	6
Percent Change		51.5		39.3		83.3		100.0

Note. The response values shown are the equated values, where greater likelihood to choose to enroll again if given the hypothetical opportunity is reflected by greater values. Change is calculated as the absolute value of CA2 – CA1.

Overall student responses of OS and CA at time 1 and OS and CA at time 2. Student

OS and CA responses were also examined at time 1 and time 2 to assess if the student responses were essentially equal. A marginal homogeneity test was run on the data. The results for both responses at time 1 ($X^2 = -6.18, p = .000$) and time 2 ($X^2 = -3.39, p = .000$) indicate that the responses to CA and OS are statistically significant. Table 4.17 illustrates the responses to OS and CA at time 1 and table 4.19 illustrates the responses to OS and CA at time 2. Table 4.18 shows the cumulative differences in responses for students to the OS and CA question at time 1 and table 4.20 shows the cumulative differences in responses for students to the OS and CA questions at time 2.

Again, the difference between OS1 and OS2 was a +1.31% or 0.06 standard deviation and the difference between CA1 and CA2 was -2.98% or 0.11 standard deviation. The paired t-test p value of .324 for OS, which is an approximate p value, points to no difference in satisfaction from time 1 to time 2. The paired t-test p value of 0.041 for CA, which again is an

approximate p value, points to a difference in willingness to enroll again between time 1 and time 2.

However it is a difference story with the p values of the marginal homogeneity test. The strength of association between OS1 and OS2 was weak at the very best ($p = .324$). The strength of association between CA1 and CA2, on the other hand, was much stronger at $p = .047$. In contrast, the strengths of association between OS1 and CA1 and between OS2 and CA2 are powerful (both p values equal $.000$). Satisfaction mean increased, yet commitment mean decreased, pointing to commitment bringing along satisfaction. These relationships among the association p values and mean difference p values suggest, in general, NDSU students do internally increase their satisfaction as they decide to stay enrolled at NDSU.

Table 4.17

Student Responses to OS at Time 1 (OS1) and CA at Time 1 (CA1)

OS1 response	CA1 response				Total
	1	2	3	4	
1	7	7	7	0	16
2	1	19	25	6	51
3	7	36	126	117	286
4	1	1	8	31	41
Total	16	63	161	154	394

Note. The response values shown are the equated values, where more satisfaction and greater likelihood to choose to enroll again if given the hypothetical opportunity is reflected by greater values. OS1 had a mean of 2.893 with a standard deviation of .621. CA1 had a mean of 3.150 with a standard deviation of .832 (Marginal homogeneity $X^2 = -6.18$ $p = .000$).

Table 4.18

Cumulative Differences in CA and OS Responses at Time 1

Response	Frequency of Responses							
	OS1	OS1 and CA1 Same	Differed by at least 1 from OS1	Differed by 1	Differed by at least 2 from OS1	Differed by 2	Differed by at least 3 from OS1	Differed by 3
1	16	7	9	7	2	2	0	0
2	51	19	32	26	6	6	0	0
3	286	126	160	153	7	7	0	0
4	41	31	10	8	2	1	1	1
Total	394	183	211	194	17	16	1	1
Percent Change		46.4		91.9		94.1		100.0

Note. The response values shown are the equated values, where more satisfaction and greater likelihood to choose to enroll again if given the hypothetical opportunity is reflected by greater values. Difference is calculated as the absolute value of CA1 – OS1.

Table 4.19

Student Responses to OS at Time 2 (OS2) and CA at Time 2 (CA2)

OS2 response	CA2 response				Total
	1	2	3	4	
1	10	7	0	0	17
2	9	30	26	2	67
3	4	37	112	83	236
4	1	0	14	59	74
Total	24	74	152	144	394

Note. The response values shown are the equated values, where more satisfaction and greater likelihood to choose to enroll again if given the hypothetical opportunity is reflected by greater values. OS2 had a mean of 2.931 with a standard deviation of .726. CA2 had a mean of 3.056 with a standard deviation of .892 (Marginal homogeneity $X^2 = -3.39, p = .000$).

Table 4.20

Cumulative Differences in CA and OS Responses at Time 2

Response	Frequency of Responses							
	OS2	OS2 and CA2 Same	Differed by at least 1 from OS2	Differed by 1	Differed by at least 2 from OS2	Differed by 2	Differed by at least 3 from OS2	Differed by 3
1	17	10	7	7	0	0	0	0
2	67	30	37	35	2	2	0	0
3	236	112	124	120	4	4	0	0
4	74	59	15	14	1	0	1	1
Total	394	211	183	176	7	6	1	1
Percent Change		53.6		96.2		85.7		100.0

Note. The response values shown are the equated values, where more satisfaction and greater likelihood to choose to enroll again if given the hypothetical opportunity is reflected by greater values. Difference is calculated as the absolute value of CA2 – OS2.

Summary of Results

This examination of student satisfaction over time contributes to the sparse body of research on this topic. This exploratory path analysis was performed to determine the likelihood of known variables to predict changes in student satisfaction or the idea of a student choosing to enroll again in the same institution over time. Path analysis provided the opportunity to test the fit of known variables of persistence and satisfaction to the model. The path coefficients represent hypotheses about causation between the exogenous and endogenous variables in the final model.

The initial CA, FC and PC variables were found to predict OS2 whereas initial OS did not predict any variables except FC2. Initial CA also predicted GPA, but it had a negative relationship in the model. In this model, initial GPA is also shown to predict HP. Other known persistence variables, ACT and time span, were not found to improve the fit of the model.

Additionally, there was no group difference based on gender or whether or not NDSU was the

student's institution of first choice. Overall mean responses to OS from time 1 to time 2 increased while the mean responses to CA decreased. However, 21.83 percent of students' OS decreased from time 1 to time 2 and 26.9 percent of students' opinion on CA decreased from time 1 to time 2. The largest percent of student opinion remained unchanged for both OS (51.02 percent) and CA (51.52 percent).

There was a significant amount of correlation among the disturbances for OS, CA, FC and PC. The causes for this correlation may be related to a method effect whereby each of these variables was collected from the instruments (NSSE, SSI, and SES) while the others were institutional data. Additionally, as the disturbances represent the unobserved variables, there were two key variables, financial burden and community involvement, that were omitted that could be accounting for the significant disturbance.

CHAPTER 5. DISCUSSION

Review of the Study

The purpose of this study was to examine survey and institutional data of NDSU current and former undergraduate students to describe, measure, and explore relationships among student retention, satisfaction and academic performance. To that end, this study was designed to address the following research questions:

1. Are there variables that predict a student's level of satisfaction over time?
2. Are there variables that predict a student's desire to enroll again at NDSU if given the hypothetical choice to do so over time?
3. Are students retained at NDSU because they are satisfied or are they satisfied because they are here?

Path analysis was conducted to examine known variables that have been shown to affect persistence and can be used to predict satisfaction and desire to enroll again, if the hypothetical opportunity existed, over time.

Discussion of Results

Research question 1: Are there common variables that predict a student's level of satisfaction over time?

Several variables, OS1, CA1, FC1 and PC1, were found to predict OS2 which confirms in part previous research on student satisfaction that faculty contact and interaction (Billups, 2008; Borden, 1995; Gaskell, 2009; Schreiner, 2010) and peer contact and interaction (Gaskell, 2009; Schreiner, 2010) impact overall student satisfaction. There is no known research on the effect of a student's choice to remain enrolled affecting their overall satisfaction and very little research that actually links satisfaction to retention. Most interesting to note is that CA1 is the

strongest predictor of a student's overall satisfaction with the institution at time 2 with a standardized correlation coefficient of .216, which is an even stronger predictor than a student's OS at time 1 (.105). In resolution of research question 1, there are notably four variables that affect overall satisfaction over time (OS1, CA1, FC1, and PC1).

Research question 2. Are there variables that predict a student's desire to enroll again at NDSU if given the hypothetical choice to do so over time?

As the final model indicates, the only variable that predicts whether or not a student would choose to enroll again at the same institution at time 2 (CA2) was the same variable at time 1 (CA1). The standardized correlation coefficient was .425 for this path, which indicated one of the strongest paths after HP (.537) and GPA (.521). The fact that this path estimate is one of the stronger predictors implies that there is a continued commitment or relationship with the institution given the student's continued commitment to choose to enroll again if given the hypothetical opportunity. This continued commitment to enrollment is similar to what Noel-Levitz (2011) observed in their research that found what is important to students tends to remain important throughout their enrollment. In resolution of research question 2, only CA predicts itself.

Research question 3. Are students retained at NDSU because they are satisfied or are they satisfied because they are here?

The limited amount of research on student satisfaction brought about the third research question in this study, which attempts to decipher whether students persist due to satisfaction or other factors, most notably choosing to remain enrolled. Although several variables, OS1, CA1, FC1 and PC1, were found to predict OS2, only CA1 predicted CA2, which as noted, confirms previous research that relationships affect student satisfaction, but students' choice to enroll

again only being predicted by their initial choice to enroll again indicates that students choose to stay enrolled versus remaining enrolled because they are satisfied. Schreiner (2009) had noted that institutional features became more predictive of student retention the longer a student was enrolled, and Noel-Levitz (2013c) opined that the level of individual attention, or perhaps the building of relationships, such as those in Rusbult's investment model (1980), at smaller institutions led to greater satisfaction in essence aligning with this model that many variables affect satisfaction, but a larger commitment to or relationship with the student most likely keeps them at the institution. In resolution to research question 3, the model indicates that student satisfaction (OS2) can be predicted by their commitment to the university (CA1), but that their overall satisfaction with the university (OS1) has no predictive relationship with their decision to choose the institution again if given the hypothetical opportunity (CA2). Additional nonparametric statistics performed on the OS and CA variables showed that OS increased over time but not to a statistically significant amount, and there was weak statistical evidence that student desire to change their enrollment decision changed with time.

Conclusion

The examination of student satisfaction over time contributes to the sparse body of research on student satisfaction and the lack of research on changes in satisfaction over time. Additionally, this study examined students who have persisted and their desire to enroll again if given the hypothetical opportunity. The predictor variables have their theoretical base in Tinto's model of departure (1993) and Rusbult's investment model (1980) and were thus selected based on the body of literature related to human relationships over time and the larger body of literature that looked at satisfaction, retention and academics at a particular point in time.

Path analysis was performed to determine the predictive paths of exogenous time 1 variables to the endogenous time 2 variables. Four variables were found to have a predictive effect on overall satisfaction (OS1, CA1, FC1, and PC1) but only a student's initial desire to enroll again predicted itself. The exploratory model indicates that students appear to remain enrolled more than likely to some commitment to the university versus a satisfaction with or a growing satisfaction with the university.

Theoretical Implications

The basic theoretical framework for the current study is Rusbult's investment theory of human relationships (1980). Rusbult's theory posits that satisfaction with a relationship is a function of two outcome values and the perceived rewards and costs of each; it was not designed to predict or explain student retention or satisfaction with their institution. However, the application of Rusbult's theory to student satisfaction and commitment to the university (through retention or desire to enroll again) has more similarities to this model than consumer theories that are generally used to predict student retention and by way of retention an assumption of satisfaction with the institution.

Based on the results of the current study, the most important predictor indicator CA1, corresponds to Rusbult's investment model and the Investment Model Scale instrument designed to measure persistence predictors (Rusbult et al., 1998) and their findings that commitment level was the most direct and powerful predictor of persistence. Notably, the variables used in this model do not constitute a complete and equal representation of the variable in Rusbult's model, but it does suggest that the investment model is a more similar predictive model than consumer theory.

Why is using consumer theory problematic? Student ratings are simply used as one way to validate a student's perception of academic quality (Brennan & Williams, 2003). Satisfaction with a university as the product is not a good gauge of quality as it is multidimensional and is not something you can purchase outright, resell, or return like a commodity. The quality of the product in this instance is in great part reliant on the effort, attendance, and participation of the student. In contrast, Rusbult's investment theory (1980) found that satisfaction alone does not determine commitment, but the investment made into the relationship does contribute to the commitment.

Practical Implications

The basic problem presented is that NDSU's satisfaction consistently wains in comparison to peer institutions and nationally. Great efforts are placed on improving student satisfaction as a means to retain and graduate students while also commanding great alumni support. Given this exploratory model on student satisfaction and commitment, NDSU could continue to explore the many different variables that predict student satisfaction. However, focus on satisfaction may not improve retention and ultimately graduation. A student's desire to be enrolled at NDSU has more predictive strength in this model. Additionally, faculty contact has both an effect on overall satisfaction at time 2 while also having a positive path estimate from a student's initial desire to enroll again if given the opportunity. At NDSU there appears to be a relationship between a student's desire to be here and the impact faculty can have on that commitment.

Limitations

Given that this is an exploratory model, the findings from this study should be tested across other institutions. The type of predictor variables that were included in the study also

limited the study. There were additional variables of interest that were not used due to missing information. Thus not all variables that certainly could affect satisfaction and commitment to the university over time were examined.

One additional potential limitation of this study is that the overall satisfaction question that was administered to NSSE survey respondents included the word “educational,” whereas the SSI and SES asked about overall satisfaction with their experience. In general all three questions ask about a student’s overall satisfaction, but it is necessary to note this slight difference.

Recommendations for Future Research

The present study created an exploratory model for student satisfaction, commitment, faculty and peer interaction, as well as GPA and credit hours passed. These predictive exogenous variables for similar time 2 endogenous variables create a picture of what matters in student retention at a particular university, most notably overall satisfaction and willingness to choose NDSU again if given the opportunity. The research questions of the study were answered, however additional questions remain that could become the focus of future research.

First, the results showed that students tend to attend and remain at NDSU because they have chosen to and not necessarily because they are satisfied, but these results are specific to the responses of NDSU students. Replication of the study should be performed by other institutions to examine if similar results are found in different institutional settings and with different types of institutions.

Second, degree goal was not examined as part of this study. The 2013 NSSE instrument added a question in regards to degree goal and its effect on retention which would allow a variable to be created with the current SES and SSI data. Adding a student’s degree goal would

add further information about a student's commitment to their education and ultimate retention at the university.

Third, there is a noted negative relationship between CA1 and GPA2 of which the relationship is speculative in this model. One thought is that as a student's confidence in their choice of a university stays the same or increases with time that their focus on their GPA may decrease. This focus may be due to a comfort level with their decision, where they are in their academic career, or other factors. This relationship could be further examined.

Finally, other research methods could be used to examine student satisfaction, academics, retention, and desire to enroll again during the same time frame to examine causation for changes positive or negative in student responses. Descriptive and nonparametric statistics were used to generate changes in response, but additional analysis could be conducted to examine causation.

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APPENDIX A. NSSE INSTRUMENT USED 2007-2011¹



National Survey of Student Engagement 2007

The College Student Report

1 In your experience at your institution during the current school year, about how often have you done each of the following? Mark your answers in the boxes. Examples: or

	Very often	Often	Some-times	Never		Very often	Often	Some-times	Never
a. Asked questions in class or contributed to class discussions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	r. Worked harder than you thought you could to meet an instructor's standards or expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Made a class presentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	s. Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Prepared two or more drafts of a paper or assignment before turning it in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	t. Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Worked on a paper or project that required integrating ideas or information from various sources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	u. Had serious conversations with students of a different race or ethnicity than your own	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Included diverse perspectives (different races, religions, genders, political beliefs, etc.) in class discussions or writing assignments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	v. Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Come to class without completing readings or assignments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2 During the current school year, how much has your coursework emphasized the following mental activities?				
g. Worked with other students on projects during class	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Very much	Quite a bit	Some	Very little
h. Worked with classmates outside of class to prepare class assignments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	a. Memorizing facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Put together ideas or concepts from different courses when completing assignments or during class discussions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	b. Analyzing the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Tutored or taught other students (paid or voluntary)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	c. Synthesizing and organizing ideas, information, or experiences into new, more complex interpretations and relationships	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Participated in a community-based project (e.g., service learning) as part of a regular course	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	d. Making judgments about the value of information, arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Used an electronic medium (listserv, chat group, Internet, instant messaging, etc.) to discuss or complete an assignment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	e. Applying theories or concepts to practical problems or in new situations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. Used e-mail to communicate with an instructor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
n. Discussed grades or assignments with an instructor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
o. Talked about career plans with a faculty member or advisor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
p. Discussed ideas from your readings or classes with faculty members outside of class	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
q. Received prompt written or oral feedback from faculty on your academic performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

¹ The National Survey of Student Engagement instrument is available publicly on their website and is used with permission from the National Survey of Student Engagement for this document.

3 During the current school year, about how much reading and writing have you done?

- a. Number of assigned textbooks, books, or book-length packs of course readings
- None 1-4 5-10 11-20 More than 20
- b. Number of books read on your own (not assigned) for personal enjoyment or academic enrichment
- None 1-4 5-10 11-20 More than 20
- c. Number of written papers or reports of **20 pages or more**
- None 1-4 5-10 11-20 More than 20
- d. Number of written papers or reports **between 5 and 19 pages**
- None 1-4 5-10 11-20 More than 20
- e. Number of written papers or reports of **fewer than 5 pages**
- None 1-4 5-10 11-20 More than 20

4 In a typical week, how many homework problem sets do you complete?

- None 1-2 3-4 5-6 More than 6
- a. Number of problem sets that take you **more** than an hour to complete
-
- b. Number of problem sets that take you **less** than an hour to complete
-

5 Mark the box that best represents the extent to which your examinations during the current school year have challenged you to do your best work.

- Very little Very much
- 1 2 3 4 5 6 7

6 During the current school year, about how often have you done each of the following?

- Very often Often Some-times Never
- a. Attended an art exhibit, play, dance, music, theater, or other performance
-
- b. Exercised or participated in physical fitness activities
-
- c. Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)
-
- d. Examined the strengths and weaknesses of your own views on a topic or issue
-
- e. Tried to better understand someone else's views by imagining how an issue looks from his or her perspective
-
- f. Learned something that changed the way you understand an issue or concept
-

7 Which of the following have you done or do you plan to do before you graduate from your institution?

- | | Done | Plan to do | Do not plan to do | Have not decided |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Practicum, internship, field experience, co-op experience, or clinical assignment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Community service or volunteer work | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Participate in a learning community or some other formal program where groups of students take two or more classes together | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Work on a research project with a faculty member outside of course or program requirements | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Foreign language coursework | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Study abroad | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. Independent study or self-designed major | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| h. Culminating senior experience (capstone course, senior project or thesis, comprehensive exam, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

8 Mark the box that best represents the quality of your relationships with people at your institution.

- a. Relationships with **other students**
- Unfriendly, Unsupportive, Sense of alienation Friendly, Supportive, Sense of belonging
- 1 2 3 4 5 6 7
-
- b. Relationships with **faculty members**
- Unavailable, Unhelpful, Unsympathetic Available, Helpful, Sympathetic
- 1 2 3 4 5 6 7
-
- c. Relationships with **administrative personnel and offices**
- Unhelpful, Inconsiderate, Rigid Helpful, Considerate, Flexible
- 1 2 3 4 5 6 7

9 About how many hours do you spend in a typical 7-day week doing each of the following?

- a. Preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities)
- 0 1-5 6-10 11-15 16-20 21-25 26-30 More than 30
- Hours per week
- b. Working for pay **on campus**
- 0 1-5 6-10 11-15 16-20 21-25 26-30 More than 30
- Hours per week
- c. Working for pay **off campus**
- 0 1-5 6-10 11-15 16-20 21-25 26-30 More than 30
- Hours per week
- d. Participating in co-curricular activities (organizations, campus publications, student government, fraternity or sorority, intercollegiate or intramural sports, etc.)
- 0 1-5 6-10 11-15 16-20 21-25 26-30 More than 30
- Hours per week
- e. Relaxing and socializing (watching TV, partying, etc.)
- 0 1-5 6-10 11-15 16-20 21-25 26-30 More than 30
- Hours per week
- f. Providing care for dependents living with you (parents, children, spouse, etc.)
- 0 1-5 6-10 11-15 16-20 21-25 26-30 More than 30
- Hours per week
- g. Commuting to class (driving, walking, etc.)
- 0 1-5 6-10 11-15 16-20 21-25 26-30 More than 30
- Hours per week

10 To what extent does your institution emphasize each of the following?

- | | Very
much | Quite
a bit | Some | Very
little |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Spending significant amounts of time studying and on academic work | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Providing the support you need to help you succeed academically | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Encouraging contact among students from different economic, social, and racial or ethnic backgrounds | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Helping you cope with your non-academic responsibilities (work, family, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Providing the support you need to thrive socially | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Attending campus events and activities (special speakers, cultural performances, athletic events, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. Using computers in academic work | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

11 To what extent has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?

- | | Very
much | Quite
a bit | Some | Very
little |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Acquiring a broad general education | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Acquiring job or work-related knowledge and skills | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Writing clearly and effectively | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Speaking clearly and effectively | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Thinking critically and analytically | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Analyzing quantitative problems | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. Using computing and information technology | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| h. Working effectively with others | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| i. Voting in local, state, or national elections | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| j. Learning effectively on your own | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| k. Understanding yourself | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| l. Understanding people of other racial and ethnic backgrounds | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| m. Solving complex real-world problems | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| n. Developing a personal code of values and ethics | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| o. Contributing to the welfare of your community | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| p. Developing a deepened sense of spirituality | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

12 Overall, how would you evaluate the quality of academic advising you have received at your institution?

- Excellent
- Good
- Fair
- Poor

13 How would you evaluate your entire educational experience at this institution?

- Excellent
- Good
- Fair
- Poor

14 If you could start over again, would you go to the same institution you are now attending?

- Definitely yes
- Probably yes
- Probably no
- Definitely no

15 Write in your year of birth:

16 Your sex:
 Male Female

17 Are you an international student or foreign national?
 Yes No

18 What is your racial or ethnic identification? (Mark only one.)
 American Indian or other Native American
 Asian, Asian American, or Pacific Islander
 Black or African American
 White (non-Hispanic)
 Mexican or Mexican American
 Puerto Rican
 Other Hispanic or Latino
 Multiracial
 Other
 I prefer not to respond

19 What is your current classification in college?
 Freshman/first-year Senior
 Sophomore Unclassified
 Junior

20 Did you begin college at your current institution or elsewhere?
 Started here Started elsewhere

21 Since graduating from high school, which of the following types of schools have you attended other than the one you are attending now? (Mark all that apply.)
 Vocational or technical school
 Community or junior college
 4-year college other than this one
 None
 Other

22 Thinking about this current academic term, how would you characterize your enrollment?
 Full-time Less than full-time

23 Are you a member of a social fraternity or sorority?
 Yes No

24 Are you a student-athlete on a team sponsored by your institution's athletics department?
 Yes No (Go to question 25.)

On what team(s) are you an athlete (e.g., football, swimming)? Please answer below:

25 What have most of your grades been up to now at this institution?
 A B+ C+
 A- B C
 B- C- or lower

26 Which of the following best describes where you are living now while attending college?
 Dormitory or other campus housing (not fraternity/sorority house)
 Residence (house, apartment, etc.) within walking distance of the institution
 Residence (house, apartment, etc.) within driving distance of the institution
 Fraternity or sorority house

27 What is the highest level of education that your parent(s) completed? (Mark one box per column.)

Father	Mother
<input type="checkbox"/>	<input type="checkbox"/> Did not finish high school
<input type="checkbox"/>	<input type="checkbox"/> Graduated from high school
<input type="checkbox"/>	<input type="checkbox"/> Attended college but did not complete degree
<input type="checkbox"/>	<input type="checkbox"/> Completed an associate's degree (A.A., A.S., etc.)
<input type="checkbox"/>	<input type="checkbox"/> Completed a bachelor's degree (B.A., B.S., etc.)
<input type="checkbox"/>	<input type="checkbox"/> Completed a master's degree (M.A., M.S., etc.)
<input type="checkbox"/>	<input type="checkbox"/> Completed a doctoral degree (Ph.D., J.D., M.D., etc.)

28 Please print your major(s) or your expected major(s).

a. Primary major (Print only one.):

b. If applicable, second major (not minor, concentration, etc.):

THANKS FOR SHARING YOUR VIEWS!

After completing the survey, please put it in the enclosed postage-paid envelope and deposit it in any U.S. Postal Service mailbox. Questions or comments? Contact the National Survey of Student Engagement, Indiana University, 1900 East Tenth Street, Eigenmann Hall Suite 419, Bloomington IN 47406-7512 or nsse@indiana.edu or www.nsse.iub.edu. Copyright © 2006 Indiana University.

APPENDIX B. NSSE INSTRUMENT USED 2013²

*This is a facsimile of the U.S. English version of the online NSSE instrument as it appears to the student.
A paper-formatted facsimile of the survey which includes item numbering is available on the
NSSE Web site: nsse.iub.edu/html/survey_instruments.cfm*



0% complete

During the current school year, about how often have you done the following?

	Very often	Often	Sometimes	Never
Asked questions or contributed to course discussions in other ways	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prepared two or more drafts of a paper or assignment before turning it in	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Come to class without completing readings or assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attended an art exhibit, play or other arts performance (dance, music, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asked another student to help you understand course material	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Explained course material to one or more students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prepared for exams by discussing or working through course material with other students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worked with other students on course projects or assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gave a course presentation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

During the current school year, about how often have you done the following?

	Very often	Often	Sometimes	Never
Combined ideas from different courses when completing assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Connected your learning to societal problems or issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Included diverse perspectives (political, religious, racial/ethnic, gender, etc.) in course discussions or assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Examined the strengths and weaknesses of your own views on a topic or issue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tried to better understand someone else's views by imagining how an issue looks from his or her perspective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learned something that changed the way you understand an issue or concept	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Connected ideas from your courses to your prior experiences and knowledge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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² The National Survey of Student Engagement instrument is available publicly on their website and is used with permission from the National Survey of Student Engagement for this document

During the current school year, about how often have you done the following?

	Very often	Often	Sometimes	Never
Talked about career plans with a faculty member	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worked with a faculty member on activities other than coursework (committees, student groups, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discussed course topics, ideas, or concepts with a faculty member outside of class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discussed your academic performance with a faculty member	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

During the current school year, how much has your coursework emphasized the following?

	Very much	Quite a bit	Some	Very little
Memorizing course material	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Applying facts, theories, or methods to practical problems or new situations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Analyzing an idea, experience, or line of reasoning in depth by examining its parts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evaluating a point of view, decision, or information source	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Forming a new idea or understanding from various pieces of information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

During the current school year, to what extent have your instructors done the following?

	Very much	Quite a bit	Some	Very little
Clearly explained course goals and requirements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taught course sessions in an organized way	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Used examples or illustrations to explain difficult points	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provided feedback on a draft or work in progress	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provided prompt and detailed feedback on tests or completed assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

During the current school year, about how often have you done the following?

	Very often	Often	Sometimes	Never
Reached conclusions based on your own analysis of numerical information (numbers, graphs, statistics, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Used numerical information to examine a real-world problem or issue (unemployment, climate change, public health, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evaluated what others have concluded from numerical information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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During the current school year, about how many papers, reports, or other writing tasks of the following length have you been assigned? (Include those not yet completed.)

	None	1-2	3-5	6-10	11-15	16-20	More than 20 papers, etc.
Up to 5 pages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Between 6 and 10 pages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11 pages or more	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

During the current school year, about how often have you had discussions with people from the following groups?

	Very often	Often	Sometimes	Never
People of a race or ethnicity other than your own	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People from an economic background other than your own	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People with religious beliefs other than your own	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People with political views other than your own	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

During the current school year, about how often have you done the following?

	Very often	Often	Sometimes	Never
Identified key information from reading assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reviewed your notes after class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Summarized what you learned in class or from course materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

During the current school year, to what extent have your courses challenged you to do your best work?



Which of the following have you done or do you plan to do before you graduate?

	Done or in progress	Plan to do	Do not plan to do	Have not decided
Participate in an internship, co-op, field experience, student teaching, or clinical placement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hold a formal leadership role in a student organization or group	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participate in a learning community or some other formal program where groups of students take two or more classes together	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participate in a study abroad program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work with a faculty member on a research project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Complete a culminating senior experience (capstone course, senior project or thesis, comprehensive exam, portfolio, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

About how many of your courses at this institution have included a community-based project (service-learning)?

- All
- Most
- Some
- None

Indicate the quality of your interactions with the following people at your institution.

	Poor 1	2	3	4	5	6	Excellent 7	Not Applicable
Students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Academic advisors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Faculty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student services staff (career services, student activities, housing, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other administrative staff and offices (registrar, financial aid, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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How much does your institution emphasize the following?

	Very much	Quite a bit	Some	Very little
Spending significant amounts of time studying and on academic work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing support to help students succeed academically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using learning support services (tutoring services, writing center, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Encouraging contact among students from different backgrounds (social, racial/ethnic, religious, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing opportunities to be involved socially	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing support for your overall well-being (recreation, health care, counseling, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helping you manage your non-academic responsibilities (work, family, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attending campus activities and events (performing arts, athletic events, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attending events that address important social, economic, or political issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

About how many hours do you spend in a typical 7-day week doing the following?

	Hours per week							
	0	1-5	6-10	11-15	16-20	21-25	26-30	More than 30
Preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participating in co-curricular activities (organizations, campus publications, student government, fraternity or sorority, intercollegiate or intramural sports, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working for pay on campus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working for pay off campus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doing community service or volunteer work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relaxing and socializing (time with friends, video games, TV or videos, keeping up with friends online, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing care for dependents (children, parents, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Commuting to campus (driving, walking, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Of the time you spend preparing for class in a typical 7-day week, about how many hours are on assigned reading?

- 0 hours
- 1-5 hours
- 6-10 hours
- 11-15 hours
- 16-20 hours
- 21-25 hours
- 26-30 hours
- More than 30 hours

How much has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?

	Very much	Quite a bit	Some	Very little
Writing clearly and effectively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Speaking clearly and effectively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thinking critically and analytically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Analyzing numerical and statistical information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquiring job- or work-related knowledge and skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working effectively with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing or clarifying a personal code of values and ethics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding people of other backgrounds (economic, racial/ethnic, political, religious, nationality, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Solving complex real-world problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being an informed and active citizen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How would you evaluate your entire educational experience at this institution?

- Excellent
- Good
- Fair
- Poor

If you could start over again, would you go to the same institution you are now attending?

- Definitely yes
- Probably yes
- Probably no
- Definitely no

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70% complete

[Why do we ask about your personal background?](#)

What is your class level?

- Freshman/first-year
- Sophomore
- Junior
- Senior
- Unclassified

Thinking about this current academic term, are you a full-time student?

- Yes
- No

How many courses are you taking for credit this current academic term?

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7 or more

Of these, how many are *entirely online*?

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7 or more

How many majors do you plan to complete? (Do not count minors.)

- One
- More than one

What have most of your grades been up to now at this institution?

- A
- A-
- B+
- B
- B-
- C+
- C
- C- or lower

Did you begin college at this institution or elsewhere?

- Started here
- Started elsewhere

Since graduating from high school, which of the following types of schools have you attended *other than* the one you are now attending? (Select all that apply.)

- Vocational or technical school
- Community or junior college
- 4-year college or university other than this one
- None
- Other

What is the highest level of education you ever expect to complete?

- Some college but less than a bachelor's degree
- Bachelor's degree (B.A., B.S., etc.)
- Master's degree (M.A., M.S., etc.)
- Doctoral or professional degree (Ph.D., J.D., M.D., etc.)

What is the highest level of education completed by either of your parents (or those who raised you)?

- Did not finish high school
- High school diploma or G.E.D.
- Attended college but did not complete degree
- Associate's degree (A.A., A.S., etc.)
- Bachelor's degree (B.A., B.S., etc.)
- Master's degree (M.A., M.S., etc.)
- Doctoral or professional degree (Ph.D., J.D., M.D., etc.)

What is your gender?

- Male
- Female

Enter your year of birth (e.g., 1994):

Are you an international student or foreign national?

- Yes
- No

What is your racial or ethnic identification? (Select all that apply.)

- American Indian or Alaska Native
- Asian
- Black or African American
- Hispanic or Latino
- Native Hawaiian or Other Pacific Islander
- White
- Other
- I prefer not to respond

Are you a member of a social fraternity or sorority?

- Yes
- No

Which of the following best describes where you are living while attending college?

- Dormitory or other campus housing (not fraternity or sorority house)
- Fraternity or sorority house
- Residence (house, apartment, etc.) *within* walking distance to the institution
- Residence (house, apartment, etc.) *farther than* walking distance to the institution
- None of the above

Are you a student-athlete on a team sponsored by your institution's athletics department?

- Yes
- No

Are you a current or former member of the U.S. Armed Forces, Reserves, or National Guard?

- Yes
- No

Have you been diagnosed with any disability or impairment?

- Yes
- No
- I prefer not to respond

Which of the following have been diagnosed? (Select all that apply)

- A sensory impairment (vision or hearing)
- A mobility impairment
- A learning disability (e.g., ADHD, dyslexia)
- A mental health disorder
- A disability or impairment not listed above

Which of the following best describes your sexual orientation?

- Heterosexual
- Gay
- Lesbian
- Bisexual
- Questioning or unsure
- I prefer not to respond

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Screen 4 of 4 (continued)

Importance to me My level of satisfaction							
1 - not important at all	2 - not very important	3 - somewhat unimportant	4 - neutral	5 - somewhat important	6 - important	7 - very important	not available/not used	very satisfied - 7	satisfied - 6	neutral - 4	somewhat dissatisfied - 3	not very satisfied - 2	not satisfied at all - 1	
1	2	3	4	5	6	7		1	2	3	4	5	6	7
1	2	3	4	5	6	7	21. The amount of student parking space on campus is adequate.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	22. Counseling staff care about students as individuals.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	23. Living conditions in the residence halls are comfortable (adequate space, lighting, heat, air conditioning, telephones, etc.).	1	2	3	4	5	6	7
1	2	3	4	5	6	7	24. The intercollegiate athletic programs contribute to a strong sense of school spirit.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	25. Faculty are fair and unbiased in their treatment of individual students.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	26. Computer labs are adequate and accessible.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	27. The personnel involved in registration are helpful.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	28. Parking lots are well-lighted and secure.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	29. It is an enjoyable experience to be a student on this campus.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	30. Residence hall staff are concerned about me as an individual.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	31. Males and females have equal opportunities to participate in intercollegiate athletics.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	32. Tutoring services are readily available.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	33. My academic advisor is knowledgeable about requirements in my major.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	34. I am able to register for classes I need with few conflicts.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	35. The assessment and course placement procedures are reasonable.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	36. Security staff respond quickly in emergencies.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	37. I feel a sense of pride about my campus.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	38. There is an adequate selection of food available in the cafeteria.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	39. I am able to experience intellectual growth here.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	40. Residence hall regulations are reasonable.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	41. There is a commitment to academic excellence on this campus.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	42. There are a sufficient number of weekend activities for students.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	43. Admissions counselors respond to prospective students' unique needs and requests.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	44. Academic support services adequately meet the needs of students.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	45. Students are made to feel welcome on this campus.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	46. I can easily get involved in campus organizations.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	47. Faculty provide timely feedback about student progress in a course.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	48. Admissions counselors accurately portray the campus in their recruiting practices.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	49. There are adequate services to help me decide upon a career.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	50. Class change (drop/add) policies are reasonable.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	51. This institution has a good reputation within the community.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	52. The student center is a comfortable place for students to spend their leisure time.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	53. Faculty take into consideration student differences as they teach a course.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	54. Bookstore staff are helpful.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	55. Major requirements are clear and reasonable.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	56. The student handbook provides helpful information about campus life.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	57. I seldom get the "run-around" when seeking information on this campus.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	58. The quality of instruction I receive in most of my classes is excellent.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	59. This institution shows concern for students as individuals.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	60. I generally know what's happening on campus.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	61. Adjunct faculty are competent as classroom instructors.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	62. There is a strong commitment to racial harmony on this campus.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	63. Student disciplinary procedures are fair.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	64. New student orientation services help students adjust to college.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	65. Faculty are usually available after class and during office hours.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	66. Tuition paid is a worthwhile investment.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	67. Freedom of expression is protected on campus.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	68. Nearly all of the faculty are knowledgeable in their field.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	69. There is a good variety of courses provided on this campus.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	70. Graduate teaching assistants are competent as classroom instructors.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	71. Channels for expressing student complaints are readily available.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	72. On the whole, the campus is well-maintained.	1	2	3	4	5	6	7
1	2	3	4	5	6	7	73. Student activities fees are put to good use.	1	2	3	4	5	6	7

Your institution may choose to provide you with additional questions on a separate sheet. The section below numbered 74 - 83 is provided as a response area for those additional questions. Continue on to item 84 when you have completed this section.

Importance to me My level of satisfaction	
1 - not important at all		not available/not used	
2 - not very important		very satisfied - 7	
3 - somewhat unimportant		satisfied - 6	
4 - neutral		somewhat satisfied - 5	
5 - somewhat important		neutral - 4	
6 - important		somewhat dissatisfied - 3	
7 - very important		not very satisfied - 2	
does not apply		not satisfied at all - 1	
74. (If items 74-83 not available, skip to item 84.)	1 2 3 4 5 6 7	74.	1 2 3 4 5 6 7
75.	1 2 3 4 5 6 7	75.	1 2 3 4 5 6 7
76.	1 2 3 4 5 6 7	76.	1 2 3 4 5 6 7
77.	1 2 3 4 5 6 7	77.	1 2 3 4 5 6 7
78.	1 2 3 4 5 6 7	78.	1 2 3 4 5 6 7
79.	1 2 3 4 5 6 7	79.	1 2 3 4 5 6 7
80.	1 2 3 4 5 6 7	80.	1 2 3 4 5 6 7
81.	1 2 3 4 5 6 7	81.	1 2 3 4 5 6 7
82.	1 2 3 4 5 6 7	82.	1 2 3 4 5 6 7
83.	1 2 3 4 5 6 7	83.	1 2 3 4 5 6 7
<p>How satisfied are you that this campus demonstrates a commitment to meeting the needs of:</p>			
84. Part-time students?	1 2 3 4 5 6 7	84.	1 2 3 4 5 6 7
85. Evening students?	1 2 3 4 5 6 7	85.	1 2 3 4 5 6 7
86. Older, returning learners?	1 2 3 4 5 6 7	86.	1 2 3 4 5 6 7
87. Under-represented populations?	1 2 3 4 5 6 7	87.	1 2 3 4 5 6 7
88. Commuters?	1 2 3 4 5 6 7	88.	1 2 3 4 5 6 7
89. Students with disabilities?	1 2 3 4 5 6 7	89.	1 2 3 4 5 6 7
<p>How important were each of the following factors in your decision to enroll here?</p>			
90. Cost	1 2 3 4 5 6 7	90.	1 2 3 4 5 6 7
91. Financial aid	1 2 3 4 5 6 7	91.	1 2 3 4 5 6 7
92. Academic reputation	1 2 3 4 5 6 7	92.	1 2 3 4 5 6 7
93. Size of institution	1 2 3 4 5 6 7	93.	1 2 3 4 5 6 7
94. Opportunity to play sports	1 2 3 4 5 6 7	94.	1 2 3 4 5 6 7
95. Recommendations from family/friends	1 2 3 4 5 6 7	95.	1 2 3 4 5 6 7
96. Geographic setting	1 2 3 4 5 6 7	96.	1 2 3 4 5 6 7
97. Campus appearance	1 2 3 4 5 6 7	97.	1 2 3 4 5 6 7
98. Personalized attention prior to enrollment	1 2 3 4 5 6 7	98.	1 2 3 4 5 6 7

Choose the one response that best applies to you and darken the corresponding oval for each of the questions below.

- | | | |
|---|---|--|
| <p>99. So far, how has your college experience met your expectations?</p> <p>① Much worse than I expected</p> <p>② Quite a bit worse than I expected</p> <p>③ Worse than I expected</p> <p>④ About what I expected</p> <p>⑤ Better than I expected</p> <p>⑥ Quite a bit better than I expected</p> <p>⑦ Much better than I expected</p> | <p>100. Rate your overall satisfaction with your experience here thus far.</p> <p>① Not satisfied at all</p> <p>② Not very satisfied</p> <p>③ Somewhat dissatisfied</p> <p>④ Neutral</p> <p>⑤ Somewhat satisfied</p> <p>⑥ Satisfied</p> <p>⑦ Very satisfied</p> | <p>101. All in all, if you had it to do over again, would you enroll here?</p> <p>① Definitely not</p> <p>② Probably not</p> <p>③ Maybe not</p> <p>④ I don't know</p> <p>⑤ Maybe yes</p> <p>⑥ Probably yes</p> <p>⑦ Definitely yes</p> |
|---|---|--|

CONTINUE TO THE NEXT PAGE

APPENDIX D. SES INSTRUMENT⁴

NORTH DAKOTA STATE UNIVERSITY STUDENT EXPERIENCES SURVEY – 2nd mailing

Provost and V.P. of Academic Affairs R. Craig Schnell and V.P. of Student Affairs Prakash Mathew have appointed a campus-wide committee to form specific recommendations for meeting students' needs with new and/or improved services and programs. Your help is needed by the committee. By voluntarily completing this 15-20 minute survey, you will provide valuable information of depth and breadth to the committee for making solid recommendations that are on target for meeting NDSU students' needs.

Just draw a line-through or circle your responses and return in the enclosed envelope.

We received nearly 300 responses from our first mailing, about 40% of which included comments, but we are still a little short in some of the 16 college-gender populations, particularly males. We will accept completed surveys through June 23, 2009, and comments anytime. We react with appreciation over each and every thoroughly completed survey we receive.

Your individual responses will be kept confidential. The number in the lower-right of the last page is an encryption of your Student ID that cannot be reverse-engineered. If you do not remove that number before mailing back your completed survey, your contribution will be much, much more valuable because the Office of Institutional Research and Analysis (OIRA) will be able to make recommendations nuanced by student background and academic measures. Also, OIRA will try to not again survey anytime during the next three years those who return the completed survey by June 23, 2009 with the encrypted ID. Thank you.

For your general information the online version of this second 'mailing' is being sent to the non-responding students of the much smaller sample of students concurrently contacted to complete this same survey in a pilot online administration.

If you have questions about the survey, contact co-chairs Robert Harrold (231-8967) or Laura Oster-Aaland (231-7750) or Bill Slanger Director of Institutional Research and Analysis (231-7418). Dated 5/12/2009

William Slanger

Thank you for your serious consideration of voluntary participation in this campus effort to which NDSU administration has committed considerable campus resources.

Again, we are asking for return of the thoroughly completed survey in the provided return, postage-paid envelope by June 23, 2009. Thank you.

Is this your First Second Third Fourth or Fifth or more year of attending college?

2 **soph**

Are you a Freshmen Sophomore Junior Senior or Not Applicable?

3 **class**

How many college credits do you have, including this semester's courses? _____

4 **totcredits**

How many credits are you taking this semester? _____

5 **semcredits**

Did you transfer to this institution from another college? Yes No

6 **transfer**

If you did transfer, how many institutions did you attend before first attending NDSU? _____

7 **numinst**

If you did transfer, in what year _____ and Semester: Fall Spring Summer

8 **transyr**

9 **transsem**

Thank you. Next page please.

⁴ The Sophomore Experiences Survey is © copyright protected by Dr. Laurie Schreiner, Azusa Pacific University, Azusa, CA. This copy is used with permission from Dr. Schreiner.

Think about the classes you are taking RIGHT NOW – this semester – as you answer the following questions.

Please rate your agreement with each of the items by using a 1 to 6 scale, with 1 indicating "strongly disagree" and 6 indicating "strongly agree."

	<u>SD</u>	<u>SA</u>
I often discuss with my friends what I'm learning in class.	10 eli1	
I regularly participate in class discussions in most of my classes.	11 eli2	
I feel as though I am learning things in my classes that are worthwhile to me as a person.	12 eli3	
It's hard to pay attention in many of my classes.	13 eli4	
I can usually find ways of applying what I'm learning in class to something else in my life.	14 eli5	
I ask my professors questions during class if I do not understand something.	15 eli6	
In the last week, I've been bored in class most of the time.	16 eli7	
I find myself thinking about what I'm learning in class even when I'm not in class.	17 eli8	
I feel energized by the ideas that I am learning in most of my classes.	18 eli9	
Often I find my mind wandering during class.	19 eli10	

As you think about your academic experiences, please rate your agreement with each of the following items using a 1 to 6 scale, with 1 indicating "strongly disagree" and 6 indicating "strongly agree".

	<u>SD</u>	<u>SA</u>
I know how to take notes.	20 ase1	
I know how to study to perform well on tests.	21 ase2	
When I do poorly on a test or assignment, it's usually because I haven't given it my best effort.	22 pac1	
I try to adapt the way I study in order to fit the course requirements and instructor's teaching style.	23 sr1	
I can think of specific ways to do well in my classes.	24 hope1	
I am motivated to do well in school.	25 hope2	
I know how to apply my strengths to achieve academic success.	26 strengths	
When given a choice, I take classes that are challenging to me.	27 hope3	
Thinking about pursuing my goals in school fills me with energy.	28 hope4	
When course work is difficult, I give up or only study the easy parts.	29 er1	
The educational goals I have set for myself are clear and well-defined.	30 hope5	
I often feel so bored when I study that I quit before I finish what I planned to do.	31 er2	
I actively pursue my educational goals.	32 hope6	
Even when course materials are dull and uninteresting, I manage to keep working until I finish.	33 er3	
When I become confused about something I'm reading for class, I go back and try to figure it out.	34 sr2	
No matter what I do, I can't seem to do as well as I would like in my courses.	35 pac2	

Thank you. Next page please.

Think about yourself right now and rate your agreement with each statement below using a 1 to 6 scale, with 1 indicating "strongly disagree" and 6 indicating "strongly agree".

	<u>SD</u>	<u>SA</u>
I am good at managing the many responsibilities of my daily life.	36 em1	
Other people seem to have more friends than I do.	37 posrel1	
My contributions are recognized by others in the groups I belong to.	38 srls1	
I generally do a good job of taking care of my personal finances.	39 em2	
I give time to making a difference for someone else.	40 srls2	
I often feel lonely because I have few close friends with whom to share my concerns.	41 posrel2	
I am good at managing my time so that I can fit everything in that needs to be done.	42 em3	
In general, I feel confident and positive about myself.	43 sa1	
My life has a clear sense of purpose.	44 mlq1	
I have the power to make a difference in my community.	45 srls3	
I value opportunities that allow me to contribute to my community.	46 srls4	
Being a student here fills an important need in my life.	47 psc1	
I feel like I belong here.	48 psc2	
I have friends on this campus upon whom I can depend.	49 psc3	
Knowing how a person differs from me greatly enhances our friendship.	50 div1	
I don't have many people who want to listen when I need to talk.	51 posrel3	
I am willing to act for the rights of others.	52 srls5	
My life has no clear purpose.	53 mlq2	
Your intelligence is something very basic about you that you can't change very much.	54 mindset1	
No matter what kind of person you are, you can always change substantially.	55 mindset2	

Thank you. Next page please.

Please rate your agreement with each of the items by using a 1 to 6 scale, with 1 indicating "strongly disagree" and 6 indicating "strongly agree".

	<u>SD</u> _____ <u>SA</u>
I can best understand someone after I get to know how he/she is both similar and different from me.	56 div2
I would like to join an organization that emphasizes getting to know people from different cultures.	57 div3
My attitude about myself is not as positive as most people feel about themselves.	58 sa2
I find myself doing things without paying attention.	59 mindful
I am satisfied with my life.	60 swb1
My spiritual or religious beliefs provide me with a sense of strength when life is difficult.	61 spirituality1
I feel I can handle many things at a time.	62 resilience1
Things never seem to work out the way I want them to.	63 optimism1
When things are uncertain for me, I usually expect the best.	64 optimism2
I seem to get stressed out more than other people.	65 resilience2
I always look on the bright side of things.	66 optimism3
Because I've experienced difficulty before, I can get through difficult times.	67 resilience3
I'm optimistic about what will happen to me in the future.	68 optimism4
My spiritual or religious beliefs are the foundation of my approach to life.	69 spirituality2
I usually manage difficulties one way or another.	70 resilience4
The conditions of my life right now are excellent.	71 swb2
I gain spiritual strength by trusting in a higher power beyond myself.	72 spirituality3
I am confident that the amount of money I'm paying for college is worth it in the long run.	73 tuitionworth
I know how to apply my strengths to achieve academic success.	74 strengths2
I intend to re-enroll at this institution next year.	75 reenroll
I intend to graduate from this institution.	76 graduate
I feel very discouraged about the amount of debt I'm incurring to pay my college bills.	77 debt
Given my current goals, this institution is a good fit for me.	78 fit
If I had to do it over again, I would choose to attend a different college/university.	79 choose

Please respond to the following questions about activities on campus. How involved are you in any of the following currently?

	<u>Not at all</u> _____ <u>Very</u>
	<u>Involved</u> _____ <u>Involved</u>
Student organizations on campus	80 stuorgs
Leadership of student organizations on campus	81 leadership
Fraternity or Sorority	82 fratsor
Music or theatre performance groups on campus	83 perform
Community Service	84 commserv
Campus events and activities	85 campusact
Student government	86 stugov
Peer mentoring or leadership programs	87 peerleader
Religious activities	88 religious

Thank you. Next page please.

How often have you engaged in each of the following THIS YEAR?

	<u>Never</u>	<u>Frequently</u>
Met with a professor during office hours.	89 ofchrs	
Discussed career plans or goals with a professor.	90 careerfac	
Met informally or socially with a faculty member outside of class or office hours.	91 socialfac	
Discussed academic issues with a faculty member outside of class or office hours.	92 acadfac	
Met with your academic advisor.	93 advisor	
Attended any program geared specifically to your year of attending college?	94 sophprog	

Rate your satisfaction with each of the following aspects of your college experience using a 1 to 6 scale, with 1 indicating "very dissatisfied" and 6 indicating "very satisfied".

	<u>VD</u>	<u>VS</u>
The amount you are learning in college.	95 learnsat	
The grades you are earning in college.	96 gradesat	
The academic advising you have experienced THIS YEAR.	97 advsat	
Your overall experiences on this campus so far.	98 oversat	
The amount of contact you have had with faculty THIS YEAR.	99 facint	
The quality of the interaction you have had with faculty THIS YEAR.	100 facsat	
Your experiences with your peers on this campus THIS YEAR.	101 peersat	
Your current living situation.	102 livingsat	
Your current level of physical health.	103 healthsat	

Please tell us a little about yourself. Your answers will be grouped with those of other students to help us understand our students better. No individual information will be reported for any reason.

Are you the first in your immediate family to attend college? Yes No **104 firsgen**

What is your sex? Female Male **105 gender**

What is your age? ____ **106 age**

What is the highest degree you see yourself obtaining at some point in your life?

Associate's Degree	Bachelor's Degree	107 degreegoal
Teaching Credential	Master's Degree	
Doctorate	Medical or Law Degree	
Other (Please specify) _____		108 deggoalother

How would you describe your grades in high school? **109 hsgrades**

Mostly A's	A's and B's
Mostly B's	B's and C's
Mostly C's	C's and D's

Thank you. Next page please.

How would you describe your grades in your first year of college? **110 firstygrades**
Mostly A's A's and B's Mostly B's B's and C's
Mostly C's C's and D's D's and F's

How would you describe your grades THIS YEAR? **111 sophgrades**
Mostly A's A's and B's Mostly B's B's and C's Mostly C's
C's and D's D's and F's

When you chose to attend this institution, was it your first choice? Yes No
112 firstchoice

Where do you live? On Campus Off Campus Other (Please specify) _____
113 oncampus **114 livespec**

Are you a student athlete? Yes No **115 athlete**

What is your race/ethnicity? **116 race**
African-American/Black American Indian/Alaskan Native
Asian-American/Asian Native Hawaiian/Pacific Islander
Caucasian/White Mexican-American/Chicano
Puerto Rican Other Latino
Multiracial Other (Please specify) _____ **117 racespec**

How many hours per week do you work OFF campus? **118 hrsoff**
None 5 or less 6-10 hours
11-15 hours 16-20 hours
21-25 hours 26-30 hours More than 30 hours

How many hours per week do you work ON campus? **119 hrson**
None 5 or less 6-10 hours
11-15 hours 16-20 hours
21-25 hours 26-30 hours More than 30 hours

What is your major? (Leave blank if you have not declared a major yet) _____ **120 major**
If you have second major, what is it? _____ **121 major2**

List any minors please: _____ **122 minor**
123 minor2

How sure are you of your major? **124 majorsure**
Very Unsure Unsure
Somewhat Unsure Somewhat Sure
Sure Very Sure

Thank you. Next page please.

How often have you participated in service learning COURSES in college?

- Not at all **125 servlearn**
- One Course
- More than One Course

Have you participated in a learning community in college? (A learning community is defined as two or more courses that you take in a block with the same group of students. It may or may not also involve your residence hall).

- 126 learncomm**
- Yes
- No
- Not Sure

How many courses have you dropped or withdrawn from since beginning college? (count all courses taken at any college)

- 127 dropped**
- None
- One
- 2-3
- 4-5
- 6 or more

In how many courses have you received a grade below C since beginning college? (count all colleges attended)

- 128 belowC**
- None
- One
- 2-3
- 4-5
- 6 or more

Have you traveled outside the United States since entering college?

- No **129 travel**
- For two weeks or less
- For more than two weeks

Compared to your first year of college, this year has been:

- Much Worse **130 firstcompare**
- Worse
- About the Same
- Better
- Much Better

Compared to the courses you took in your first year of college, have your courses this year been:

- 131 coursecompare**
- Much Worse
- Worse
- About the Same
- Better
- Much Better

How many of your courses THIS YEAR have been taught by adjunct or part-time faculty?

- 132 Adjuncts**
- None
- One
- 2-3
- 4-5
- 6 or more

Thank you. One more page please.

How much time each week do you spend on the following activities? Please rate your time commitment using a 1 to 6 scale, with

- 1 = never**
- 2 = less than one hour per week**
- 3 = 1-7 hours per week**
- 4 = 8-14 hours per week**
- 5 = 15-21 hours per week**
- 6 = more than 21 hours per week**

Leadership responsibilities in student organizations
 Studying for classes
 Online social networking (Facebook, MySpace, etc.)
 Playing Internet or video games
 Watching TV
 Hanging out with friends

Never _____ **More than 21 hours/week**

- 133 Leadertime**
- 134 Studytime**
- 135 facebook**
- 136 videogames**
- 137 TV**
- 138 friendstime**

How often do you do any of the following?

- 1 = never**
- 2 = one day a week or less**
- 3 = 2-3 days a week**
- 4 = 4-5 days a week**
- 5 = every day**
- 6 = several times a day**

Call or text home
 Sleep less than 4 hours a night
 Drink alcoholic beverages
 Smoke cigarettes or cigars

Never _____ **Several times a Day**

- 139 Callhome**
- 140 Sleep**
- 141 Drink**
- 142 Smoke**

Please add anything else you think is important for us to know about your experiences during this year of college. For instance, if there was one thing you could change about this year, what would it be?

Thank you for taking the time to give us your perspectives. When combined with the responses of other students from around the country, they will provide important feedback to North Dakota State University and other institutions of higher education about how to meet the needs of college students. Thank you!

Thank you so much!

Merge Encryp ID