The Relationship between Student Readiness Inventory Scores and First-Time, First-Year Student Retention and Academic Success at Baker University Baldwin City Campus

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Abstract

Previous empirical studies have shown the success of the Student Readiness Inventory (SRI) to predict academic success and retention at postsecondary institutions, and offer hope for other institutions to utilize the SRI instrument to meet retention goals. This study: (1) assessed the criterion validity of the SRI instrument at Baker University using four years of entering student cohort SRI data (n = 829); and (2) explored the relationship between SRI scores and students' academic success and retention from fall to spring semesters and from first to second year at Baker University Baldwin City campus. Among primary results was the establishment of criterion validity for the Baker University Baldwin City campus specific SRI scores providing prediction thresholds for a student's probability of academic success and retention. Further analysis of the relationship between SRI domain scores and academic success indicated a difference between academically successful and not successful students' domain scores for fall and spring semesters. Analysis also indicated a difference between retained and not retained students' domain scores and retention for the spring semester. There were no significant differences between the domain scores of retained and not retained students for the following fall semester. Motivation Skills domain scores and Self-Regulation domain scores were significantly higher for academically successful and retained students. The Social Engagement domain did not show a statistically significant difference in scores of academically successful and unsuccessful students or retained and not retained students. Findings were discussed in terms of student success and retention in postsecondary institutions, the limitations of the study, and suggestions for future research.

Dedication

This study is dedicated to the students I serve and the colleagues with whom I work present, past, and future. The completed work is dedicated to my family who provided me the love and support necessary to achieve my goal.

Acknowledgments

This dissertation would not have been possible without the unending support and encouragement of my Major Advisor and Committee Chair, Dr. Anne Daugherty. Without her support, patience, and guidance, this study would not be completed. Dr. Daugherty's wisdom, knowledge, and commitment to the highest standards inspired and motivated me, and I appreciated her mentorship and friendship throughout the process and hopefully, beyond. Simply put— you mattered.

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Chapter One

Introduction

Student retention and academic success are important areas of interest for postsecondary administrators. The reporting, understanding, and examining of student attrition are dedicated topics in journal articles, scholarly books, and conferences. During the early 1970s, at the start of student retention research, students were thought to be solely responsible for their academic success and retention (Tinto, 2006). Lack of progress indicated failure by a student, not the university. With growing enrollments and plentiful budgets, institutions did not feel the immediacy to examine the reasons why students left. As budgets declined and competitive market choices increased, institutions focused on student attrition, academic success correlations, and proactive retention measures.

From student development theory to effective practices, researchers and institutions seek to unravel the intricate postulations for student retention and academic success. Tinto (2006) referenced four decades of study in human development, environmental controls, and institutional factors, which had marginal positive impact on student retention at postsecondary institutions. The National Center for Education Statistics (2008) reported that of students enrolled in four-year institutions during the 1995–1996 academic year, 58% obtained a degree by 2001. In a five-year longitudinal study between 1999 and 2004, "at-risk" and transfer students' persistence and graduation completion rates at four-year institutions declined (National Center for Education Statistics, 2005). Of entering 2007–2008 four-year university students, 66% returned to

the same university the following year, the lowest percentage since retention data collection began in 1983 (ACT, 2010a).

Administrators may recognize the trends of student attrition and academic failure as a priority, but struggle to find a panacea to address the concerns. In a 2001 article predicting low grades and establishing an early warning system, Beck and Davidson recommended identifying at-risk students early and providing tailored programming as an efficient and effective use of institutional resources. Predictive measures to identify at-risk students early in their collegiate experience afford better opportunities to customize interventions. Selecting an appropriate, effective, and valid prediction instrument and using said instrument to its full potential challenges university administrators.

The Student Readiness Inventory (SRI) is one retention assessment tool used in the prediction of student retention and academic success. Earlier one-dimensional retention prediction models concentrated solely on using cognitive measures such as high school GPA and entrance exam scores. These prediction models worked in isolation, ignoring a student's psychological attributes of commitment to degree completion, discipline, study habits, and motivation or confidence levels (Allen, 2009). In response to such one-dimensional prediction models, Le, Casillas, Robbins, and Langley (2005) constructed the SRI to measure the relationship between academic performance and the affect of psychological factors on academic success and student retention. Since the SRI's conception, the nationally used instrument has served as a retention tool and has boasted increases of 50% in administrators' ability to identify at-risk students (Student Readiness Inventory, 2010, para. 2).

Background and Conceptual Framework

Student attrition has implications for the United States work force. Carey (2004) noted a significant gap in salaries for those with a four-year degree, associate degree, and high school degree. To remain competitive with other nations, North American institutions of higher education must do more. With a changing work force and demand for dynamic job-related skills, the United States must retain a competitive edge.

The 2010 Current Population Survey conducted by the Bureau of Labor Statistics, U.S. Department of Labor confirmed that education attainment has a direct impact on median weekly salary as illustrated in Figure 1. Higher educational attainment corresponds to higher weekly earnings. A bachelor's degree graduate earns almost double the salary of a high school graduate.

Figure 1. Median weekly earnings in 2010 by educational attainment. Adapted from the "Bureau of Labor Statistics Current Population Survey." U.S. Department of Labor (2010).

Educational attainment also affects the unemployment rate. The Bureau of Labor Statistics Current Population Survey (2010) found a direct correlation with educational attainment and unemployment to the amount of schooling a person completed. High educational attainment mirrors the percentage of people employed. Figure 2 demonstrates the Bureau of Labor Statistics' Current Population Survey (2010) findings of surveyed unemployed people with high school diplomas (10.3%) through master's level degrees (4.0%). Those who complete some college without degree achievement (9.2%) are more than one-and-a-half times more likely to be unemployed than those with a completed undergraduate degree (5.4%).

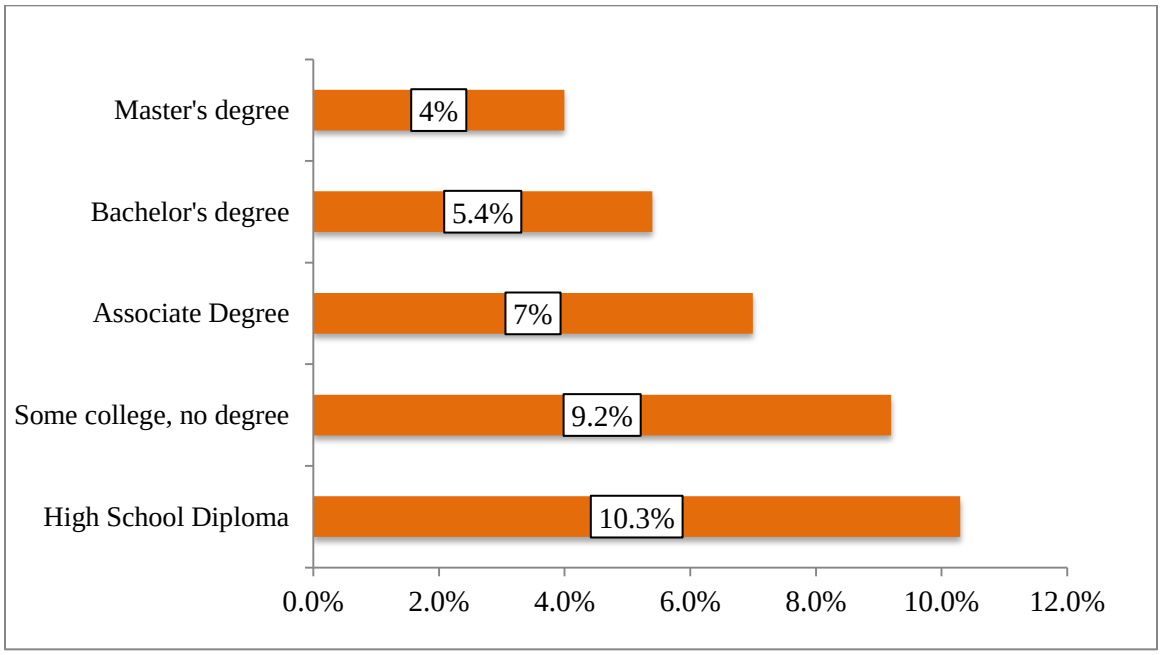

Figure 2. Unemployment rate in 2010 by educational attainment. Adapted from the "Bureau of Labor Statistics Current Population Survey." U.S. Department of Labor (2010).

The United States' financial well-being is dependent on students' success in a postsecondary environment as reflected by the Bureau of Labor Statistics reporting an increased number of jobs requiring postsecondary education (Carey, 2004; Brennan,

Grayson, & Holmes, 2004). Likewise, student attrition has great implications for the U.S. work force.

Universities are motivated to improve retention rates for their own fiscal well-being. Administrators anecdotally opine that it is more cost-effective to the institution to retain a student than to recruit a student. The cost of recruiting one new student is approximately equal to the cost of retaining three already enrolled students (Noel, Levitz, & Saluri, 1985; Pascarella and Terenzini, 1991; Astin, 1993; Tinto, 1993). For example, Baker University's Baldwin City campus, the setting of this study, spends approximately $4,000 to recruit a student, which includes admission staff salaries, mailings, postage, and events (K. Kropf, personal communication, October 30, 2011). Additionally, high retention and academic success rates help attract new students to the campus. As a tuition-driven institution, Baker University must carefully employ strong recruitment and retention tactics to remain fiscally viable.

Setting

Baker University, a private, liberal arts institution, offers associate, bachelor's, master's, and doctoral degrees on-ground in seven locations in the Midwest and online. The 2011 total graduate and undergraduate enrollment (n = 3,536) across Baker University's four schools included: School of Nursing (n = 171), Graduate School of Education (n = 771), School of Professional and Graduate Studies (n = 1,659), and the College of Arts and Sciences and the School of Education Undergraduate programs (n = 935) located on the Baldwin City campus (Baker University Fact Book, 2011).

The focus of this study was entering freshman cohorts at the College of Arts and Sciences and School of Education undergraduate programs on the Baldwin City campus,

a rural Kansas town of approximately 4,500 residents. The average entering freshman cohort over the last 4 years (2007–2010) consisted of 226.2 students. Admission statistics from 2007–2010 include a four-year average number of completed applications (n = 675.8), number of applicants accepted (n = 638.5), and number of first-time freshmen enrolled (n = 232.8); these data indicate that 36.5% of students accepted actually enrolled full-time for classes (Baker University Fact Book, 2010).

Whereas the previous paragraphs concentrate on average demographics for the Baldwin City campus, each studied cohort had distinct measurements of high school GPA, gender, ACT composite scores, and retention. The following paragraphs address the specific entering first-year cohorts in this study for 2007 - 2010. All information was reported in the 2011 Baker University Fact Book.

The 2007 cohort of entering first-year, first-time students (n = 250) had a mean high school GPA of 3.52 and a mean ACT composite score of 22.65. Student retention from fall to spring semester (n = 224) was 89.5% of the 2007 freshman (FR) cohort, whereas student retention from spring to fall semester (n = 182) was 72.8%. Women were retained at a higher percentage than their male counterparts.

The 2008 cohort of entering first-year, first-time students (n = 239) had a mean high school GPA of 3.48 and mean ACT composite score of 23.06. Student retention from fall to spring semesters was 91.6% (n = 219) and the spring to fall semester retention rate was 74.9% (n = 179). Male students represented approximately half of those students retained.

In the 2009 cohort (n = 257 students), the mean high school GPA remained 3.48, and the mean ACT composite score rose slightly to 23.54. The retention rate for the

spring semester was 93.4% (*n* = 240 students), whereas spring to fall retention dropped to 81.7% (*n* = 210 students).

The fall 2010 cohort (*n* = 185) was the smallest cohort since 1996 (*n* = 185 students) and 1991 (*n* = 180). The mean high school GPA was 3.42 and the ACT mean was 23.20. Retention from fall to spring was 89.7%, and spring to fall was 76.2%. In the fall of 2010, Baker's Baldwin City campus experienced a decline in first-time freshmen (185 students compared to 257 students in 2009, 239 students in 2008, and 250 students in 2007). This trend impacts not only that enrollment year, but the trajectory of the student's time at the university. Table 1 summarizes the 2007 through 2010 cohort demographic and retention information.

Table 1

2007–2010 Cohort Demographic and Retention Information

	2007	2008	2009	2010
Full-time enrolled	250	239	257	185
Mean HS GPA	3.52	3.48	3.48	3.42
Mean ACT *	22.65	23.06	23.54	23.20
Fall to spring retention (%)	224 (89.6%)	219 (91.6%)	240 (93.4%)	166 (89.7%)
Spring to fall retention (%)	196 (78.4%)	174 (72.8%)	192 (74.9%)	141 (76.2%)

Note. Adapted from the "Baker University Fact Book 2011." * = ACT Composite score.

Figure 3 illustrates non-retention data (gray column) and retention data (colored columns grouped by cohort) from fall semester into spring semester and spring semester into the following fall semester. The average retention rate from fall to spring semester

was 91.1% and from spring to the following fall semester the average retention rate was 75.6%. The average number of students returning for the second year was 176; all-campus enrollment average was 903 students.

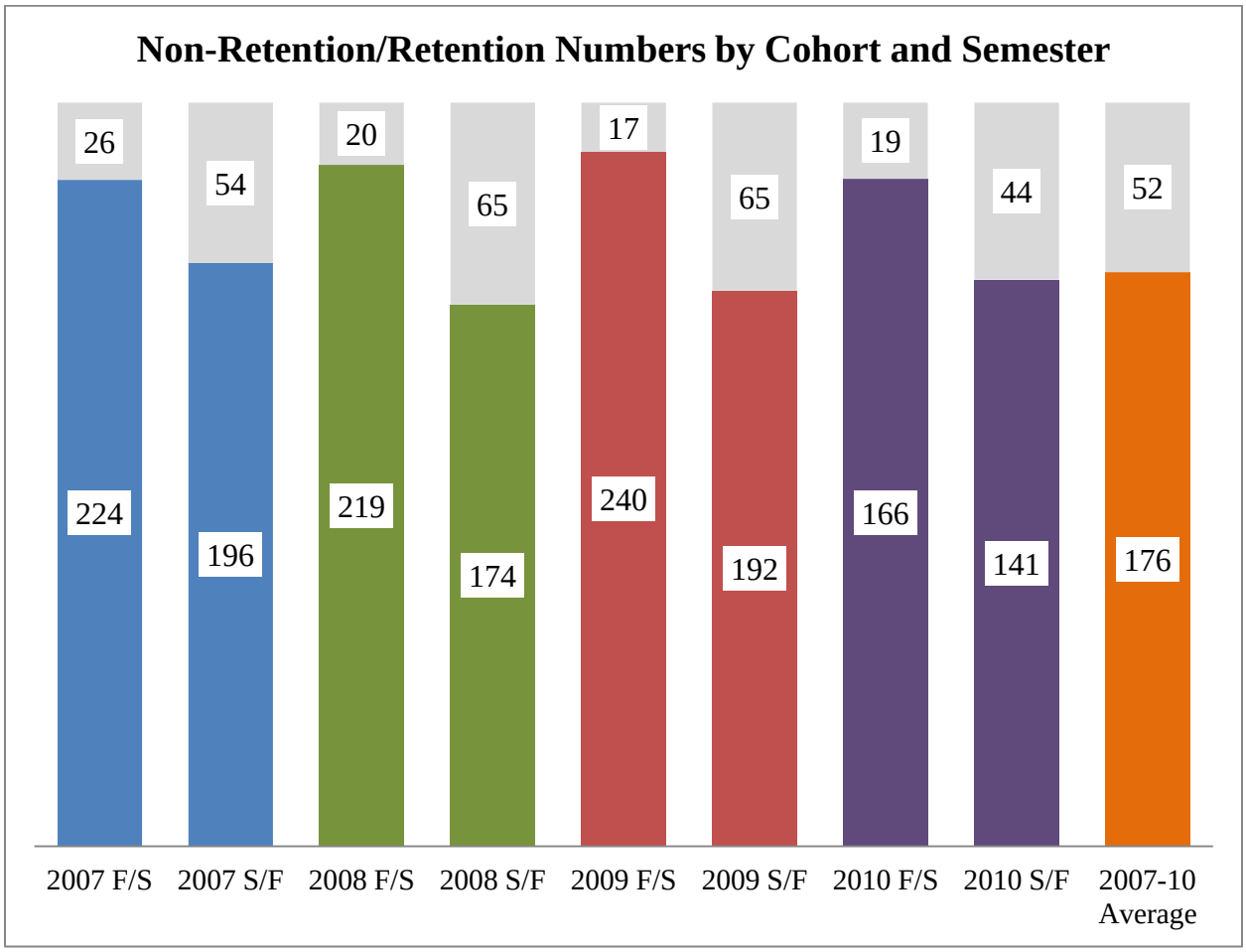

Figure 3. F/S denotes fall semester to spring semester and S/F denotes spring to the following fall semester. Retention data for 2007–2010 cohorts (Baker University Fact Book, 2010).

Total full-time degree-seeking student enrollment has dropped from 2007 (953) to 2010 (927). The percentage of applicants accepted and new first-time students continues to drop as well. Table 2 presents these enrollment numbers.

Table 2

Baker University Baldwin City Campus Enrollment Numbers

	Applicants accepted	New first-time students	Total full-time degree-seeking students
Fall 2007	686	250	953
Fall 2008	636	239	978
Fall 2009	654	257	974
Fall 2010	581	185	927

Note. Adapted from the "Baker University Fact Book," 2011.

Retention rates at Baker University Baldwin City campus from 1986–2010 averaged 91% from fall semester to spring semester and 75% from spring to the following fall semester. The 2010 cohort retention rate (76.6%) from the first year to second year dropped notably compared to the 2009 cohort (81.7%) (Baker University Fact Book, 2011). This declining trend coupled with lowering enrollment figures raised awareness for the urgency for retention strategies at Baker University Baldwin City campus

Student Readiness Inventory Instrument

Since 2006, Baker University Baldwin City campus employed the Student Readiness Inventory (SRI) to indentify at-risk students. The Baldwin City campus Student Academic Success staff administered the SRI to entering first-year, first-time students during summer enrollment days beginning in 2006. SRI results are received during the first month of the fall semester.

Developed by the ACT to measure students' behaviors and psychosocial attributes in order to predict their success as they enter college and their likely retention to a second

year, the SRI requires students to answer 108 questions (Appendix A) about themselves. Data are grouped into three areas, which the ACT calls domains: Motivation and Skills, Social Engagement, and Self-Regulation; and ten categories (which the ACT calls scales): Academic Discipline, General Determination, Goal Striving, Commitment to College, Study Skills, Communication Skills, Social Connection, Social Activity, Academic Self-Confidence, and Steadiness ("Features and Benefits," 2007).

Understanding that personal difficulties are undetectable in standard entrance exams or high school GPA, researchers Le, Casillas, Robbins, and Langley (2005) utilized a rational-empirical approach to construct the SRI instrument. Through a meta-analysis, the researchers found the SRI to predict academic performance and student retention by measuring factors of psychosocial and academic related skills. ACT purports the tool to be "extremely powerful and cost effective" for postsecondary institutions to improve first year retention rates ("Features and Benefits," 2011, para. 1).

Background and Conceptual Framework Summary

Demographic data indicates Baker University Baldwin City campus is shrinking in numbers both through lack of enrollment and lack of retention. Anecdotal wisdom encourages colleges and universities to retain. Baker University is dependent on increased total full-time degree seeking students to remain fiscally viable and to meet the University's mission of commitment "to assuring student learning, and developing confident, competent and responsible contributors to society" ("Mission & Core Values," n.d., para 1). The SRI instrument complements traditional methods of predicting student success by augmenting cognitive factors such as high school GPA and

entrance exams with psychological factors of motivation, engagement, and self-regulation.

Statement of the Problem

Decreased enrollment and retention numbers at the Baker University Baldwin City campus over the last four-years have created a perfect storm. Non-retention includes students who do not want to be at the institution and students who do not maintain the academic standard and fail out of the institution. Unsuccessful academic performance contributes to 40% of first-time college students not completing their first year (Carey, 2004). Early identification of students less likely to be successful based on noncognitive factors provides administrators the opportunity to build support and provide auxiliary services to those students. Postsecondary institutions have a responsibility to provide programs and systems of support for academic success and retention for timely degree completion. Researchers Lotkowski, Robbins, and Noeth (2004) reported that the critical first year impacts academic success and persistence. Likewise, Le et al. (2005) asserted that noncognitive psychological factors such as motivation and social engagement also contribute to a student's academic success and retention.

Federal policies, such as the 2011 Higher Education Act, have increased the responsibility of postsecondary institutions for retention and academic assessment of students. This accountability to the students means that higher education must provide transparent university policies and reports, ensure measures to support student academic success, and bolster retention strategies. Failure to do so may result in reduction of federal funding. It is imperative for the University's fiscal's viability that the downward full-time student enrollment trend is reversed. The ACT touts the SRI as a proven

prediction measurement device and purports the instrument to be cost effective, which is attractive to schools with limited fiscal resources. The question at hand is if the SRI can help identify at-risk students at Baker University and improve academic success and retention numbers for increased overall enrollment.

Significance of the Study

This study contributed to the knowledge base that the SRI can predict success and retention for first-year, first-time students. Understanding the effective employment of the SRI instrument affords postsecondary institutions invaluable information to better serve students and increase academic success and retention. More importantly, identifying a student's key deficit target areas allows the university to provide intentional and individualized support to the student. For example, instead of requiring courses in study skills to all students, focused individualized support may be provided to students indicating a greater need for auxiliary assistance. Providing targeted resources toward identified students gives postsecondary institutions the opportunity to assist students prior to academic failure or premature departure. Enhanced student academic success and retention increases university enrollment numbers benefiting tuition-driven schools, and fiscally limited institutions can direct resources intentionally to identified students.

Academic performance and retention rate baselines vary across postsecondary institutions. The SRI reports academic success and retention probabilities based on student national averages. Using a scale from 1 to 99, with smaller values representing higher risks of poor academic success and non-retention, the generic percentiles of "low," "medium," and "high" do not address a specific institution's academic success and retention baselines ("Results and Reports," 2011). This study examined the criterion

validity of the SRI at Baker University Baldwin City campus, which provides for targeted use of specific cohort data and subsequent action steps provided for identified at-risk students. Baker University Baldwin City campus directly benefits through using directed data and intentionality in developing strategic planning to address student retention.

Purpose of the Study

The purpose of this study was twofold: (1) to assess the criterion validity of the SRI instrument at Baker University using four-years of entering student cohort SRI data and the students' retention and academic success; and (2) to explore the relationship between SRI scores and students' retention and academic success from fall to spring semesters and from first to second year at Baker University Baldwin City campus.

Delimitations

The researcher narrowed the focus of the study with the following delimitations:

1. The study was conducted at one private, liberal arts institution located in the rural Midwest with an approximate full-time student population of 900. Colleges or universities consisting of larger student populations, located in a different geographic setting, and/or different institution types will likely have different outcomes.
2. The study followed four cohorts of first-year, first-time students and did not track student retention or academic success beyond each student's first year. The study did not include transfer students.
3. The study was limited to those students who had participated in the summer enrollment process. The timing of the administration of the instrument within a hectic orientation schedule and outside of the academic calendar may have impacted student SRI scores. Additionally, students participating in alternate summer

enrollment processes such as phone enrollments or late enrollments do not participate in the SRI and therefore were not part of this study. Including phone or late enrollment students may have affected results.

4. The study analyzed SRI scores, student retention, and cumulative GPA. Other measures, such as demographic information including ethnicity, gender, athletic participation, fraternity/sorority involvement, and residential standing were not analyzed.

Assumptions

This study was conducted under the following assumptions:

1. The SRI measures self-reported data. It is assumed the participants were truthful.
2. Students' motivations and abilities are the same during the summer prior to attending college as they are in the fall and spring semester while attending classes.
3. The SRI was administered to the majority of first-time, first-year students; however, students who enroll using nontraditional methods such as phone enrollments or individual advisor meetings do not take the SRI. It was assumed that the students taking the SRI in the summer are representative of all entering first-time, first-year students at Baker University Baldwin City campus.

Research Questions

The study addressed the relationship between SRI scores and student retention and academic success through three research questions:

1: What is the SRI's criterion validity specifically for the Baker University Baldwin City campus?

2: Is there a relationship between a student's success and the scores on each of the following: Motivation and Skills domain, Social Engagement domain, and Self-Regulations domain scores and a student's academic success.

3: Is there a relationship between a student's success and the scores on each of the following: the Motivation and Skills domain, Social Engagement domain, and Self-Regulations domain scores and a student's retention from fall semester to spring semester and spring to the following fall semester?

Definition of Terms

Academic success. A cumulative grade-point average of 2.0 or higher.

Academic discipline. The amount of effort a student puts into schoolwork and the degree to which a student is hardworking and conscientious ("Features and Benefits," 2011).

Academic self-confidence. The belief in one's ability to perform well in school ("Features and Benefits," 2011).

At-risk student. A student vulnerable to not returning or academic failure.

Commitment to college. Student commitment to staying in college and earning a degree ("Features and Benefits," 2011).

Communication skills. Attentiveness to others' feelings and flexibility in resolving conflicts with others ("Features and Benefits," 2011).

First-year, first-time students. Students who enter the university without prior postsecondary experience. Students in this category may have taken concurrent courses during secondary education but have yet to attend a university setting.

General determination. The extent to which one strives to follow through on commitments and obligations ("Features and Benefits," 2011).

Goal striving. The strength of one's efforts to achieve objectives and end goals ("Features and Benefits," 2011).

Motivation and Skills domain. Personal characteristics that help students succeed academically by focusing and maintaining energies on goal-directed activities. This domain includes the SRI scales of Academic Discipline, General Determination, Goal Striving, Commitment to College, and Study Skills ("Features and Benefits," 2011).

Self-Regulation domain. Cognitive and affective processes used to monitor, regulate, and control behavior related to learning. This domain includes the SRI scales of Academic Self-Confidence and Steadiness ("Features and Benefits," 2011).

Social activity. One's comfort in meeting and interacting with other people ("Features and Benefits," 2011).

Social connection. One's feelings of connection and involvement with the college community ("Features and Benefits," 2011).

Social Engagement domain. Interpersonal factors that influence students' successful integration or adaptation into their environment. This domain includes the SRI scales of Communication Skills, Social Connection, and Social Activity ("Features and Benefits," 2011).

Steadiness. One's responses to and management of strong feelings ("Features and Benefits," 2011).

Study skills. The extent to which students believe they know how to assess an academic problem, organize a solution, and successfully complete academic assignments ("Features and Benefits," 2011).

Overview of Methodology

This quantitative study was designed to answer three research questions in two parts: a) to establish the criterion validity of the SRI for Baker University students at the Baldwin City campus, and b) to analyze the relationship between students' SRI scores and academic success and retention. Taking a post hoc quasi-experimental approach, the researcher compared domain scores to academically successful and unsuccessful students and retained and not retained students.

This study analyzed numerical data of the SRI indices probabilities and domain scores through the use of *t* tests and ANOVAs, parametric tests used with numerical data. Central Limit Theory dictates that with large sample sizes, where $n > 30$, violation of the assumption of the population data being approximately normal in distribution is not an issue. The researcher did not evaluate for population normality given the sample size ($n = 829$), there was no need.

To establish criterion validity, independent *t* tests were conducted on participants' SRI scores over four cohort years (2007–2010). Independent samples *t* test is used to compare the means of two unrelated groups (Creswell, 2009). This study compared the mean academic success and retention indices of students who were successful with those who were not and those students who retained with those who did not. The outcomes of the *t* test told of significant differences between the calculated mean probability success indices for academic success and retention statuses.

For the second part of the study, the researcher utilized a two-factor ANOVA to analyze the relationship between three domain scores, and a student's retention and academic success. The two-factor ANOVAs were used to find if there were differences

between successful and unsuccessful students and retained and non-retained students across the three SRI domains (Creswell, 2009). Using a two-factor analysis of variance (ANOVA) of the three domain scores, academic success (≥ 2.0 GPA) or not academic success (≤ 1.9 GPA) after the first semester and first year, and retention information (retained or not retained), a profile emerged of students likely to be retained and/or academically successful. This profile indicated those domains likely to have the greatest impact on retention and academic success.

Summary

Through decades of research, professional developments, and programming, student retention remains a complex issue. It was once thought to be a student's own responsibility, but now university administrators are recognizing their role and responsibility in supporting student academic success and retention. Proactive assessments identifying at-risk students and data-driven, tailored programs provide necessary support for the retention and academic success of students. This study examined the relationship of SRI scores to academic success and retention at Baker.

The literature review found in chapter two explores the cognitive and psychological factors that influence a student's postsecondary success. Although early models based predications on cognitive identifiers such as high school GPA or entrance exams or stereotypical information such as socioeconomic status, later researchers have challenged this by reviewing students' psychological indicators such as commitment to college, goal striving, and social engagement. Researchers used emerging psychological information to build on earlier cognitive studies providing a holistic view of the student.

Chapter Two

Review of Literature

This review of literature focused on four overarching areas of research on the use of the Student Readiness Inventory (SRI) to predict retention of college students: (a) current national postsecondary retention, (b) historical review of student development and retention theories, (c) current retention practices, (d) Student Readiness Inventory (SRI) development, (e) current empirical research of the SRI, and (f) SRI updates from the ACT.

Current National Postsecondary Retention

Retention rates are dropping for four-year institutions (Neely, 2009). A 2010 ACT national longitudinal study (1983-2010) of four-year private Bachelors of Arts (BA) and Bachelor of Science (BS) institutions, indicated 1989 experienced the highest recorded average retention rate (74.0%) and 2010 saw the lowest recorded average retention rate (68.7%). The ACT further delineates four-year private institutions into admission selectivity categories (Highly Selective, Selective, Traditional, Liberal, and Open). Baker University Baldwin City campus "teeters on the edge between Selective and Traditional—probably more on the side of Traditional" (M. Bandré, personal communication, March 8, 2012). Private institutions categorized as highly selective or selective admissions have higher retention rates nationally, and liberal and open admission institutions have lower retention rates (ACT, 2011a). Illustrated in Table 3 are the national retention rates of four-year private BA/BS intuitions with traditional admission selectivity as reported by the ACT.

Table 3

Private Institutions with Traditional Admission Selectivity: Freshman to Sophomore Year Retention Rates.

	Mean	*n*	SD
2003	69.1%	154	12.6
2004	67.0%	111	13
2005	69.6%	122	12.2
2006	69.7%	111	11.2
2007	66.7%	109	15.4
2008	67.1%	148	12.1
2009	66.6%	140	13.0
2010	66.3%	138	13.1
2011	66.6%	130	13.8

Note. Adapted from "ACT Institutional Data File," 2000-2011.

Baker University Baldwin City campus is a private not for profit institution. As reported by the National Center for Education Statistics (2011), students enrolled in a private not for profit institution had a higher rate of retention than other institutions. Students enrolled in a private for profit institution had a one in two chance of being retained.

Table 4

2008 Full-time Freshman Retention by Four-Year Institution Type

	n	Retention Rate
All Institutions	2401	77%
Public	629	78%
Private not for profit	1245	79%
Private for profit	527	50%

Note. Adapted from "Condition of Education," National Center for Education Statistics, 2011.

Students are leaving; retention rates are falling. University and college administrators seek to unravel the mystery of retention, and at the heart of the question are the students themselves. Why do students go? Students may not be ready for the postsecondary environment.

Readiness for college describes a student who has the combination of psychological and intellectual attributes that enable the student to be successful at a postsecondary institution. Conley (2007) describes the college-ready student as one who can "understand what is expected in a college course, can cope with the content knowledge that is presented, and can take away from the course the key intellectual lessons and dispositions the course was designed to convey and develop" (para. 3). The extent to which a student understands how colleges work, how to navigate within the environment, and how rewards and expectations operate is also a reflection of the student's readiness.

As new student cohorts arrive on university campuses, administrators attempt to discern students unprepared for the postsecondary environment. Although students may claim cognizance of differences between high school and college-level work, many are not ready to meet the demands of higher-level studying and workload expectations, coupled with the balance of independence, outside employment, and relationships. Students who easily made it through high school without studying may now find themselves struggling to make it to classes or feeling academically unprepared for postsecondary challenges.

In July 2011, the U.S. Department of Education released findings of first-time students enrolled during the 2003—2004 academic year through the 2008—2009

academic year in four-year, two-year, private, public, not-for-profit, for-profit, and certificate programs. The data included completion rates for degrees and certificates, transfers to other institutions, and attrition from all postsecondary options without degree or certificate completion. The six-year study followed 19,000 students representing approximately four million undergraduate first-time students entering postsecondary institutions in 2003—2004.

Of students (n = 90,000) enrolled in a four-year institution, 53.7% completed a program at the first institution of enrollment within six years of attendance, 50.5% obtained a bachelor's degree, 2.6% obtained an associate degree, and 0.6% obtained a certificate. The remaining 46.3% of students were either still enrolled at the first institution (4.6%), transferred from the first institution to another institution and were no longer followed (25%), or left the first institution and did not enroll at another institution (16.7%) (Skomsvold, Radford, & Berkner, 2011a).

With first-to-second-year retention rates averaging 33% and 6-year graduation completion rates at only 53.7%, the Higher Education Act (HEA) commissioned institutions to be more accountable for student retention and academic success (Habley & McClanahan, 2004; Skomsvold et al., 2011b). Mindful of the impact on future student revenues or on national shortages of college-educated people, the HEA is attentive to the state and taxpayers' costs when students leave after the first year. At-risk students have a major impact on institutions of higher education, specifically with regard to attrition. Postsecondary institutions are affected by student retention in the areas of funding, campus facility planning, and academic curricula (Jones & Watson, 1990).

The American Institutes for Research (2010) analyzed 2003–2008 data of private and public four-year institutions from the Integrated Postsecondary Education Data System (IPEDS) and discovered that the first-to-second-year dropout rate accounted for a $1.5 billion loss in federal student grants, $1.4 billion in state student grants, and $6.2 billion in state appropriations for postsecondary institutions. High dropout rates have direct correlations to high losses in state and federal money.

Nationally, state subsidies, which include state grants and appropriations, average $10,000 per student per year (Schneider, 2010). Figure 4 illustrates the amount of estimated state money spent on first-year, first-time students not retained after the first year. During the 2003–2007 academic years, Kansas, the setting for this study, spent $93,500,000 in state expenditures for first-year-only student dropouts and $14,200,000 in federal grants. This ranked Kansas 29th of 50 states for "States in Order of State Money Spent on First-Year Dropouts" and 31st of 50 states for "States in Order of How Much Federal Student Aid Was Spent on First-Year Dropouts" (Schneider, 2010).

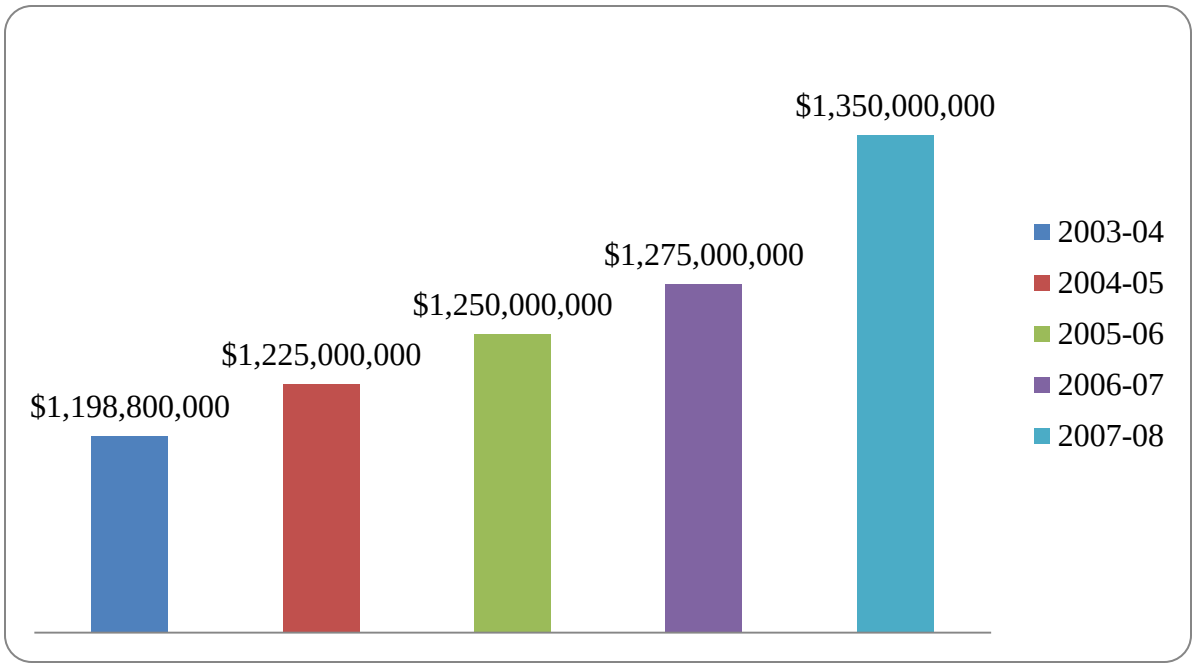

Figure 4. Estimated states losses through appropriations of student dropouts from first to second year. Adapted from "American Institutes for Research," 2010.

Following the HEA expectations, administrators no longer can view student attrition and failures as only the student's; universities are called to do more to identify and support at-risk students (Beck & Davidson, 2001).

Historical Review on Student Development and Retention Theory

Recognizing factors of motivation and persistence adds to the extensive body of literature in understanding student development (Le et al., 2005). A student's decision to leave an institution is influenced by academic and nonacademic factors (Robbins et al., 2004). Academic factors associated with traditional retention measures of college readiness include high school grade-point averages and college admission tests (Tinto, 1997; Robbins et al., 2004; Adelman, 2006). A student's cumulative collegiate GPA also influences attrition (Porter, 1990; Cabrera, Nora & Castañeda, 1993; Mangold, Bean,

Adams, Schwab, & Lynch, 2002). A student's academic success predicts student retention. In an ACT policy report, *The Role of Academic and Non-Academic Factors in Improving College Retention*, Lotkowski, Robbins, and Noeth (2004) analyzed 20 years of data collection, reported retention rates, and extensive research including six national studies of academic advising and three national studies of retention practices. The researchers established that students' university academic performance was highly correlated to academic measures such as high school grade-point average and scores on standardized achievement tests such as the ACT. In a longitudinal study of college and university dropouts, Ishitani & DesJardins (2002) found that the higher a student's cumulative first-year GPA, the more likely the student will be retained at the institution.

Nonacademic factors also affect retention (Tinto, 1975; St. John,1990; Cabrera, Nora & Castañeda, 1993; Wyckoff, 1998; Braxton & McClendon, 2002; Mangold et al., 2002). Nonacademic factors include "level of commitment to obtaining a degree, level of academic self-confidence, academic skills … and level of academic and social integration into the institution" (Lotkowski, Robbins, & Noeth, 2004, p. 4). In terms of psychological attributes, Lotkowski and colleagues found that "self-confidence" and "achievement motivation" had the strongest relationship to college GPA (Lotkowski et al., 2004). Students scoring lowest in these categories are at risk of academic failure, and therefore are of greatest concern for attrition.

Tinto (1975) created a retention model emulated by other researchers concerning student attrition. His model suggested that leaving college is akin to withdrawing from society, or in effect, is like committing suicide. Tinto's model maintains that students who left have failed to integrate academically or socially in the postsecondary

environment (Tinto, 1975). Additionally, Tinto's (1975) Student Integration Theory implied that student retention was an indicator of the university's academic and social health as well as student's experiences. The university has a shared responsibility with the student for creating successful environments. A student's institutional and personal commitment is solidified by the integration of a student's background factors of socioeconomic status, high school GPA, family structure, and student readiness (Tinto, 1975; Cabrera, Nora and Castañeda, 1993; Texas Higher Education Coordinating Board, 1999). The interactions of these factors have positive or negative effects on a student's retention.

In 1993, Tinto's "Model of Institutional Departure" introduced the theory that in order to persist, students need formal and informal integrations to campus life. Tinto defined formal academic settings such as academic performance and assessments and informal social systems such as extracurricular activities. Academic informal opportunities included faculty or staff interactions; social informal settings included peer group interactions. Tinto's model exemplified the need to look broadly at retention attributes in both the academic and social arenas.

Proposing a different view on retention research, Bean (1980) developed a retention model that suggests a student withdrawal from college is like employee turnover. Bean's (1980) student attrition model highlights behavioral indicators of time spent on or away from campus and student contact with faculty as representative of student involvement. Bean's model stressed external factors (e.g., friendships, social ties) on a student's persistence and theorizes that encouragement from friends and shared group values "enhance a sense of commitment to the institution" (Thomas, 2000, p. 592).

Similar to Tinto's studies (1975, 1993), the dynamics of perceived social support, social involvement, academic engagement, commitment to degree completion and institution, and related institutional environmental influences directly correlated to a student's outcome success (Robbins et al., 2004).

Astin's (1984) student development theory and retention study model correlated student involvement directly to student persistence. Astin defined student involvement as participation in academics, student peer group interactions, and faculty relationships and hypothesized those categories were the most essential variables for student retention, development, and learning. Later Astin (1993) developed this theory further to include the interactional student core characteristics, environment, which "refers to the various programs, policies, faculty, peers, and educational experiences to which the student is exposed," and outcomes, referring to the "student's characteristics after exposure to the environment" (p. 7).

Whereas Astin's (1984) model stressed individual student motivation and behavior, Pascarella and Terenzini identified the institutional environment as critical to distracting from or encouraging student involvement (cited in Owens, 2011). Pascarella and Terenzini's (1991, 2005) 20 years of research explained college student cognitive, moral, and psychosocial development. Their research revealed the leading predictor of college success was a student's involvement in the educational and social experience.

St. John (1990) categorized important student's retention factors, which affected the student's retention decision on to persist or leave the institution. These factors included family educational and financial background, enrollment status, institution type, tuition and financial aid, cognitive background including high school GPA and entrance

exam scores, the first two years of postsecondary grades, and a student's commitment to college.

Thomas (1990) asserted three student outcomes to increase student retention. Academic and social integration and confidence in institution quality enhance the student's persistence. He stressed that academic advising is the most important service a postsecondary institution can offer to effect student retention. Similarly, research of student persistence and academic success emphasizes the same factors in predicting student outcomes while being mindful of a student's background characteristics of race, ethnicity, socioeconomic status, and demographics. Postsecondary success predictors featured in educational psychology literature hold practical and theoretical significance (Pascarella & Terenzini, 1991). Practically, identification of known success and retention predictions allows for early identification of at-risk students.

Through a meta-analysis of retention studies (n = 109) utilizing standardized measures focused on academic, nonacademic, and retention rates relationships in four-year U.S. institutions, Robbins et al. (2004) concluded that retention and academic performance are different outcome processes (ACT, 2011b). Using the example, "…high school grade point average and academic-related skills and goals have a stronger relationship to retention than to performance, and ACT Assessment scores [standardized entrance exams] and academic self-confidence and achievement motivation have a stronger relationship to performance than to retention" (p. 10), the researchers concluded that using both academic and nonacademic categories improves college success in academic performance and retention.

Predicting college achievement for at-risk students may target key indicators positively influencing a student's academic success and retention (Le et al., 2005). Early identification and intentional programming are vital to student persistence and performance (Beck & Davidson, 2001; Pathways to College Network, 2004). Early warning indicators historically include cognitive factors such as standardized entrance exam scores, high school grade-point averages, and high school class standings, but do not factor for school differences in grading, expectations, and performance (Ziomek & Svec, 1995; Tam & Sukhatme, 2003). Although standardized testing was introduced as a meritocratic process, researchers Lawlor, Richman, and Richman (1997) argue that standardized testing masks other success-related factors and may be biased toward racial, ethnic, and socioeconomic groups (Lehman, 1999; Robbins et al., 2004). Bowen, Chingos, and McPherson (2009) stated that other cognitive assessments such as Advanced Placement tests are better predictors of academic success than standardized entrance exams. Although academic factors demonstrate valid predictive methods for college outcomes, they should be augmented with nonacademic or psychological assessments (ACT, 1997; U.S. Department of Education, Office of Civil Rights, 2000).

Lotkowski et al. (2004) argue that academic factors are only a part of a comprehensive approach to early indicators overlooking nonacademic or psychological indicators. Information on nonacademic factors such as academic self-confidence, achievement motivation, commitment to college, and social support directly correlate to student academic performance and retention (Ting & Robinson, 1998; Eccles & Wigfield, 2002; Lotkowski et al., 2005; Robbins et al., 2004). Retention strategies such

as new student orientation and first-year experience or seminar classes promote the integration of a student's nonacademic factors.

Summary

The research is replete of retention models, influencing factors, and student development theory; yet, retention rates continue to decline. Understanding the needs of a student to be fully integrated academically and socially, colleges and universities strive to create welcoming and inclusive environments. Factors such as family background, socioeconomic status, and college readiness are not institutionally controlled; however, institutions that have an understanding of development and retention theory are better placed to assist the student. Putting theory into effective practices is the next step for student and institutional success.

Current National Retention Practices

In 1990, Bean urged schools desirous of increasing retention to develop a list of programs and practices to increase a student's likelihood of persistence. The list included topics from admissions through orientation to a student's departure. Items included admitting students who match the strengths of the institution, developing loyalty to the institution through rituals and symbols, and providing services, which give the student positive feelings about the institution's community and a place within that community. He claimed some students leave no matter what the institution does and that all attrition is not necessarily bad. He concluded that institutions must study retention rates of students enrolled from central demographics identify the departure reasons when a student leaves (Bean, 1990). Bean's sage words offered broad advice to institutions.

The 2010 ACT survey of private four-year colleges and universities (N = 1,318) sought to answer the question, "What Works in Student Retention?" Of survey respondents (n = 440), 54% reported having a specific goal for increasing first-year to second-year retention. Retention timeline goals ranged from two to five years (ACT, 2010b). Survey respondents were given a list of 94 retention programs, services, curricular offerings, and interventions and asked to indicate if the practice was offered at their institution. Practices with highest incident rates are listed in Table 5.

Table 5

Private Four-Year Institutions Self-Reported Retention Practices High Incidence Rates

Item	Incidence Rate
Internships	93%
Faculty use of technology in teaching	90%
Tutoring	90%
College-sponsored social activities	89%
Individual career counseling	85%
Faculty use of technology in communicating with students	84%
Pre-enrollment financial aid advising	84%
Residence hall programs	83%
Student leadership development	82%
Mid-term progress reports	81%
Library orientation, workshop, and/or course	81%

Note. From "What Works in Student Retention," ACT, 2010a.

Survey respondents also indicated retention practices infrequently or absent from their institution. Low incidence rate programs included audience-specialized programs and rewards for advisors. The listed programs should not be confused with ineffective results; but, are listed as the ten least used efforts from the list of 94. The lowest ranked ten practices are presented in Table 6.

Table 6

Private Four-Year Institutions Self-Reported Retention Practices Low Incidence Rates

Item	Incidence Rate
Programs for veterans	18%
Enhanced/modified faculty reward system	18%
Recognition/rewards for faculty academic advisors	17%
Learning communities (non-residential)	15%
Recognition/rewards for non-faculty academic advisors	12%
Freshman seminar/university 101 (non-credit)	10%
Community member mentoring	10%
Freshman interest groups	9%
Degree guarantee program	5%
Programs for other student sub-populations	3%

Note. From "What Works in Student Retention," ACT, 2010a.

Surveyed institutions were also asked to rank each practice on a three point Likert scale on how much the practice contributed to campus retention. The Likert scale's three points were major contribution (5), moderate contribution (3), and little or no contribution (1). Retention practices with the highest means for retention contribution are listed in Table 7.

Table 7

Private Four-Year Institutions Self-Reported Retention Practices with Highest Means

Item	Mean
Academic advising center	3.93
Advising interventions with selected student populations	3.93
Increased number of academic advisors	3.87
Reading center/lab	3.86
Comprehensive learning assistance center/lab	3.84
Integration of advising with first-year transition programs	3.83
Programs for first-generation students	3.80
Early warning system	3.77
Tutoring	3.75
Pre-enrollment financial aid advising	3.74
Extended freshman orientation (credit)	3.73
Faculty mentoring	3.68

Note. From "What Works in Student Retention," ACT, 2010a.

Eight of the 94 practices were ranked with the lowest mean indicating that the practice was seen as providing little to no contribution to campus retention efforts. Three of the eight practices with the lowest means for effectiveness were also indicated in the lowest incidence rate: Enhanced/modified faculty reward system, Recognition/rewards for non-faculty academic advisors, and Recognition/rewards for faculty academic advisors. Retention practices with the lowest means for retention contribution are listed in Table 8.

Table 8

Private Four-Year Institutions Self-Reported Retention Practices with Lowest Means

Item	Mean
Enhanced/modified faculty reward system	2.88
Recognition/rewards for non-faculty academic advisors	2.88
Values assessment	2.88
Health and wellness course/program	2.86
Vocational aptitude assessment	2.83
Library orientation, workshop, and/or course	2.74
Recognition/rewards for faculty academic advisors	2.72
Personality assessment	2.67

Note. From "What Works in Student Retention," ACT, 2010a.

Tables 9-11 merge the practices' incidence frequency and rated effectiveness into categories of high, moderate, and low mean (effective retention practice) and incidence rates (number of institutions utilizing the practice). High means and high incidence rates are presented in Table 9. Advising interventions with selected student populations tops the table with a mean of 3.93 out of 5 possible points as a program contributing positively to student retention. Early warning systems, which may be used to identify the selected student populations, had a 3.77 mean. Several of the programs listed in Table 9 rely on early identification of students at risk and in need of tutoring, peer mentoring, and learning assistance.

Table 9

Private Four-Year Institutions Self-Reported High Incidence Rates and Effective Retention Practices

Item	Mean	Incidence Rate
Advising interventions with selected student populations	3.93	70%
Comprehensive learning assistance center/lab	3.84	58%
Early warning system	3.77	78%
Tutoring	3.75	90%
Pre-enrollment financial aid advising	3.74	84%
Freshman seminar/university 101 (credit)	3.67	58%
Internships	3.67	93%
Summer orientation	3.66	67%
Required on-campus housing for freshmen	3.63	58%
Peer mentoring	3.63	58%
Programs for honor students	3.62	59%
Mid-term progress reports	3.60	81%

Note. From "What Works in Student Retention," ACT, 2010a.

Respondents reviewed the 94 retention practices and identified the top three practices that made the greatest retention contributions on their campus. Ten percent or more of the institutions chose seven practices as the top three. The top practices are listed in Table 10.

Table 10

Private Four-Year Institutions Self-Reported Retention Practices Making the Greatest Contribution.

Item	% Selecting as Among Top Three
Early warning system	21%
Freshman seminar/university 101 (credit)	20%
Advising interventions with selected student populations	13%
Faculty mentoring	13%
Tutoring	13%
Summer orientation	12%
Internships	12%

Note. From "What Works in Student Retention," ACT, 2010.

The ACT's "What Works in Student Retention?" institution survey respondents (*n* = 440) noted above were from private institutions similar to Baker University Baldwin City campus. It should be noted that that the list represents self-reported survey data and is not a scientifically-proven pathway to success; rather, the survey collects what other schools claim are effective for their campus. Programs, services, and resources at Baker University Baldwin City campus align with the self-reported survey data in Table 10 offering Summer Enrollment Orientation days, Wildcat Welcome Orientation Weekend prior to the start of classes, and for credit Salon 101 classes designed to meet a student's social needs and introduce campus programs. The top item, however, is likely the most lacking. To date an effective early warning system is not in place and there is not an intentional integration of student nonacademic assessments to tailor specific programming for identified at-risk students. One such assessment is the Student Readiness Inventory (SRI) developed by ACT.

Student Readiness Inventory (SRI) Development

The development of the SRI came out of Robbins et al.'s (2004) meta-analysis of 109 studies examining the relationship of psychological attributes, study skill factors, and college outcomes. Robbins and colleagues noted a lack of integration in the literature of educational, psychological, and skill factor theories, which influence a student's retention or success. Consequently, their research had two main purposes: (a) to bring together the replete educational literature of college success theories and constructs to "increase the understanding of the relative efficacy of psychological, social, and study skill constructs on college success" (p. 261); and (b) to explore the relationship of the constructs to academic achievement, and as a result incorporate it by examining a variety of study skills and psychological factors in calculating student retention and academic success. Robbins et al.'s study was the first meta-analysis to examine academic achievement and psychological domains.

Robbins et al. (2004) first combined literature and theories to derive a hypothesis of each predictor category and then defined the psychosocial and study skill factor constructs and provided representative measures. Data analysis included correlations of the construct relationship between predictive criteria and provided operational validities to examine if predictors could predict outcomes. Multiple regression models were utilized to examine the extent to which study skill factors predict academic success and retention. The result of the 197 correlations for retention criteria and 270 correlations for academic success criteria found that study skill factors (e.g., academic goals, commitment to the institution, social support and involvement, and academic self-

efficacy) were positively correlated to retention. The same study skill factors also had a positive correlation to academic success, but it was not as strong.

After controlling for the effects of traditional cognitive predictors (high school grade-point average, standardized entrance exams, and socioeconomic status), three psychosocial constructs of academic self-efficacy, achievement motivation, and academic goals established validity in predicting academic performance. Six constructs—academic goals, academic self-efficacy, institutional commitment, academic-related skills, social support, and social involvement – predicted persistence. Robbins et al. put forward three higher-order constructs: motivation, academic-related skills, and social engagement as a composite of psychosocial and academic-related skill predictors. The three domains were (a) the motivation domain defined as personal characteristics of focusing and maintaining efforts on academic goal-directed behaviors, (b) academic-related skills domain to include "cognitive, behavioral, and affective tools and abilities necessary to successfully complete academic tasks" (Le et al., 2005, p. 486), and (c) social engagement domain containing interpersonal features influencing successful assimilation to the institutional environment. The original conceptual SRI model and definitions are found in Table 11.

Table 11

Original Conceptual Model for the SRI and Definitions

Domain	Construct	Definition
Motivation	Conscientiousness	The extent to which a student is self-disciplined, achievement oriented, responsible, and careful.
	Goal focus	The extent to which a student has functional, well-defined academic goals and is committed to achieving these goals.
	Academic self-confidence	The extent to which a student has confidence in his or her academic abilities and is willing to use these abilities to cope with academic challenges.
Academic-related skills	Study skills	The ability to develop effective strategies and habits for learning in an academic environment.
	Problem-solving skills	The ability to use a process of identifying an obstacle, considering solutions, making decisions, and taking appropriate action that results in positive outcomes.
	Communication skills	The ability to exchange information effectively with others.
	Emotional control skills	The ability to understand and effectively manage one's emotions.
Social engagement	Teamwork	The ability to work collaboratively with others.
	Social activity	The ability to develop and maintain relationships with others.
	Social connection	The extent to which a student (a) feels connected to his or her environment, and (b) has available social resources.

Note. Adapted from "Motivational and skills, social, and self-management predictors of college outcomes: Constructing the Student Readiness Inventory," by Le et al., 2005, *Educational and Psychological Measurement, 65*, p. 487.

Seeking to develop a "comprehensive psycho-social and skills inventory for predicting college success" (p. 483), which includes Robbins, Lauver, Le, Davis, Langley, & Carlstrom (2004) three higher-order constructs, identifies missing higher-order constructs, and provides a validation process, Le et al. (2005) constructed the SRI from a study using a rational empirical methodology from the earlier work of Robbins et al. to "propose and develop an inventory of psychosocial and skill factors that (a) captures higher-order constructs, (b) includes constructs missing that may be predictive of college success criteria, and (c) established the foundation for the construct validation process of the resulting inventory" (p. 483). Le et al. (2005) further defined Robbins et al.'s three higher-order constructs identified by including additional constructs not originally examined by the meta-analysis.

Using a construct validation approach, Le et al. (2005) developed interest scales and sought feedback from counseling, education, and psychology experts on the appropriateness of the items based on the constructs. After editing, sample assessments were given to secondary and postsecondary students. Using a second-order factor analysis and revisions based on confirmatory analysis, the researchers developed a higher-order scale structure. Great effort was given in the item writing—completed by a team of applied psychologists—clarity and comprehension of items, and study design. The final draft was then administered to 50 institutions (22 high schools, 22 community colleges, and 6 four-year universities), which rendered 5,970 usable questionnaires for four steps of data analysis: exploratory factor analysis, confirmatory factor analysis, analysis for scale properties determination, and second-order analysis (Le et al, 2005.).

As a result of this work, Le et al. (2005) determined ten first-order factors, of which six (commitment to college, goal striving, academic self-confidence, study skills, social connection, and social involvement) were similar to Robbins et al.'s (2004) initial work. The later four factors (academic discipline, general determination, communication skills, and emotional control) are based on Le et al.'s inclusion of further literature review.

From ten first-order factors, three second-order factors presented, which were modified from the original concept to consist of the motivation and skills domain, social engagement domain, and self-regulation domain. Ten constructs were grouped under the three domains. Table 12 represents Le et al.'s SRI scales and domains.

Using Le et al.'s (2005) work, ACT designed the SRI to identify students at risk of attrition and unsuccessful academic performance (ACT, 2010c; "Features and Benefits," 2011).

Table 12

Description of Domain and Student Readiness Inventory Scales

Domain	Scale	Definition
Motivation and Skills	Academic discipline	The amount of effort you put into your schoolwork, and the degree to which you see yourself as hardworking and conscientious.
	Commitment to college	Your commitment to staying in college and getting a degree.
	Communication skills	How attentive you are to others' feelings and how flexible you are in resolving conflicts with others.
	Study skills	The extent to which you believe you know how to assess an academic problem, organize a solution, and successfully complete academic assignments.
	General determination	The extent to which you strive to follow through on commitments and obligations.
	Goal striving	The strength of your efforts to achieve your objectives and end goals.
Social Engagement	Social activity	How comfortable you feel meeting and interacting with other people.
	Social connection	One's feelings of connection and involvement with the school community.
Self-Regulation	Steadiness	Your responses to strong feelings and how you manage those feelings.
	Academic self-confidence	The extent to which you believe you can perform well in school.

Note. Adapted from "ACT ENGAGE™ College User's Guide," by ACT, 2011d.

Utilizing the SRI, ACT tested 14,000 students at 48 colleges and universities and followed the students through their postsecondary careers. The results validated the SRI as a predictor for retention and academic performance beyond traditional academic achievement measures (Robbins, Allen, Casillas, Peterson, & Le, 2006). Campus specific empirical research was an important next step for the SRI's validity and marketing.

Current Empirical Research of the SRI

Administration at Northern Arizona University, a four-year public institution of 13,000 undergraduate full-time students, witnessed a 30% dropout rate after the first year, and as a reaction required the SRI of all incoming students (n = 3,400) to identify early at-risk students. Scores on the SRI, which is administered to new students during summer orientation, identified at-risk students and guided meetings with academic support staff who matched identified students with specific campus resources. A matrix of campus offices and organizations was developed to assist academic advisors in connecting students with appropriate resources based upon individual scores. Identified at-risk students who met with academic support staff were more likely to use available resources, have higher success rates, and complete their first year than those at-risk students who did not attend a meeting. Targeted students who met with support staff were more likely to be retained (68%) and less likely to be on academic probation (19%) when compared with targeted students who did not participate in retention meetings (62% retained; 25% on academic probation) (ACT, 2010b).

During 2009 summer orientations, the University of North Texas, a four-year public research institution of 35,000 students, administered the SRI to all new students.

The goals were to identify students with the highest risk of academic difficulties early in order to provide an individualized approach to help these at-risk students succeed through the first semester and build a foundation for their postsecondary career. During the first quarter of the semester, identified students met with student support services for one-on-one interventions and were provided a crosswalk of campus services connecting SRI scores to campus resources. Seventy-three percent of students who participated in interventions remained in good standing through the fall semester compared to 63% who did not participate in the intervention meeting. First semester GPAs of students receiving the intervention (2.24) were higher than those who did not receive the intervention (2.14). Finally, 93% of participating students returned for the spring semester versus 89% who did not participate (ACT, 2011c).

Wilbur Wright College in Chicago is a community college in an urban setting where many students begin their education underprepared for college-level courses and enroll in pre-credit courses during their first year. Administrators were challenged to develop a comprehensive early intervention program to increase retention among students enrolled in pre-credit courses. Students scoring at or below the 30th percentile on SRI success indices were referred to the early intervention program. Also referred to the program were students with low entrance scores, students with repetitive enrollment in remedial classes, and students referred by faculty. Scores from the SRI were used to connect students to an advisor and serve as a guide for individual interventions, including how to access and utilize resources needed for success. As a result, Wilbur Wright College developed an early intervention system highlighting campus support and

resource offices and won the 2009 Illinois Innovations in Education Award (ACT, 2010c; Robbins et al., 2009).

In 2008, Utah State University (four-year public institution of 24,000 undergraduate students) conducted a study of the SRI profiling retention rates of freshmen in the College of Agriculture ($n = 55$). The study found the higher a student's entrance exams and high school GPA, the higher the SRI Academic Success Index. Other correlations to a student's SRI success indices included parents who are alumni and distance to a student's home. The study found that the College of Agriculture students ranked above the National Retention Index but below the Academic Success Index. Allen (2009), in her master's thesis at USU, noted that SRI scores in the social engagement domain were lower than anticipated and called for increased and intentional campus outreach for the identified students (Allen, 2009).

During the 2007-08 academic year, after a six-year decline, Ohio University improved first-year retention rates with a 2% increase. First-year retention at Ohio University now stands at 80 percent. Craig Cornell, vice provost for enrollment management, stated, "There is no magic bullet for retention… One of the first things we started was the Student Readiness Inventory to find our high-risk students for retention. Through that process, we've been able to identify high-risk students and get them into several different help areas" (Neely, 2009, p. 2).

These examples indicate current empirical research of the SRI, whereby postsecondary institutions accomplish retention goals. Identifying at-risk students early allows administrators to direct resources to special populations providing support proactively. The SRI is a valuable tool in the on-going quest for retention success.

Summary

National retention rates for private four-year institutions are declining. College student development theory has extensive links of cognitive and non-cognitive factors influencing a student's retention and academic performance. Factors such as a student's background, financial status, and academic preparedness influence a student's ability to connect socially and academically with the institution. Current national retention practices highlight services in place for student success and the early identification of at-risk students. The SRI is a tool used to measure the student's psychological readiness for college and identify student populations needing support assistance in the transition to postsecondary institutions. Empirical studies show that the use of the SRI along with a well designed assistive program at postsecondary institutions offers hope for improved retention.

Chapter Three

Methodology

This post hoc quasi-experimental quantitative study assessed the location specific criterion validity of the Student Readiness Inventory (SRI) instrument and explored the relationship between SRI domain scores and students' retention and academic success from fall semester to spring semester and spring to the following fall semester at Baker University Baldwin City campus, a small, liberal arts university located in the Mid-West. Student data (n = 829) from four cohort years was analyzed through the use of *t* tests and two-way analysis of variance (ANOVA). Cohort data was analyzed as an aggregate (2007 – 2010) and by individual cohort years.

Quantitative Research Design

Participants constituted a complete sample of four cohort years (2007-2010) from Baker University Baldwin City campus. Three research questions guided the research design. The first question established criterion validity for the SRI. Questions two and three examined the relationship between SRI scores and a student's retention (from fall semester to spring semester and spring to the following fall semester) and academic success (GPA $\geq$ 2.0).

Population

Purposive sampling led to the selection of Baker University's Baldwin City campus first-year, first-time students (*n* = 829) who were part of the 2007, 2008, 2009, and 2010 cohorts. "Purposive sampling involves selecting certain units or cases based on specific purpose rather than randomly" (Clark & Creswell, 2007, p. 203). Over the 2007–2010 cohorts, 931 first-year students were enrolled and 912 students took the SRI.

The difference in enrolled student and administered SRI participants may be explained in two ways. First, the SRI is only administered during summer orientation and enrollment days; therefore any student not participating in the summer enrollment days was not included in this study (K. Wilson, personal communication, May 1, 2011). Typically, out-of-state or not-from-contiguous-states students as well as later admitted students do not participate in summer enrollment days and/or the SRI (B. Bruner, personal communication, June 15, 2011).

Students from these cohorts who did not complete the first semester were not included in this study. Also, students (n= 22) whose SRI scores were flagged by ACT as providing "an unusual pattern of responses" were removed as the "scores based on these responses may not accurately reflect the student's skills and/or level of predictive success" (ACT, 2010). One student from the 2010 cohort who died between his first and second year was also omitted from the data. The final number of SRI scores used in the study after all conditions were met was 829 or 89% of the entering students from the 2007–2010 entering student cohorts.

Instrumentation

The SRI was selected as the instrument for this study. The SRI measures psychological features that ACT researchers believe are linked to retention and academic success (Le et al., 2005; Peterson, Casillas, & Robbins, 2006; Cole, Saltonstall, & Gore, 2008). Composed of 108 items (see Appendix A), the SRI consists of three domains incorporating the 10 scales outlined in Table 13.

Table 13

Domains and Subset SRI Scales

Domains	Subset SRI scales
Motivation and skills	Academic discipline
	General determination
	Goal striving
	Commitment to college
	Study skills
	Communication skills
Social engagement	Social connection
	Social activity
Self-regulation	Academic self-confidence
	Steadiness

Note. Adapted from "ACT ENGAGE™ College User's Guide," by ACT, 2011d.

Baker University Baldwin City campus students were administered the SRI during summer enrollment and orientation days. The SRI is part of the daylong orientation experience and occurs in an afternoon rotation including academic advising and course selection, information technology education session, and Student Academic Success education session. Students are divided into groups of approximately 8–16 students to complete the paper and pencil form. A standard set of verbal instructions including an introduction of the instrument, how to complete the forms, and type of pencil to use begin the assessment. After completing the first page of self-reported demographic information including name, date of birth, ethnicity, gender, preferred

language, high school GPA, homework completion, and absentee rates during high school, students are asked to honestly complete the form. The verbal instruction script explains that the SRI is not used for placement, but is "intended to assess … strengths and needs in various areas related to academic success" (ACT, 2011, p. 5) and directs students to rate each item with a 5-point Likert scale from "Strongly Agree" (5) to "Strongly Disagree" (1). Statements are written from the first-person point of view and represent the 10 SRI subscales; however, the subscale statements are interspersed. Scattering like statements throughout the assessment allows for a consistency check in scoring (ACT, 2011d, p. 5).Students are cautioned to not spend too much time on any one item and to make thoughtful decisions when answering the questions. Ideas of honesty and "no wrong answers" are implicitly stated in the verbal instructions (ACT, 2011d, p. 5). Students take approximately 20 minutes to complete the form (K. Wilson, personal communication, August 18, 2011).

After summer orientations are complete, all completed paper forms are returned to ACT for scoring and analysis. Within a month, the ACT returns three reports to the University: (1) Advisor report (Appendix B); (2) Institution Aggregate report (Appendix C); and (3) Student report (Appendix D). Advisor reports are placed in student advising folders and Student reports are given to the advisor to personally give to and review with the student. The Institution Aggregate report are filed for further analysis or comparison with other cohort years.

Validity and Reliability

The ACT affirms that SRI scores predict a student's academic success and retention through the first year (ACT, 2011b, Cole et al., 2008; Robbins, Oh, Le, &

Button 2009; Allen, Robbins, & Sawyer, 2010). In combination with traditional predictive models utilizing high school GPA and standardized entrance exams, the SRI identifies at-risk students. Through a meta-analysis, ACT researchers have compared a random selection control group and predictor variables (SRI scores, entrance exam, and SRI and entrance exams) on a student sample at four-year institutions. Table 14 presents the percentages of students predicted to not be academically successful (cumulative GPA = 2.0) or leave (not retained). One dimensional, stand-alone programs are not effective in predicting student academic success and retention. Random selection in predicting students who will not be academically successful produces lower prediction accuracy (20%) compared to utilizing entrance exams (44%) or SRI data only (46%). The highest accuracy for identifying at risk students is achieved using a combination of entrance exam scores and SRI scores (51%). Not retained student predictions follow the same pattern of increased accuracy with a combination of exam scores and SRI scores ("Research," 2012).

Table 14

Percent of Four-Year Students Identified to be At-Risk

Selection Method	Accuracy of Identification	
	Not Retained	Not Academically Successful
Random	10%	20%
Entrance Exams Score Only*	16%	44%
SRI Only*	24%	46%
Entrance Exams Score + SRI*	25%	51%

Note. * = Students scoring in the bottom 5% of these populations were flagged. Adapted from "Research," 2012.

The ACT tested students (n = 14,000) at 48 colleges and universities using the SRI instrument and followed the students through their college careers. Results showed that the SRI is a valid predictor of academic success and retention. The SRI offers indices data, beyond measures of academic achievement, that identify students who are at-risk for academic failure and attrition (Robbins et al., 2006; Allen, Robbins, Casillas, & Oh, 2008; "Research," 2012).

Data Collection Procedures

The administration of the SRI occurred prior to the initiation of this study; therefore, the research was conducted post hoc by collecting existing SRI scores, retention data, and GPA information. A request to receive archived data was granted by the Baker University Institutional Review Board (IRB) (Appendix E and F). In June 2011, the IRB granted use of archived SRI data and a subsequent request for the information was sent to the Assistant Dean for Student Engagement and Success (Appendix G). Semester GPAs and enrollment statuses are kept in CampusVue, a Campus Management™ web-based student information data system.

SRI data is archived data managed by the Student Academic Success staff. The Information Technology department and Campus Vue student management system produced additional information on retention and academic success (GPA). SRI scores, which are stored in Excel format, semester grades and enrollment statuses were cross-tabulated; all student names were removed prior to any analysis.

Data Analysis and Hypothesis Testing

Research Question 1: What is the SRI's criterion validity specifically for the Baker University Baldwin City campus?

Research Hypothesis 1: The SRI is a valid predictor of academic success at the Baker University Baldwin City campus. Independent samples *t* tests compared the academic success index for students who were academically successful (GPA $\geq$ 2.0) and students who were not academically successful in the fall semester and spring semester. The numerical variable was the success index of academic success probability score. The independent variable was coded as "S" for academically successful with a semester GPA of 2.0 or higher and "NS" for not academically successful with a semester GPA of less than a 2.0. The *t* tests were conducted using the aggregate data of students in the 2007, 2008, 2009, and 2010 cohorts as well as using each cohort's data individually.

Research Hypothesis 2: The SRI is a valid predictor of retention at the Baker University Baldwin City campus. Independent samples *t* tests compared the retention index for students who were retained and students who were not retained from the fall semester to the spring semester and from spring to the following fall semester. The numerical variable was the retention probability score. The independent variable was coded as "R" for retained and "NR" for not retained. The *t* tests were conducted using the aggregate data of students in the 2007, 2008, 2009, and 2010 cohorts as well as using each cohort's data individually.

Research Question 2: Is there a relationship between the Motivation and Skills domain, Social Engagement domain, and Self-Regulations domain scores and a student's academic success at the end of the fall semester to spring semester and spring to the following fall semester?

*Research Hypothesis 3**:*** There are differences in a student's individual scores among the three domains (Motivation and Skills Domain, Social Engagement Domain, or

Self-Regulation Domain) between academically successful (GPA $\geq$ 2.0) students and those who are unsuccessful (GPA $\leq$ 1.9) students for the fall semester.

Research Hypothesis 4: There are differences in a student's individual scores among the three domains (Motivation and Skills Domain, Social Engagement Domain, or Self-Regulation Domain) between academic successful (GPA $\geq$ 2.0) students and those unsuccessful (GPA $\leq$ 1.9) students for the spring semester.

Research Question 3: Is there a relationship between the Motivation and Skills domain, Social Engagement domain, and Self-Regulations domain scores and a student's retention from fall semester to spring semester and spring to the following fall semester?

Research Hypothesis 5: There are difference in the student's individual scores in the three domains (Motivation and Skills Domain, Social Engagement Domain, or Self-Regulation Domain) between those students retained and those not retained from the fall semester to spring semester.

Research Hypothesis 6: There are difference in the student's individual scores in the three domains (Motivation and Skills Domain, Social Engagement Domain, or Self-Regulation Domain) between those students retained and those not retained from spring to the following fall semester.

Limitations

Roberts (2004) described limitations as aspects of a study that are out of the researcher's control and that "may negatively affect the results or (one's) ability to generalize" (p. 146). This study might have been limited by the after-affect of the 2008 recession; two unique campus occurrences may also have affected the study.

1. The 2009 cohort included members of two new sports on campus. The Baker wrestling team's inaugural year (2009) created an insurgence of freshman males (*n* = 24) to the roster and women's bowling included five freshmen women. The increase of male enrollees resulted in an entering cohort of 120 females and 137 males, which was a unique characteristic for the cohort. It is unknown whether the higher enrollment number of males affected retention or academic success rates.
2. In September 2009, the vice president for enrollment management and executive director of admissions was released from her job duties. Through that academic year, without an appointment of a full-time replacement; the provost managed the division and the associate director of admission managed the department. Enrollment numbers for the 2010 cohort (185) were significantly lower than the 2009 cohort (257) and the five-year (2005–2009) cohort average (244). Additionally, the mean ACT for fall 2010 cohort (23.20) was lower than the 2009 cohort (23.54), as was the mean high school GPA for the 2010 cohort (3.42) versus the 2009 cohort (3.48) and the five-year (2005–2009) average (3.48). It is not clear whether the loss of the vice president affected the lower enrollment and academic profile rate of the 2010 cohort.

Summary

This post hoc quasi-experimental quantitative study determined the SRI criterion validity at Baker University Baldwin City campus and the relationship between Student Readiness Inventory scores and student academic success and retention. Data was examined in the aggregate cohort group (2007-2010) and individual cohort years. The results of the seven hypothesis test are presented within Chapter Four.

Chapter Four

Results

This study assessed the criterion validity of the Student Readiness Inventory (SRI) instrument at Baker University using a four-year (2007 – 2010) study and explored the relationship between SRI scores of first-time, first-year students (*n* = 829*)* and their academic success in fall and spring semesters and retention through spring semester and through the following fall semester at the Baker University Baldwin City campus. Results for each cohort in the study (2007, 2008, 2009, and 2010) and aggregate data of all four cohort years are organized according to the research questions posed for this investigation.

Descriptive Statistics

The 829 individuals in this study completed the SRI during the summer prior to attending Baker University Baldwin City campus as first-time, first-year students. Student cohort data was categorized into four sections: (a) fall semester academic success, (b) spring semester academic success, (c) retention through spring semester, and (d) retention through the following fall semester.

Table 15 shows 87.2% of the aggregate cohort (2007 – 2010) were academically successful during fall semester. The 2007 cohort had the lowest percentage of academically successful students (83.6%) and the highest number of first-time, first-year students (232). These data juxtapose with the 2009 cohort, which had the second highest number of first-time, first-year students (226) and the highest percentage of academically successful students (91.6%).

Table 15

Fall Semester Academic Success by Cohorts

Cohort	Not Successful	Successful	Total
2007	38	194	232
2008	27	186	213
2009	19	207	226
2010	22	136	158
Aggregate/%	106/12.8	723/87.2	829

Spring semester academic success presented in Table 16 shows 88.9% of the total aggregate cohort (2007 – 2010) were academically successful. The 2010 cohort contained the highest percentage of academically successful students from the (93.3%) while and the lowest percentage is the 2007 cohort (86.6%).

Table 16

Spring Semester Academic Success by Cohorts

Cohort	Not Successful	Successful	Total
2007	31	201	232
2008	25	188	213
2009	18	208	226
2010	18	140	158
Aggregate/%	92/11.1	737/88.9	829

Table 17 shows 90.7% of the aggregate cohort were retained through the spring semester. The 2009 cohort retained the highest percentage of students (93.8%) and the 2010 cohort retained the lowest (88.6%).

Table 17

Number of Students Retained from Fall Semester to the Spring Semester by Cohorts

Cohort	Not Retained	Retained	Total
2007 Cohort	24	208	232
2008 Cohort	21	192	213
2009 Cohort	14	212	226
2010 Cohort	18	140	158
Aggregate/%	77/9.2	752/90.7	829

Table 18 shows the aggregate cohort retained a total of 77.3% of the students to the following fall semester. Similar to the spring semester retention, the 2009 cohort had the highest percentage of retention (82.7%) for the following fall semester. The 2008 cohort mirrored the aggregate cohort with 77.0% retention and the 2007 cohort retained the smallest percentage (72%).

Table 18

Number of Students Retained from Spring to the Following Fall Semester by Cohorts

Cohort	Not Retained	Retained	Total
2007	65	167	232
2008	46	167	213
2009	39	187	226
2010	38	120	158
Aggregate/%	188/22.7	641/77.3	829

The 2007 cohort placed last in three of the four tables (fall semester academic success, spring semester academic success, and retention through the following fall semester). The 2007 cohort was the largest of the individual year cohorts in this study. Contrarily, the 2009 cohort places first in three of the four tables (fall semester academic success, retention through spring semester, and retention through the following fall semester). The 2009 cohort contained only six students fewer than the 2007 cohort. Finally, the 2010 cohort had the highest percentage of academic success in the same spring semester as the cohort had the lowest percentage of students retained. The 2008 cohort sailed along hitting neither lows nor highs in the four tables. Each cohort is unique, and because of that individuality, the 2007-2010 cohorts together represent a balanced slice of Baker University Baldwin City campus; numbers may have been skewed if only using one or two cohort years. The next questions address what the aggregate data indicates for criterion validity specific for the campus location.

Hypothesis Testing

Research question 1: What is the SRI's criterion validity specifically for the Baker University Baldwin City campus?

Research hypothesis one. The SRI is a valid predictor of academic success at the Baker University Baldwin City campus.

For hypothesis one, independent samples *t* tests were conducted for each cohort and the aggregate. The following paragraphs and tables highlight the findings for the individual years and aggregate cohort for fall semester academic success. Results are sorted first by category (fall semester academic success and spring semester academic success) and then by individual years and aggregate cohort. Category results are presented at the end of each section in Tables 19 and 20.

An independent samples *t* test was conducted to compare the Academic Success Index of the 2007 cohort students who earned a 2.0 or above cumulative GPA in the fall semester to those who did not earn a 2.0. The test revealed a statistically significant difference (t (230) = 5.35, p = .00). Students who earned a cumulative GPA of a 2.0 or above (M = 73.21) were assigned a significantly higher Academic Success Index probability than students whose cumulative GPA was below 2.0 (M = 52.53).

An independent samples *t* test was conducted to compare the Academic Success Index of the 2008 cohort students who earned a 2.0 or above cumulative GPA in the fall semester to those who did not earn a 2.0. The test revealed a statistically significant difference (t (211) = 4.72, p = .00). Students who earned a cumulative GPA of a 2.0 or above (M = 73.51) were assigned a significantly higher Academic Success Index probability than students whose cumulative GPA was below 2.0 (M = 51.67).

An independent samples *t* test was conducted to compare the Academic Success Index of the 2009 cohort students who earned a 2.0 or above cumulative GPA in the fall semester to those who did not earn a 2.0. The test revealed a statistically significant difference (t (224) = 3.94, p = .00). Students who earned a cumulative GPA of a 2.0 or above (M = 72.43) were assigned a significantly higher Academic Success Index probability than students whose cumulative GPA was below 2.0 (M = 52.05).

An independent samples *t* test was conducted to compare the Academic Success Index of the 2010 cohort students who earned a 2.0 or above cumulative GPA in the fall semester to those who did not earn a 2.0. The test revealed a statistically significant difference (t (156) = 3.15, p = .00). Students who earned a cumulative GPA of a 2.0 or above (M = 73.10) were assigned a significantly higher Academic Success Index probability than did students whose cumulative GPA was below 2.0 (M = 56.77).

An independent samples *t* test was conducted to compare the Academic Success Index of the aggregate cohort of students who earned a 2.0 or above cumulative GPA in the fall semester to those who did not earn a 2.0. The test revealed a statistically significant difference (t (827) = 8.72, p = .00). Students who earned a cumulative GPA of a 2.0 or above (M = 73.04) were assigned a significantly higher Academic Success Index probability than students whose cumulative GPA was below 2.0 (M = 53.10).

Table 19

Cohort and Aggregate by Academic Success SRI Index Probability Descriptive Statistics

Cohort		*n*	*M*
2007	S	194	73.21
	NS	38	52.53
2008	S	186	73.51
	NS	27	51.67
2009	S	207	72.43
	NS	19	52.05
2010	S	136	73.10
	NS	22	56.77
Aggregate	S	723	73.04
	NS	106	53.10

Note. S = Successful (GPA $\geq$ 2.0). NS = Not Successful (GPA $\leq$ 1.9).

An independent samples *t* test was conducted to compare the Academic Success Index of the 2007 cohort students who earned a 2.0 or above cumulative GPA for the spring semester to those who did not earn a 2.0. The test revealed a statistically significant difference (t (230) = 4.95, p = .00). Students who earned a cumulative GPA of 2.0 or above (M = 72.62) were assigned a significantly higher Academic Success Index probability than did students whose cumulative GPA was below 2.0 (M = 51.65).

An independent samples *t* test was conducted to compare the Academic Success Index of the 2008 cohort students who earned a 2.0 or above cumulative GPA for the spring semester to those who did not earn a 2.0. The test revealed a statistically significant difference (t (211) = 2.82, p = .01). Students who earned a cumulative GPA of

2.0 or above (M = 72.38) were assigned a significantly higher Academic Success Index probability than students whose cumulative GPA was below 2.0 (M = 58.44).

An independent samples t test was conducted to compare the Academic Success Index of the 2009 cohort students who earned a 2.0 or above cumulative GPA for the spring semester to those who did not earn a 2.0. The test revealed a statistically significant difference (t (224) = 4.32, p = .00). Students who earned a cumulative GPA of 2.0 or above (M = 72.53) were assigned a significantly higher Academic Success Index probability than students whose cumulative GPA was below 2.0 (M = 49.78).

An independent samples t test was conducted to compare the Academic Success Index of the 2010 cohort students who earned a 2.0 or above cumulative GPA for the spring semester to those who did not earn a 2.0. The test revealed a statistically significant difference (t (156) = 2.41, p = .02). Students who earned a cumulative GPA of 2.0 or above (M = 72.40) were assigned a significantly higher Academic Success Index probability than did students whose cumulative GPA was below 2.0 (M = 58.61).

An independent samples t test was conducted to compare the Academic Success Index of the aggregate cohort of students who earned a 2.0 or above cumulative GPA after the spring semester to those who did not earn a 2.0. The test revealed a statistically significant difference (t (827) = 7.31, p = .00). Students who earned a cumulative GPA of 2.0 or above (M = 72.49) were assigned a significantly higher Academic Success Index probability than students whose cumulative GPA was below 2.0 (M = 54.49).

Table 20

Cohorts and Aggregate Academic Success SRI Index by Cohorts Index Probability

Cohort		*N*	*M*
2007	S	201	72.62
	NS	31	51.65
2008	S	188	72.38
	NS	25	58.44
2009	S	208	72.53
	NS	18	49.78
2010	S	140	72.40
	NS	18	58.61
Aggregate	S	737	72.49
	NS	92	54.49

Note. S = Successful (GPA $\geq$ 2.0). NS = Not Successful (GPA $\leq$ 1.9).

Research hypothesis two. The SRI is a valid predictor of retention at the Baker University Baldwin City campus.

For hypothesis two, independent samples *t* tests were conducted for each cohort and the aggregate. The following paragraphs and tables highlight the findings for the individual years and aggregate cohort for retention in the spring semester and the following fall semester. Results are sorted first by category (retention through spring semester and retention through the following fall semester) and then by individual years and aggregate cohort. Category results are presented at the end of each section in Tables 21 and 22.

An independent samples *t* test was conducted to compare the Retention Index of the 2007 cohort students who retained from fall semester to spring semester to those who did not retain. The test did not reveal a statistically significant difference (t (230) = 8.72, $p = .67$). Students who were retained (M = 74.881) were not assigned a statistically different Retention Index probability than students who were not retained through the second semester (M = 71.92).

An independent samples *t* test was conducted to compare the Retention Index of the 2008 cohort students who retained through the spring semester to those who did not retain. The test revealed a marginally significant difference (t (211) = 1.91, $p = .06$). Students who were retained (M = 77.07) were assigned a higher Retention Index probability than students who were not retained through the second semester (M = 68.24).

An independent samples *t* test was conducted to compare the Retention Index of the 2009 cohort students who retained through the spring semester to those who did not retain. The test revealed no significant difference (t (224) = 1.31, $p = .19$). Students who were retained (M = 75.13) were not assigned a significantly higher Retention Index probability than students who were not retained through the second semester (M = 67.71).

An independent samples *t* test was conducted to compare the Retention Index of the 2010 cohort students who retained through the spring semester to those who did not retain. The test revealed a statistically significant difference (t (156) = 2.31, $p = .02$). Students who were retained (M = 77.59) were assigned a significantly higher Retention Index probability than did students who were not retained through the second semester (M = 66.17).

An independent samples *t* test was conducted to compare the Retention Index of the aggregate cohort of students who retained through the spring semester to those who did not retain. The test revealed a statistically significant difference (t (827) = 8.72, p = .00). Students who were retained (M = 76.01) were assigned a significantly higher Retention Index probability than students who were not retained through the second semester (M = 68.81).

Table 21

Cohorts and Aggregate by Retention Status SRI Index Probability Descriptive Statistics

Cohort		*n*	*M*
2007	R	208	74.88
	NR	24	71.92
2008	R	192	77.07
	NR	21	68.24
2009	R	212	75.13
	NR	14	67.71
2010	R	140	77.59
	NR	18	66.17
Aggregate	R	752	76.01
	NR	77	68.81

Note. R = Retained. NR = Not Retained.

An independent samples *t* test was conducted to compare the Retention Index of the 2007 cohort students who retained through the following fall semester to those who did not retain. The test did not reveal a statistically significant difference (t (230) = .533, p = *.58*). Students who were retained (M = 75.04) were not assigned a statistically

different retention probability than students who were not retained through the following fall semester (M = 73.37).

An independent samples t test was conducted to compare the Retention Index of the 2008 cohort students who retained through the following fall semester to those who did not retain. The test revealed a statistically significant difference (t (211) = 2.61, p = .01). Students who were retained (M = 78.07) were assigned a significantly higher Retention Index probability than students who were not retained through the following fall semester (M = 69.39).

An independent samples t test was conducted to compare the Retention Index of the 2009 cohort students who retained through the following fall semester to those who did not retain. The test revealed a statistically significant difference (t (224) = 2.83, p = .01). Students who were retained (M = 76.40) were assigned a significantly higher Retention Index probability than students who were not retained through the second semester (M = 66.36).

An independent samples t test was conducted to compare the Retention Index of the 2010 cohort students who retained through the following fall semester to those who did not retain. The test revealed a statistically significant difference (t (156) = 3.42, p = .00). Students who were retained (M = 79.26) were assigned a significantly higher Retention Index probability than did students who were not retained through the second semester (M = 66.92).

An independent samples t test was conducted to compare the Retention Index of the aggregate cohort of students who retained through the following fall semester to those who did not retain. The test revealed a statistically significant difference (t (827) = 4.45,

p = .00). Students who were retained (M = 77.02) were assigned a significantly higher Retention Index probability than students who were not retained through the second semester (M = 69.64).

Table 22

Retention from Spring to the Following Fall Semester by Cohorts Index Probability

		n	*M*	*SD*
2007	R	167	75.04	20.92
	NR	65	73.37	21.66
2008	R	167	78.07	18.51
	NR	46	69.39	24.73
2009	R	187	76.40	19.71
	NR	39	66.36	22.33
2010	R	120	79.26	18.61
	NR	38	66.92	21.72
Aggregate	R	641	77.02	19.37
	NR	188	69.64	22.61

Note. R = Retained. NR = Not Retained.

In summary of research question one, the SRI is a valid predictor of academic success and a potential predictor of retention at the Baker University Baldwin City campus. The results of the independent samples *t* test provided a prediction threshold for fall and spring semester academic success and retention through the spring semester and following fall semester. For the fall semester, academically successful students averaged an Academic Success Index probability of 73 and academically unsuccessful students averaged an Academic Success Index probability of succeeding of 53. For spring

semester, academically successful students averaged an Academic Success Index probability of 72 and academically unsuccessful students averaged an Academic Success Index probability of succeeding of 54.

Retention analysis presented mixed results as not all of the indices were statistically different for retained and not retained students. For retention through the spring semester, retained students averaged a Retention Index probability of 76 and not-retained students averaged a Retention Index probability of 68. For retention through the following fall semester, retained students averaged a Retention Index probability of 77and not-retained students averaged a Retention Index probability of 69. Using the means above as a guideline, administrators and academic advisors can have better understanding of index scores and the prediction of student academic success and retention.

Research Question 2: Is there a relationship between a student's success and the scores on each of the following: Motivation and Skills domain, Social Engagement domain, and Self-Regulations domain scores and a student's academic success.

*Research hypothesis three**:*** There are differences in the student's individual scores in the three domains (Motivation and Skills Domain, Social Engagement Domain, or Self-Regulation Domain) between academically successful (GPA $\geq$ 2.0) students and unsuccessful (GPA $\leq$ 1.9) students for the fall semester.

For hypothesis three, two-way analyses of variance (ANOVA) were used to analyze the interaction between two independent variables. These variables included the categorical variables of the three domains (Motivation and Skills, Social Engagement, or

Self-Regulation) scores of the SRI instrument and academic success (success or not success) when the dependent numerical variable was domain scores.

The results of the analysis of the three SRI domains and fall semester academic success are presented below. When the null hypothesis was rejected, a Tukey Honestly Significant Difference (HSD) post hoc was conducted.

A two-way (Academic Success x Domain) ANOVA was used to determine the interaction between the student's fall semester academic success and the domain. Table 23 reports the sample size, means, and standard deviations for each domain by academic success category.

Table 23

SRI Domain Scores by Academic Success

Domain	Academic Success	*N*	*M*
Motivation and Skills	S	723	71.75
	NS	106	63.34
Social Engagement	S	723	68.22
	NS	106	66.49
Self- Regulation	S	723	69.13
	NS	106	64.01

Note. S = Successful (GPA $\geq$ 2.0). NS = Not Successful (GPA $\leq$ 1.9).

Table 24 includes the results of the analysis of the interaction effect for the two-way (Academic Success x Domain) ANOVA. The results of the analysis (F (2, 1654) = 5.63, p = .00) indicated a statistically significant interaction between academic success and the domain scores signifying that at least two of the domain scores means are

significantly different. Thus, the null hypothesis was rejected in favor of the research hypothesis.

Table 24

ANOVA Interaction (Academic Success x Domain) Results for Fall Semester Academic Success

Source	Type III Sum of Squares	*df*	Mean Square	*F*	*p*
Academic Success by Domain	2059.56	2	1029.78	5.63	.00
Error	302762.89	1654	183.05		

To determine which differences were statistically significant, a Tukey Honestly Significant Difference (HSD) post hoc using the Critical Difference (4.01) was conducted. Although all possible differences were calculated, only the differences between the successful and unsuccessful students within each domain (significant data is bolded in Table 25) are of interest to this hypothesis test. Successful students (*M* = 71.75) had significantly higher scores than unsuccessful students (*M* = 63.34) in the Motivational Skills domain. The difference in scores between successful students (*M* = 68.22) and unsuccessful students (*M* = 66.49) was not significant for the Social Engagement domain. Successful students (*M* = 69.13) had significantly higher scores than unsuccessful students (M = 64.01) in the Self Regulation domain.

Table 25

SRI Domain Scores by Academic Success

Domain			MS		SE		SR	
			S	NS	S	NS	S	NS
			71.75	63.34	68.22	66.49	69.13	64.01
MS	S	71.75	0.00					
	NS	63.34	**8.41**	0.00				
SE	S	68.22	-3.53	4.88	0.00			
	NS	66.49	-5.26	3.15	1.73	0.00		
SR	S	69.13	-2.62	5.79	.91	2.64	0.00	
	NS	64.01	-7.74	.67	-4.21	-2.48	**5.12**	0.00

Note. MS = Motivation and Skills Domain; SE = Social Engagement Domain; SR = Self-Regulation Domain; S = Successful (GPA $\geq$ 2.0); NS = Not Successful (GPA $\leq$ 1.9).

Research hypothesis four: There are differences in the student's individual scores in the three domains (Motivation and Skills Domain, Social Engagement Domain, or Self-Regulation Domain) between academically successful (GPA $\geq$ 2.0) students and unsuccessful (GPA $\leq$ 1.9) students for the spring semester.

For hypothesis four, two-way analyses of variance (ANOVA) were used to analyze the interaction between the two independent variables. These variables included the independent variables of the three domain (Motivation and Skills, Social Engagement, or Self-Regulation) scores of the SRI instrument and the academic success (success or not success) when the dependent numerical variable was domain scores.

The results of the analysis of the three SRI domains and spring semester academic success are presented below. When the null hypothesis was rejected, a Tukey Honestly Significant Difference (HSD) post hoc was conducted.

A two-way (Academic Success x Domain) ANOVA was used to determine the interaction between the student's spring semester academic success and the domain. Table 26 reports the sample size, means, and standard deviations for each domain by academic success category.

Table 26

SRI Domain Scores by Academic Success

Domain	Academic Success	n	*M*
Motivation and Skills	S	737	71.45
	NS	92	64.44
Social Engagement	S	737	68.06
	NS	92	67.51
Self- Regulation	S	737	68.96
	NS	92	64.62

Note. S = Successful (GPA $\geq$ 2.0). NS = Not Successful (GPA $\leq$ 1.9).

Table 27 presents the results of the analysis of the interaction effect for the two-way (Academic Success x Domain) ANOVA for the spring semester. The results of the analysis (F (2, 1654) = 4.71, p = .01) indicated a significant interaction between academic success and the domain scores signifying that at least two of the domain scores means are significantly different. Thus, the null hypothesis was rejected in favor of the research hypothesis.

Table 27

ANOVA Interaction (Academic Success x Domain) Results for Spring Semester Academic Success

Source	Type III Sum of Squares	*Df*	Mean Square	*F*	*p*
Academic Success by Domain	1727.54	2	863.77	4.71	.01
Error	303094.92	1654	183.25		

To determine which differences were significant, a Tukey Honestly Significant Difference (HSD) post hoc using the Critical Difference (4.27) was conducted. Although all possible differences were calculated, only the differences between the successful and unsuccessful students within each domain (significant data is bolded in Table 28 below) are of interest to this hypothesis test. Successful students (M = 71.45) had significantly higher scores than unsuccessful students (M = 64.44) in the Motivational Skills domain. The difference in scores between successful students (M = 68.06) and unsuccessful students (M = 67.51) was not significant for the Social Engagement domain. Successful students (M = 68.96) had significantly higher scores than unsuccessful students (M = 64.62) in the Self-Regulation domain.

Table 28

Spring Semester Academic Success Domain Scores Significance

Domain			MS		SE		SR	
			S	NS	S	NS	S	NS
			71.45	64.44	68.06	67.51	68.96	64.62
MS	S	71.45	0.00					
	NS	64.44	**7.01**	0.00				
SE	S	68.06	-3.39	3.62	0.00			
	NS	67.51	-3.94	3.08	.55	0.00		
SR	S	68.96	-2.49	4.52	.90	1.44	0.00	
	NS	64.62	-6.83	.18	-3.44	-2.89	**4.34**	0.00

Note. MS = Motivation and Skills Domain; SE = Social Engagement Domain; SR = Self-Regulation Domain; S = Successful (GPA of 2.0 or greater); NS = Not Successful (GPA of 1.9).

In summary of research question two, hypotheses three and four were supported for the fall and spring semester academic success. For the fall and spring semester, successful students had significantly higher scores than unsuccessful students in the Motivational Skills domain Self-Regulation domain. The difference in scores between successful students and unsuccessful students was not significant for the Social Engagement domain for the fall or spring semesters.

Research Question 3: Is there a relationship between a student's success and the scores on each of the following: the Motivation and Skills domain, Social Engagement domain, and Self-Regulations domain scores and a student's retention from fall semester to spring semester and spring to the following fall semester?

Research hypothesis five: There are differences in the student's individual scores in the three domains (Motivation and Skills Domain, Social Engagement Domain, or Self-Regulation Domain) between those students retained and those not retained from the fall semester to spring semester.

For hypothesis five, two-way analyses of variance (ANOVA) were used to analyze the interaction between the two independent variables. These variables included the numerical variables of the three domain (Motivation and Skills, Social Engagement, and Self-Regulation) scores of the SRI instrument and the categorical variables of retention (retained or not retained). A retained student is one who completed the semester, regardless of academic success, and returned for the following semester. A non-retained student either did not enroll for the following semester or left prior to the conclusion of the semester.

The results of the analysis of the three SRI domains and retention from fall semester to spring semester are presented below. When the null hypothesis was rejected, a Tukey Honestly Significant Difference (HSD) post hoc was conducted.

A two-way (Retention x Domain) ANOVA was used to determine the interaction between the student's retention from fall semester to spring semester and the domain scores. Table 29 reports the sample size, means, and standard deviation for each domain and retention category.

Table 29

SRI Domain Scores by Retention Status

Domain	Retention	*N*	*M*
Motivation and Skills	R	752	71.22
	NR	77	65.37
Social Engagement	R	752	67.89
	NR	77	69.08
Self- Regulation	R	752	68.42
	NR	77	69.04

Note. R = Retained; NR= Not Retained.

Table 30 provides the results of the analysis of the interaction effect for the two-way (Retention x Domain) ANOVA. The results of the analysis (F (2, 1654) = 5.84, p = .00) indicated a statistically significant interaction between fall semester to spring semester retention and the domain scores. Thus, the null hypothesis was rejected. There is a significant difference in at least two of the domain scores (Motivation and Skills, Social Engagement, or Self-Regulation) between retained and not retained students in the spring semester and domain scores indicating at least two means are different.

Table 30

ANOVA Interaction (Retention x Domain) Results for Retention through the Spring Semester

Source	Type III Sum of Squares	*df*	Mean Square	*F*	*p*
Retention by Domain	2137.26	2	1068.63	5.839	.00
Error	302685.19	1654	183.00		

To determine which differences were significant, a Tukey Honestly Significant Difference (HSD) post hoc using the Critical Difference (4.61) was conducted. Although all possible differences were calculated, only the differences between the retained and not retained students within each domain (significant data is bolded in Table 31) are of interest to this hypothesis test. Retained students (*M* = 71.22) had significantly higher scores than not retained students (*M* = 65.37) in the Motivational Skills domain. The difference in scores between retained students (*M* = 67.89) and not retained students (*M* = 69.08) was not significant for the Social Engagement domain. Retained students (*M* = 68.42) did not have significantly higher scores than not retained students (*M* = 69.04) in the Self Regulation domain.

Table 31

Retention from Fall Semester to the Spring Semester Domain Scores Significance

Domain			MS		SE		SR	
			R	NR	R	NR	R	NR
			71.22	65.37	67.89	69.08	68.42	69.04
MS	R	71.22	0.00					
	NR	65.37	**5.85**	0.00				
SE	R	67.89	-3.33	2.52	0.00			
	NR	69.08	-2.13	3.72	-1.19	0.00		
SR	R	68.42	-2.80	3.05	.53	-.66	0.00	
	NR	69.04	-2.18	3.67	1.15	-.04	-.62	0.00

Note. MS = Motivation and Skills Domain; SE = Social Engagement Domain; SR = Self-Regulation Domain; R = Retained; NR = Not Retained.

Research hypothesis six: There are differences in the student's individual scores in the three domains (Motivation and Skills Domain, Social Engagement Domain, or Self-Regulation Domain) between those students retained and those not retained from spring to the following fall semester.

For hypothesis six, two-way analysis of variance (ANOVA) were used to analyze two independent variables. These variables included the numerical variables of the three domain (Motivation and Skills, Social Engagement, and Self-Regulation) scores of the SRI instrument and the categorical variables of retention (retained or not retained). A retained student is one who completed the semester, regardless of academic success, and returned for the following semester. A non-retained student either did not enroll for the following semester or left prior to the conclusion of the semester.

A two-way (Retention x Domain) ANOVA was used to test for the interaction between the student's retention and the domain. Table 32 reports the sample size, means, and standard deviation for each domain and academic success category.

Table 32

SRI Domain Scores by Retention Status

Domain	Retention	n	*M*
Motivation and Skills	R	641	71.52
	NR	188	67.80
Social Engagement	R	641	68.36
	NR	188	66.78
Self- Regulation	R	641	69.09
	NR	188	66.38

Note. R = Retained; NR= Not Retained.

Table 33 presents the results of the two-way ANOVA (Retention x Domain). The results of the analysis (F (2, 1654) = 0.90, p = .41) indicated a non-significant interaction between spring to the following fall semester retention and the domain scores. Thus, there was not enough evidence to say that the domain scores were different between retain and not retained student. No post hoc test was warranted.

Table 33

ANOVA Interaction (Retention x Domain) Results for Retention through the Following Fall Semester

Source	Type III Sum of Squares	*Df*	Mean Square	*F*	*p*
Retention by Domain	332.45	2	166.22	0.90	.41
Error	304490.01	1654	184.09		

In summary of research question three, hypothesis five was supported for retention from fall semester to spring semester. Retained students had significantly higher scores than not retained students in the Motivational Skills domain and Self-Regulation domain. The difference in scores between retained students and not retained students was not significant for the Social Engagement domain. Hypothesis six was not supported for retention from spring to the following fall semester. As a result, no post hoc test was warranted.

Summary

Criterion validity was established for the Baker University Baldwin City campus specific SRI scores providing prediction thresholds for a student's probability of academic success and retention. Further analysis of the relationship of the domain scores to academic success and retention indicated a difference in domain scores for fall

academic success, spring academic success, and retention through the spring semester. The results of the post hoc analyses indicated that the Motivation Skills domain scores and Self-Regulation domain scores were significantly higher for academically successful and retained students. The Social Engagement domain did not show a statistically significant difference in scores of academically successful and unsuccessful students or retained and not retained students. There were no significant differences among the domain scores between retained and not retained students for the following fall semester.

A summary of the study, analysis of the results, and implications for future research are presented in the next chapter. As a result of the literature research and data analysis, a Baker University Baldwin City specific instrument was created to utilize SRI scores, identify at-risk students, and connect to current campus retention practices. Chapter five explains why these results are noteworthy and how the campus specific instrument may be helpful to postsecondary institutions.

Chapter Five

Interpretation and Recommendations

Student academic success and retention is essential to the United States, to postsecondary institutions, and to students. This study provided evidence that utilizing the Student Readiness Inventory (SRI) predicts academic success and retention outcomes, and if used, colleges and universities can identify at-risk students and provide necessary supports for success. This chapter begins with an overview of the problem, reiterates the study purpose and methodology, provides hypothesis testing, and covers findings related to the literature. The chapter concludes with future research recommendations and implications for action.

Summary of the Study

The chief contribution of this study to the research literature is its documentation of the SRI's ability to predict student academic success and retention at a small private liberal arts college located in the Midwest. This study complements an abundance of previous studies focused primarily on the SRI (Le et al., 2005; Robbins et al., 2006; Allen, 2009; Neely, 2009; Robbins et al., 2009; ACT, 2010b, c; ACT, 2011c, d). Results from this study are limited to its particular location. Findings should not be generalized to all postsecondary institutions because campus population size and demographics may vary results.

Overview of the problem. Falling retention numbers for postsecondary institutions jeopardizes the United States' competitive international edge, impacts the financial viability of colleges and universities, and places students' future employment and salary potentials in peril. President Barack Obama in the 2009 State of the Union

Address stated 75% of the fastest growing occupations require more schooling than a high school diploma, and challenged the nation to pursue postsecondary education opportunities. He set a national goal for the U.S. to be the top ranked country in college degree attainment (Obama, 2009). The challenge is steep in the face of the highest drop-out rates in the last decades (National Center for Education Statistics, 2005; ACT, 2005; "ACT Institutional Data File," 2011).

The question remains why students are unsuccessful or leaving their institutions. Student development and retention theory include cognitive and non-cognitive factors influencing student success. The literature supports a relationship of a student's academic success to the likelihood of persistence (Cabrera, Nora & Castañeda, 1993; Ishitani & DesJardins, 2002; Texas Higher Education Coordinating Board, 1999; Tinto, 1975; Mangold, Bean, Adams, Schwab, & Lynch, 2002; Porter, 1990). Lotkowski and colleagues (2004) found that non-cognitive levels of "self-confidence" and "achievement motivation" had the strongest relationship to college GPA. Although academic factors (high school GPA, entrance exams, and Advance Placement tests) have demonstrated valid predictive methods for college outcomes, further permutations with nonacademic or psychological assessments promotes student success (ACT, 1997; U.S. Department of Education, Office of Civil Rights, 2000). A student's need to be academically and socially integrated influences retention (Astin, 1984; Braxton & McClendon, 2002; Ishitani & DesJardins, 2002; Thomas, 1990; Tinto, 1975). As a result, colleges and universities strive to create welcoming and supportive environments through intentional practices such as orientations, academic advising and support offices, and early warning systems for identifying at-risk students.

It is in the institutions' best interest to identify at-risk students early and provide support and retention practices. In the 2010 ACT survey of institutional retention practices, "What Works in Student Retention," respondents (n = 440) ranked early warning systems as the highest effective retention tool from a list of 94 provided options. The identification and utilization of an early warning system is contingent upon the institution's available resources, which for tuition-driven institutions like Baker University Baldwin City campus are dependent upon improving enrollment and retention numbers. The need is imperative, the time is now, and the SRI tool is a feasible option.

Purpose statement and research questions. The purpose of this quantitative study was twofold: (1) to assess the criterion validity of the SRI instrument at Baker University using four-years of entering student cohort SRI data; and (2) to explore the relationship between SRI scores and academic success in fall and spring semesters and students retention from fall semester to spring semester and spring to the following fall semester on the Baker University Baldwin City campus.

Review of the methodology. Student SRI scores (n = 829) were analyzed through independent samples t tests conducted on the individual and aggregate cohort data. Institution specific academic success and retention index means were established to better identify at-risk students. Two-way ANOVAs were used to analyze two independent variables: a) academic success (successful or not successful) or b) retention (retained or not retained) and the numerical variables of the three domain (Motivation and Skills, Social Engagement, and Self-Regulation) scores of the SRI instrument.

Major findings. Three major findings arose from this study. The first is the location specific criterion validity of the SRI's Academic Success Index and Retention

Index scores. Index scores are presented on the Advisor's Report (see Appendix B) and Institution Aggregate Report (see Appendix C). Postsecondary institutions use the indices to identify students at risk. Thresholds for identifying at-risk students are set at the lowest quartile, but institutions may modify this threshold based on institution specific criterion and resources. Academic success and retention rates fluctuate across colleges and universities. The generic indices presented in the Advisor and Institutional Aggregate report must be tempered as "approximate measures" of a student's SRI scores relate to academic success and retention through the first year (ACT, 2011d, pg. 28). The study findings provide Baker University Baldwin City campus baselines for identifying academically successful and unsuccessful students, and students who will be potentially retained and not retained. Simply put, students who have a Academic Success Index higher than 73 are potentially more likely to be academically successful fall and spring semester, and students with a Retention Index higher than a 76 are potentially more likely to be retained through the spring semester.

The second major finding determined there is a relationship between the Motivation and Skills domain, Social Engagement domain, and Self-Regulations domain scores and student's academic success for fall and spring semesters. Successful students had significantly higher scores in the Motivational Skills domain and Self-Regulation domain for the fall and spring semester. There was not a significant difference in scores for the Social Engagement domain.

The third major findings determined there is a relationship between the Motivation and Skills domain, Social Engagement domain, and Self-Regulations domain scores and a student's retention from fall semester to spring semester only. Successful

students had significantly higher scores in the Motivational Skills domain and Self-Regulation domain for the fall and spring semester. There was not a significant difference in scores for the Social Engagement domain.

A relationship between students' retention from spring to the following fall semester and the Motivation and Skills domain, Social Engagement domain, and Self-Regulation domain scores was not found.

Summary

Students earning less than 73 on the Academic Success Index or 76 on the Retention Index will potentially need additional resources to succeed at Baker University Baldwin City campus. Attention should be given specifically to students who fall below the averages in the Motivation and Skills and Self-Regulation domains. Given the findings of the study, Social Engagement domain scores do not impact a student's academic success and retention. One reason may be the demographics of students who attend Baker. With approximately 70% of first-year students on an athletic team and 37% of the campus involved in fraternity/sorority life, students have built in relationships satisfying any gap of the Social Engagement Domain (personal communication, T. Yetmar, November 11, 2011; personal communication, J. Letner, October 3, 2011). Future research could add variables of athletic participation, fraternity/sorority involvement, and band or choir membership to understand the relationship of co-curricular association and domain scores.

Findings Related to the Literature

In analyzing the findings, four categories related to the literature emerged: (a) retention theory; (b) retention practices; (c) Student Readiness Inventory instrument; and (d) correlation to empirical studies.

Retention Theory. According to current study results, the Motivation and Skills domain (academic discipline, commitment to college, communication skills, study skills, general determination, and goal striving) and the Self-Regulation domain (steadiness and academic self-confidence) scores are evidence for differences between students who are academic success and not successful or retained and not retained. A full listing of domains, scales, and definitions are located in Chapter 2, Table 12. Conversely, the Social Engagement domain (social activity and social connection) scores are not statistical different in predicting academic success or retention. These findings directly counter the theories of Tinto (1975), Bean (1980), Astin (1984), Thomas (1990), Pascarella and Terenzini (1991, 2005), and Lotkowski et al. (2004) who profess that social integration is as essential to student success as is academic integration. This study found that social skills are not as essential as academic skills to a student's academic success and retention. Schools failing to look beyond theories expounding the importance of social and academic integration or ignoring their own campus data, which may find differences in the theory and data, are failing to effectively serve their students.

Bean (1990) advocated for colleges and universities to develop a list of effective practices intended to increase student persistence. This study found that the Motivation and Skills domain and the Self-Regulation domain make a difference to student success, while the Student Engagement domain did not. Making a list is not enough; the list

should be focused, data-driven, and target students needing assistance to fill the deficit in their college readiness. At-risk students do not have the skill set to help themselves. Identifying students is not enough; postsecondary institutions must create intentional outreaches, specific goals and objectives, and assessment measures to help them be successful and thereby, retained.

Retention Practices. As presented in Chapter 2, ACT's "What Works in Student Retention?" survey (2010) presented 94 retention practices and asked survey respondents (n = 440) to check all currently used programs on their campus. ACT ordered the responses as the highest (Table 5) and lowest (Table 6) incidence of the practice on their campus, the practices with the highest means (Table 7) and lowest means (Table 8) for effectiveness, and the top three retention practices (Table 10). "Early warning systems" was ranked the highest retention practice (21%) for respondents' campuses. The SRI is an effective early warning system, and the results of this study show that Baker University Baldwin City campus can predict with statistical significance student success and retention utilizing SRI scores. Instead of developing scattershot retention programs aimed at all students, findings from this study urge administrators to precisely target students who are predicted to be at-risk.

The results of this study show students who are low in the Motivation and Skills domain and the Self-Regulation domain are more likely to be academically unsuccessful or not retain through the spring semester. Special attention should be given to students who fall below the University-specific domain means. As noted in Chapter 2, Tables 5-10, augmentation of retention practices offering highly effective and high incidence programs such as early warning systems, academic advising interventions with identified

at risk students, and learning and tutoring assistance should be presented early in the semester to ensure student success.

Student Readiness Inventory Instrument. In Robbins et al.'s (2004) original SRI conception and Le et al.'s (2005) final model, the researchers identified first-ordered factors of which six overlapped from the conceptual to the final (commitment to college, goal striving, academic self-confidence, study skills, social connection, and social involvement). The first-order factors were then grouped under three domains (Motivation and Skills, Social Engagement, and Self-Regulation). According to this study, only the Motivation and Skills domain and the Self-Regulation domain were found to be related to a student's academic success and retention. The results of this study are location specific and other administrators are urged to analyze their campus data for similar findings.

Cohort 2007-2010 data for the Social Engagement (SE) domain did not have a significant relationship to a student's academic success or retention. In the fall semester to spring semester students retained (n = 752) had a lower SE domain score to non-retained students' (n = 77) SE domain score. For spring to the following fall semester retention and academic success in both fall and spring semesters the difference between SE domain scores was insignificant. Academically successful and retained students had similar scores in the SE and Self-Regulation (SR) domains; however non-successful or non-retained students scored lower in SR than in SE domains. High athletic and student organization participation may close any gap between the successful, retained students and the non-successful, non-returning students mitigating any domain score difference.

Correlation to empirical studies. Wilbur Wright College (2009) utilized the SRI and targeted students scoring at or below the thirtieth percentile on academic success

indices and retention indices. Administrators arbitrarily chose the thirtieth percentile based on the campus resources available. Students falling below this threshold were referred to an early intervention program, which highlighted campus support and resource offices. The University was recognized through Illinois for an education award. Through this current study, Baker University Baldwin City campus identified campus specific academic success and retention probability index means. Administrators can intentionally target location specific student percentiles and should do so to avoid misuse of resources or overlooking particular student population concerns.

In a study of Utah State University's College of Agriculture first year students (n = 55), Allen (2009) noted that the SRI Social Engagement domain scores were lower than anticipated and called for increased and intentional campus outreach to students identified with low Social Engagement domain scores. The findings of this current study show concentration on the elements on the Social Engagement domain would not be effective practice for students at the Baldwin City campus because the Social Engagement domain scores did not have a relationship to a student's academic success or retention. Greater focus on students scoring low in the Motivation and Skills domain and the Self-Regulation domain are a better use of campus support services.

Northern Arizona University (2010) and University of North Texas (2009) showed increased student academic success and retention numbers for students identified through the SRI who received direct intervention based on specific SRI scores. The schools developed a matrix of campus support services and assigned personnel to outreach with students based on the ten SRI scores. Assigned personnel connected targeted students to appropriate resources. Connected students were more likely to be

retained and less likely to be on academic probation. Baker University Baldwin City campus will follow this model of intentionally utilizing a student's SRI scores in connecting targeted students to campus resources. This topic is explored further in the implications for action.

Conclusions

Implications for action. The results of this study are clear; SRI scores have an ability to predict a student's success in the first year at Baker University Baldwin City campus. The University is now poised to take the study results and construct an intentional plan for targeting and outreaching to at-risk students. Four specific actions have been identified and examined below.

Crosswalk of campus resources and SRI scores. The development of a crosswalk or matrix of student services to SRI scores is essential for connecting students to appropriate resources. Similar to Northern Arizona University's (2010) and University of North Texas' (2009) crosswalk, Baker University Baldwin City campus' crosswalk is location or campus specific. Campus resources are listed along the left side of the matrix and the ten SRI scales are listed at the top. Marks indicate the resources capacity to address the specific SRI scale. For example, if a student scored low in "Academic Self-Confidence," three campus resources (Student Academic Success Center, Salon 101 class, and Academic Advising) are marked as potential support areas for the student. If a student scored low in "Social Activity" campus resources identified include intramurals, residence life, student life and activities office, fraternity/sorority life, and campus minister. Figure 5, an illustration of a Baker University Baldwin City campus crosswalk, typifies the type of personalized document developed for students.

	Academic Discipline	Commitment to College	Communication Skills	Study Skills	General Determination	Goal Striving	Social Activity	Social Connection	Steadiness	Academic Self-Confidence
Academic Tutoring										
Student Academic Success Center	x	x	x	x	x	x				x
Athletic Support Services										
Career Services		x	x	x	x	x			x	
Counseling Center						x				
Salon 101			x	x	x	x		x	x	x
Multicultural Affairs Office	x	x			x		x	x	x	
Intramurals		x	x	x	x		x	x		
Residence Life services							x	x		
Students with disabilities/SAS			x	x				x	x	
Student Life & Activities Office	x	x				x	x	x		x
Fraternity/Sorority Life				x			x	x	x	
Campus Minister		x	x				x	x		
Dean of Students Office		x				x		x	x	
Academic Advising		x			x	x	x		x	x

Figure 5. Baker University Baldwin Campus Student Services and Student Readiness Inventory Score Resources. Adapted from the ACT ENGAGE™ College User's Guide, 2011d.

Training for academic advisors, Salon 101 Instructors, and Salon 101 Student Leaders. Thomas (1990) argued the most important academic success and retention service an institution could offer is academic advising. Academic advising is at the core of successful institutional efforts to educate and retain students (Anderson,1997; Kuh, 1997; Light, 2001; Tinto, 1987). Baker University Baldwin City campus has academic advising in place for enrolling in classes, withdrawing for classes, and academic major and minor specific guidance. Academic advisors, however, are not currently trained on the interpretation of SRI results. Academic advisors must be trained on the interpretation of individual student SRI reports. SRI Advisor reports are given to academic advisors to be placed in the student's advising folder, which follows the student through matriculation. Advisor reports look similar to a student's report (Appendix D); the inclusion of academic success and retention probability is listed on the advisor's form, but not on the student form. Without understanding of the SRI's ability to predict a student's success, an advisor may misinterpret, ignore, or offer poor advice to the student.

At Baker University Baldwin City campus, Salon 101 Instructors are the academic advisors to the students in their Salon class. Salon 101 is an extended orientation, for-credit class offered at Baker during a student's first semester. The course "provides students with an opportunity to explore their own understanding of themselves" (Baker University Catalog, 2011, pg. 180), which includes receiving a copy of their SRI results. Salon 101 is co-taught by a faculty or staff member as the instructor and an upper-class student leader who serves as a peer mentor. Salon 101 instructor and student leaders present the student with the SRI student report. The student was left to interpret the results. With proper training, Salon 101 instructors and student leaders may

lead a class session on the validity and reliability of the SRI, understanding of the SRI domain and scale definitions, and facilitation of the generated recommendations for action found at the end of the report.

Reflection and action assignment through Salon 101 course. Students actively engaged with their learning and commitment to the institution are more likely to persist (Pascarella and Terenzini, 2005). Salon 101 students may be required to reflect on the SRI results and choose a recommended path of action from the suggestions on the SRI Student Report. The student's action plan may include a goal, objectives to meet the goal, and a time line. Students will reflect on objective and goal completions. Further study should include the effectiveness of student reflection and accomplishment in increasing a student's likelihood of persistence. The SRI should be used as an identification of areas of growth as well as a road map to success.

Baker Outreach Network. The Baker Outreach Network (BON) is a committee of Student Affairs and Academic Support Services campus professionals. Utilizing the findings of this study, BON must act on aligning campus resources to SRI scores and specific objectives. Figure 6 presents a model of this configuration. Such action ensures that the campus is offering both active and passive student programming intentionally driven to meet the SRI scales and definitions. Assessment of the services to meet the objectives should be evaluated each year.

BAKER UNIVERSITY
Baker Outreach Network

SRI Scale	Existing Program(s)	Specific Program objectives
Academic Discipline (AD)		Students will understand the importance of prioritizing academic tasks.
Academic Self-Confidence (ASC)		Students will be able to appropriately match instructors' expectations with their own abilities and skills
Commitment to College (CC)		Students will understand how college experiences will affect their career choices
Communication Skills (CS)		Students will be able to work collaboratively
General Determination (GD)		Students will understand the importance of following through on commitments
Goal Striving (GS)		Students will see immediate, short-term, and long-term goals
Social Activity (SA)		Students low on SA will be connect with appropriate counseling and/or resources
Social Connection (SC)		Students will be connected with at least one recreational, social, cultural, or academic event/program on campus.
Steadiness (S)		Students will be able to effectively manage their frustration
Study Skills (SS)		Students will be able to use various learning strategies while completing their coursework

Figure 6. Alignment of Student Readiness Inventory, Campus Programs, and Objectives. Adapted from the ACT ENGAGE™ College User's Guide, 2011d.

Recommendations for future research. The results of this study show evidence for the need to study the effects of and predictions for a student's academic success and retention. Students leave an institution for different reasons. Further study of retention should encompass diverse student needs. Minorities, females, low socioeconomic status individuals, and individuals categorized under the Americans with Disabilities Act may be among those students who fall into the at-risk category (Adelman, 2006; Cross, 1976; NCES, 1997). While academic success is correlated with high retention for non-minority students, this may not be the case for African American students (Bean, 1990). Significant challenges such as graduation from an inadequately funded or low-performing high school, inadequate resources to pay for college, or insufficient encouragement and support from family and friends greatly affect a student and students who have these concerns are more likely to need support services to succeed or are at risk of attrition (Texas Higher Education Coordinating Board, 1999).

Further research might include analysis of various demographic subgroups (gender, ethnicity, socio-economic status) and demographic categories (ADA categorization and athletes) to better determine the relationship of SRI domain scores and academic success and retention. Detailed analysis of sub-groups would provide more targeted services and resources.

This study was based purely on the quantitative results. Incorporating qualitative interviews with students after completing the SRI but prior to receiving results and then again, after receiving results with an augmented conversation and analysis with the academic advisor, would be helpful in determining a student's understanding of self and reported data and suggestions.

The use of control and experimental groups to determine the effectiveness of post-instrument result conversations and interventions on a student's academic success and retention may assist in developing an institution's service offerings.

In July 2011, ACT changed the inventory's name from Student Readiness Inventory to ENGAGE™ because "Student Readiness Inventory" was not trademarked. ENGAGE™ is a trademarked name, and the ACT has created a marketing plan around the model (ACT, 2011a). The SRI assessment or evaluative properties did not change with the name change. Further research would benefit understanding any difference the name or marketing has made on the tool's validity or reliability.

Concluding Remarks

Student success is the bread-and-butter of an institution; successful students are more likely to be retained. The promise of higher education is to provide opportunities, enlightenment, and skill sets for success. In the 2011 fall semester, 19.7 million students—an increase from 14.4 million twenty years ago—enrolled in one of 4,409 postsecondary intuitions (U.S. National Center for Education Statistics, 2011). Students seek the opportunities; institutions sell the dream. Completing high school, however, is not enough to be considered college ready. Successful students arrive with the cognitive skills and non-cognitive attributes of determination, perseverance, and academic self-confidence needed to accomplish college level work and maneuver in the college environment. Where students fall short on this ability, Universities must attempt to fill the gap or be prepared to lose students to academic failure and attrition.

Academically, institutions have required remedial classes of math or English providing a ramp for students to meet the demands of academic rigors. Identification and

outreach programs should not stop solely at the classroom doors. A student's readiness for college measures beyond the cognitive to the psychological. Psychological testing is not typical for admission criteria, but may augment traditional cognitive measures (high school GPA and entrance exams) to provide at-risk identification and appropriate connection to campus resources for students.

The Student Readiness Inventory, now known as Engage™, predicts student success and retention and provides students, advisors, and institutions with reports illustrating students' individual strengths, skills to develop, improvement plans, and plans for actions. Employing the tool is only the first step; institutions must analyze results, make data-driven decisions, provide resources, and enable the student to act.

Student retention and academic success are critical areas for postsecondary administrators. Lack of student success is a shared failure between the student and the institution. As budgets decline and competitive market choices increase, tuition-driven institutions should focus on student retention, academic success correlations, and proactive retention measures. From student development theory to effective practices, we seek to unravel the intertwined roadmap for academic success and retention. The SRI is an appropriate, effective, and valid prediction instrument.

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Appendix A: Student Readiness Inventory Questions

1. I'm a responsible person.
2. I feel part of this college.
3. I know attending college is the best choice for me.
4. I have difficulties keeping up academically with my classmates.
5. I often feel out of control.
6. I don't know if I want to stay in college.
7. When confronted with a problem, I try to be flexible in my decision making.
8. My nervousness interferes with my performance on tests.
9. I turn in my assignments on time.
10. I avoid activities that require meeting new people.
11. I do my best to fulfill my commitments.
12. I'm not performing to the best of my academic abilities.
13. I am a capable person.
14. I have a sense of belonging when I am on campus.
15. At social gatherings, I mix well with people.
16. I'm a fast learner.
17. I have a sense of connection with others at school.
18. I achieve little for the amount of time I spend studying.
19. I'm confident I will succeed in school even if I need help.
20. When confronted with a problem, I weigh the pros and cons of various situations.
21. I organize my thoughts before I prepare an assignment.
22. I do my best in my classes.
23. I'm committed to finish college regardless of obstacles.

24. I get upset when criticized.
25. I lose control when things go wrong.
26. A college education will help me achieve my goals.
27. I'm motivated to get a college degree
28. It's very important for me to do well in school/college
29. I regularly do things with friends.
30. I give my undivided attention to something important
31. I enjoy spending time with others
32. I am a trustworthy person.
33. I rank in the top 20% on academic ability among students my age.
34. If I don't feel like going, I skip classes.
35. If a problem is very large, I divide it into small parts that I can handle.
36. I'm a disciplined student.
37. I stay calm in difficult situations.
38. I feel isolated.
39. I manage my frustration well.
40. Others consider me a hard-working student
41. I'm a patient person
42. I'm thoughtful in my career planning.
43. People count on me to get a job done.
44. I tend to keep to myself
45. I express anger toward people who upset me.
46. I miss deadlines.

47. I try to do my best at any task.
48. I cannot think clearly when I'm angry.
49. I tend to trust people.
50. I have developed close friendships wherever I go.
51. I keep my promises.
52. I get easily irritated.
53. I feel nervous when talking with others.
54. I am shy.
55. I consistently do my school work well.
56. Once I set a goal, I do my best to achieve it.
57. I'm satisfied with my academic performance.
58. I'm not smart enough to do well on assignments.
59. I like to help others.
60. I make friends easily.
61. I get along with most people.
62. I brainstorm possible solutions to solve problems.
63. I have a positive view of myself.
64. I try not to hurt other's feelings.
65. I have been involved in extra-curricular activities.
66. When confronted with a problem, I look for patterns that may help me understand it.
67. I am confident of my academic abilities.
68. I summarize important information in diagrams, tables, or lists.

69. It is important for me to finish what I start.
70. When confronted with a problem, I'm willing to do something rather than forget about it.
71. I sympathize when others have troubles.
72. I am serious about fulfilling my obligations.
73. I don't feel comfortable talking to strangers.
74. The social side of college life is a highlight for me.
75. When confronted with a problem, I consider a solution that will not cause problems for other people.
76. When a solution fails, I examine why it didn't work.
77. I bounce back after facing disappointment or failure.
78. After solving a problem, I think about what was right and what was wrong with my approach.
79. I would leave college if I found something more interesting.
80. I'm sensitive to others' feelings.
81. When confronted with a problem, I analyze the situation.
82. I share my emotions with others.
83. In reaching an agreement, I consider the needs of others as well as my own needs.
84. I wait until people speak to me before I talk with them.
85. People describe me as a hard worker.
86. I would rather be somewhere else than in college.
87. I'm not sure if my decision to go to college is right.
88. I make an outline before answering questions or writing papers.

89. I’m a confident person.
90. I highlight key points when I read assigned materials.
91. If I don’t understand class work, I talk to my instructor.
92. I’m easily annoyed.
93. I work hard to improve on my shortcomings.
94. I’m intelligent
95. When I make plans, I follow through on them.
96. I don’t feel comfortable working with others.
97. I am less talented than other students.
98. I need to work harder than others to get the grades they do.
99. I can follow discussion about abstract academic topics.
100. I have a bad temper.
101. I discuss pr4oblems at school with my friends.
102. I have confidence that I can achieve my academic goals.
103. I’m willing to compromise when resolving a conflict.
104. I take good notes in class.
105. I intend to participate in campus social events.
106. I find it hard to pick out main ideas in texts.
107. I strive to achieve the goals I set for myself.
108. I often get into arguments.

Appendix B: Student Readiness Inventory Sample Advisor Report

ADVISOR REPORT

Sample Student

Tested on August 30, 2011
1st year of college ID 926096433

SAMPLE COLLEGE Class/section: ENG 101

ENGAGE

ENGAGE measures personal, behavioral and academic skills critical to college achievement. Low scores on ENGAGE represent areas that, when improved, may increase your GPA and make it easier to focus on completing college. This report is designed to help you identify your strengths and needs in order to ensure that you are successful in your college career.

SCALE	SCORE	PERCENTILES
Academic self-confidence	58	99
Commitment to college	56	99
Goal striving	49	77
Social activity	49	57
Steadiness	37	42
Social connection	27	35
Communication skills	21	33
Academic discipline	19	23
General determination	18	20
Study skills	12	14

20 40 60 80 100
Norms for 4-year institution

ENGAGE INDICES
Probability estimates range from 0 to 1; indices do not appear on student reports.

.49	**Academic Success Index**
17%ile	probability of college GPA ≥ 2.0

.66	**Retention Index**
27%ile	probability of returning second year

STUDENT SELF REPORT
High school GPA: (C- to C) 1.5 - 1.9

! This student provided an unusual pattern of responses; scores may not accurately reflect the student's skills and/or likelihood of success.

Capitalize on your strengths

99 Academic self-confidence

The belief in one's ability to perform well in school — Your score on this scale suggests you feel highly confident in your ability to succeed academically. Confidence in your abilities is critical to your academic success.

99 Commitment to college

One's commitment to staying in college and getting a degree — Your response suggests that you feel confident in your reasons for continuing your education. You see yourself as determined to invest the necessary time and effort required to attain a high school diploma and college degree.

77 Goal striving

The strength of one's efforts to achieve objectives and end goals — Your response indicates that you see yourself as goal driven. You generally set appropriate goals and you feel confident in your ability to achieve these goals. Establishing and accomplishing goals is an important life skill that is essential for success in high school and beyond and will help you to maintain your motivation, energy, and focus.

Continue to develop your skills

57 Social activity

One's comfort in meeting and interacting with other people — Your response suggests you feel relatively comfortable interacting with people you do not know and making new friends. Your social skills may benefit you in courses that emphasize team projects and other collaborative assignments.

ACT

42 Steadiness

One's responses to and management of strong feelings — Your response indicates that you see yourself as capable of effectively controlling your emotions. You feel as though you do not often lose your temper and you manage frustration well. You are fairly effective in keeping emotions from affecting your academic performance and other important activities in your life.

35 Social connection

One's feelings of connection and involvement with the college community — Your response suggests you see yourself as connected with your school and its student body. Your involvement in school activities will provide a valuable source of stress relief and social interaction that will serve to enhance feelings of connection.

33 Communication skills

Attentiveness to others' feelings and flexibility in resolving conflicts with others — Your score on this scale suggests that you tend to see yourself as fairly comfortable when communicating with others, handling interpersonal conflicts, and working collaboratively with others. These skills will help you in learning and work environments as you effectively exchange information, cooperate with others, and work as a team member.

Make plans for improvement

23 Academic discipline

The amount of effort a student puts into schoolwork and the degree to which a student is hardworking and conscientious — Your response suggests you frequently approach academic related tasks with less enthusiasm and effort than other students. You may frequently rush through your homework without giving much attention to detail, turn in poor or incomplete work, or give up on difficult tasks or problems.

20 General determination

The extent to which one strives to follow through on commitments and obligations — Your score on this scale suggests that you see yourself as someone who often has difficulty fulfilling your assigned responsibilities or duties. If something more interesting presents itself, you may pursue that interest rather than uphold your prior obligations and/or tend to your commitments. Other people may not be able to depend on you to fulfill your promises.

14 Study skills

The extent to which students believe they know how to assess an academic problem, organize a solution, and successfully complete academic assignments — Your response indicates that you feel you lack good study skills, problem-solving skills, and learning strategies. Like academic abilities, these skills are important in predicting your success in high school and beyond.

Recommended plan of action

Overall, your ENGAGE scores suggest that you are likely to benefit from campus resources for promoting academic success and attaining a college degree. Consult with a counselor or academic advisor who can assist you to develop a plan of action for improving your skills. Further, consult the student tool shop for helpful information and sample strategies.

There are services available at your institution that may be helpful to you:

- Develop strategies for improvement. Take advantage of campus resources recommended to you. By using campus resources, you can enrich your college experience and improve your chances for success. Your advisor can help you customize a plan of action.
- Capitalize on your strengths. Talk to your academic advisor about ways to take advantage of your strengths.
- Find out more about campus services and get a list of helpful workshops and events at your institution's website or advisory office.
- Visit the student tool shop for information and exercises to aid you in constructing your improvement plan.

Appendix C: Student Readiness Inventory Sample Institution Aggregate Report

Sample College

Aggregate Report: September 5, 2010

ENGAGE College

This report provides a summary of your institution's ENGAGE results — your students' psychosocial strengths and needs — and is designed to help you understand trends and identify potential problems early. Research suggests that one of the most effective ways to prevent poor academic performance and student dropout is to identify at-risk students early in their first semester of college and assist them in their educational development.

ENGAGE College

ENGAGE College is a low-stakes, self-report inventory made up of ten scales. (See sidebar and Table A1 in the Appendix.) It captures students' perceptions of their motivation, commitment to education, social connection, and other key predictors of academic success and persistence. It helps educators to:

- Evaluate students' psychosocial attributes
- Determine students' levels of academic and retention risk
- Identify interventions to help students persist in postsecondary education

ENGAGE Scales

- Academic Discipline
- Academic Self-Confidence
- Commitment to College
- Communication Skills
- General Determination
- Goal Striving
- Social Activity
- Social Connection
- Steadiness
- Study Skills

There are multiple ways to use results from ENGAGE.

- Both the **Academic Success Index** and the **Retention Index** are predictive scores that can be used to help identify students who may be at risk of postsecondary academic difficulties and/or dropout.
- A student's entire profile of scale scores (shown in individual Student and Advisor Reports) can be used to identify relative strengths and needs.
- Aggregate Reports for the institution (this report) can be used to identify institution-level needs based on the ten ENGAGE scales and the two success indices.

For more details concerning ENGAGE scales, the Academic Success and Retention Indices, and information about the development, interpretation, and use of ENGAGE, please refer to the *ENGAGE College User's Guide*.

ACT

Contents of the Aggregate Report

This report includes the results from all ENGAGE assessments administered by your institution as of September 5, 2010. It shows how your students scored, on average, on each of the ten ENGAGE scales, as well as the Academic Success and Retention Indices.

Average ENGAGE scores for all participating students at comparable institutions who have taken ENGAGE in the last 12 months are included for comparison. This information can be used to help understand how your students compare to other students and identify areas where institution-wide resources or interventions may be needed. If you administer ENGAGE on an ongoing basis, your students' average scores will change as student records continue to accumulate. It is recommended to run this report again at the end of your administration to get a more accurate picture of how your students compare to their peers.

This report provides a summary of some key demographic characteristics for the students. In addition, ENGAGE scale scores, including the Academic Success and Retention Indices, are summarized by broad percentile range (Low, Medium, High). For intervention purposes, your institution may want to concentrate on low-scoring students (e.g., those in the Low range), as these students are most at-risk for academic performance and persistence difficulties.

Summary of Your Institution's Results

As of September 5, 2010, we received a total of 240 ENGAGE assessments from your institution.

Table 1 provides a summary of the demographic characteristics of these students. You may want to use this information to assess whether this group of students seems representative of a typical cohort of students at your institution.

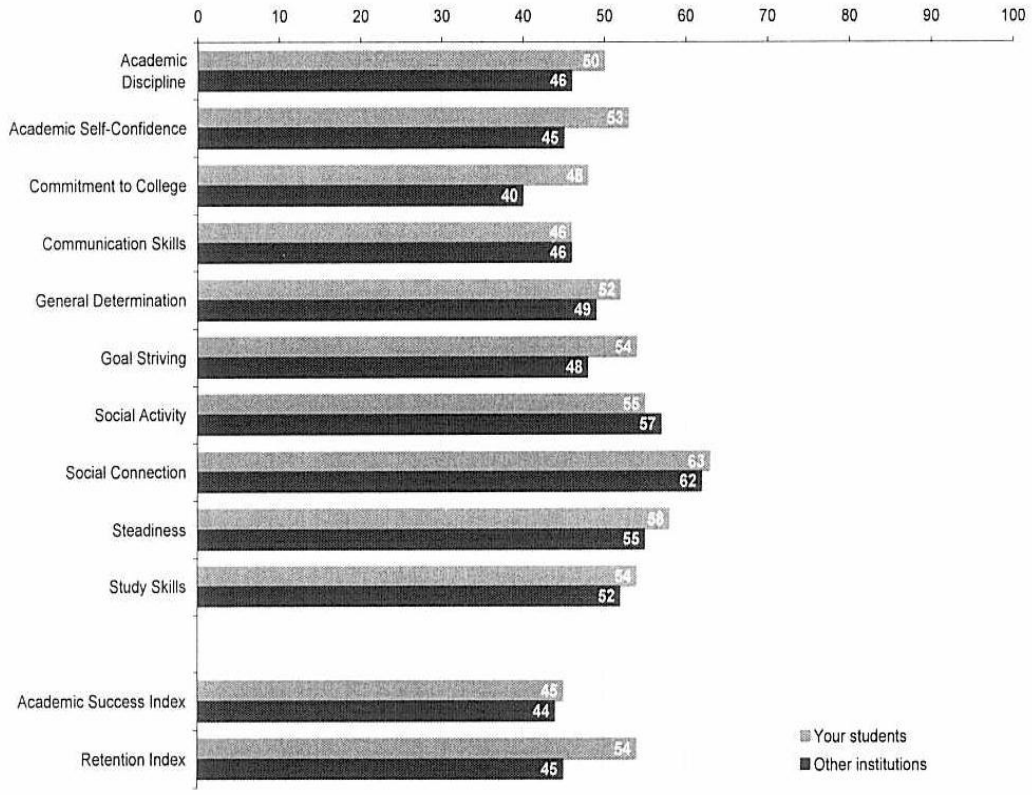
Table 1. Your Students' Demographic Characteristics

Characteristic	Percentage (%)
Gender	
Female	50
Male	50
Missing	0
Race/Ethnicity	
American Indian, Alaskan Native	1
Asian	0
Black/African American	13
Native Hawaiian/Pacific Island	0
White	2
Two or more races	1
Prefer not to respond	3
Hispanic/Latino	77
Missing	4
Language Known Best	
English	78
A language other than English	5
English and another language about the same	17
Missing	0

Note. $N = 240$. Percentages may not add up to 100% due to rounding.

Figure 1 shows average percentile scores on the ten ENGAGE scales and the Academic Success and Retention Indices for your institution's students who completed ENGAGE. For comparison purposes, this figure also shows average scores for the national sample of students who completed ENGAGE. (Note: Refer to Tables A2 and A3 in the Appendix for more detailed descriptive statistics and comparisons.)

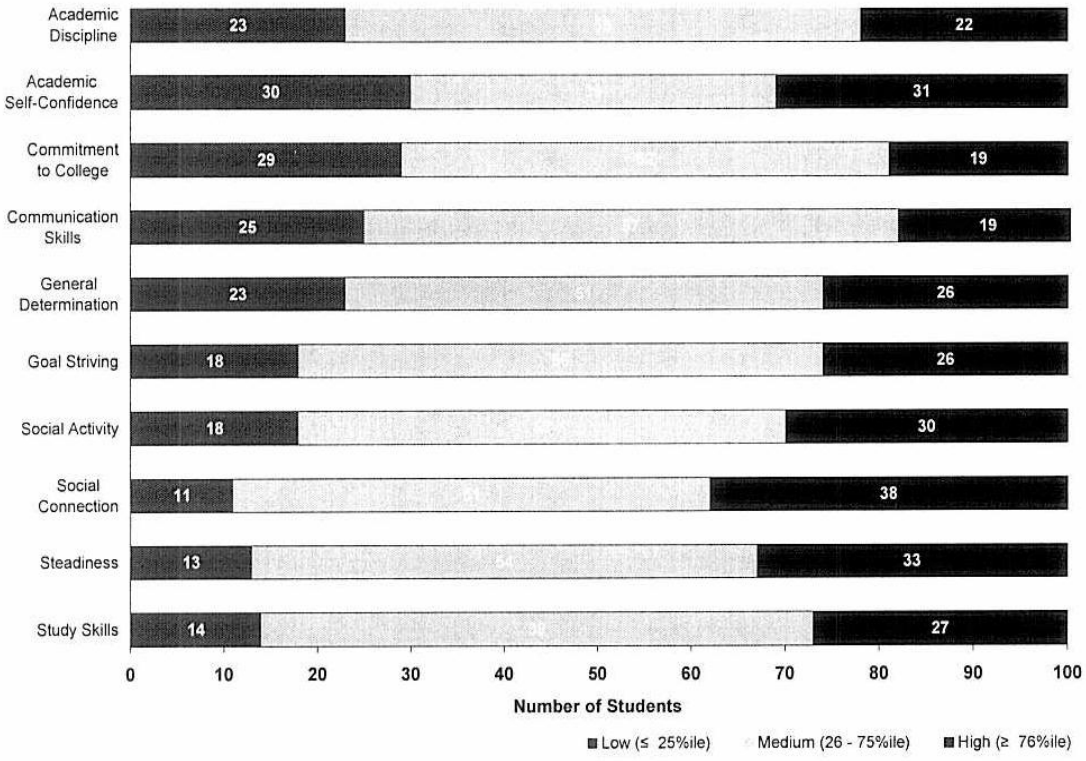
Figure 1. Average ENGAGE Percentile Scores for Your Institution and the National Sample



Note. ENGAGE percentile scores range from 1 to 99. Results compared to other 4-year institutions.

Figure 2 provides a graphical representation of your students' scores on each scale broken down by the broad percentile range in which the students scored. These ranges are Low (≤ 25th percentile), Medium (26th to 75th percentile), and High (≥ 76th percentile). For intervention purposes, your institution may want to focus on low-scoring students, as these students are most at-risk for academic difficulties.

Figure 2. Percentage of Students with ENGAGE Percentile Scores in each Broad Range

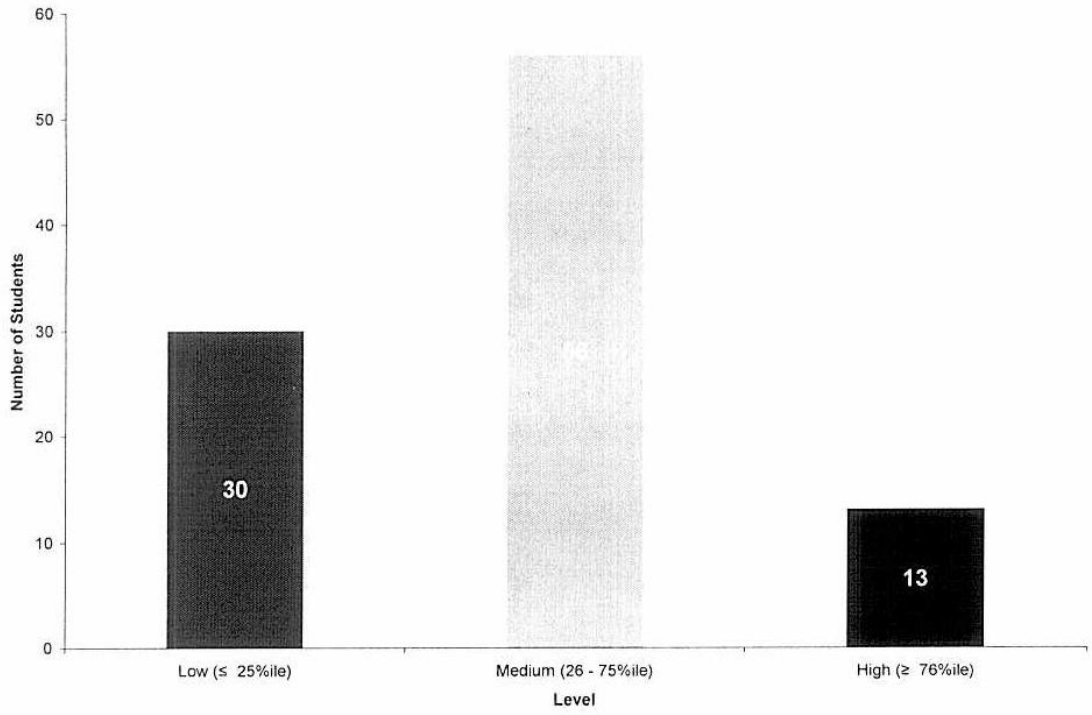


Note. $N = 240$. Percentages may not add up to 100% due to rounding.

Figures 3 and 4 feature information about the Academic Success and Retention Indices included in advisor and roster reports. These indices are on a scale from 1 to 99, with larger values representing less risk of poor academic performance (i.e., GPA < 2.0) or of dropping out, respectively. Since baseline academic performance and retention rates vary across institutions, these indices should not be interpreted as explicit predicted probabilities of retention or academic performance; rather, these indices are approximate measures of how each student's psychosocial factors lend themselves to academic performance and persistence after the first year of college (for more information on how to interpret ENGAGE success indices, consult the ENGAGE College User Guide). For ease of interpretation, we have transformed both the Academic Success and Retention Indices into percentile rank scores (by comparing your students to our national norms). For illustration purposes, the percentile ranges were broken down into "low" (1st to 25th percentile), "medium" (26th to 75th percentile), and "high" (76th to 99th percentile).

Figure 3 features students' Academic Success Index as percentile rank scores, in which students with low, medium, and high indices are plotted separately.

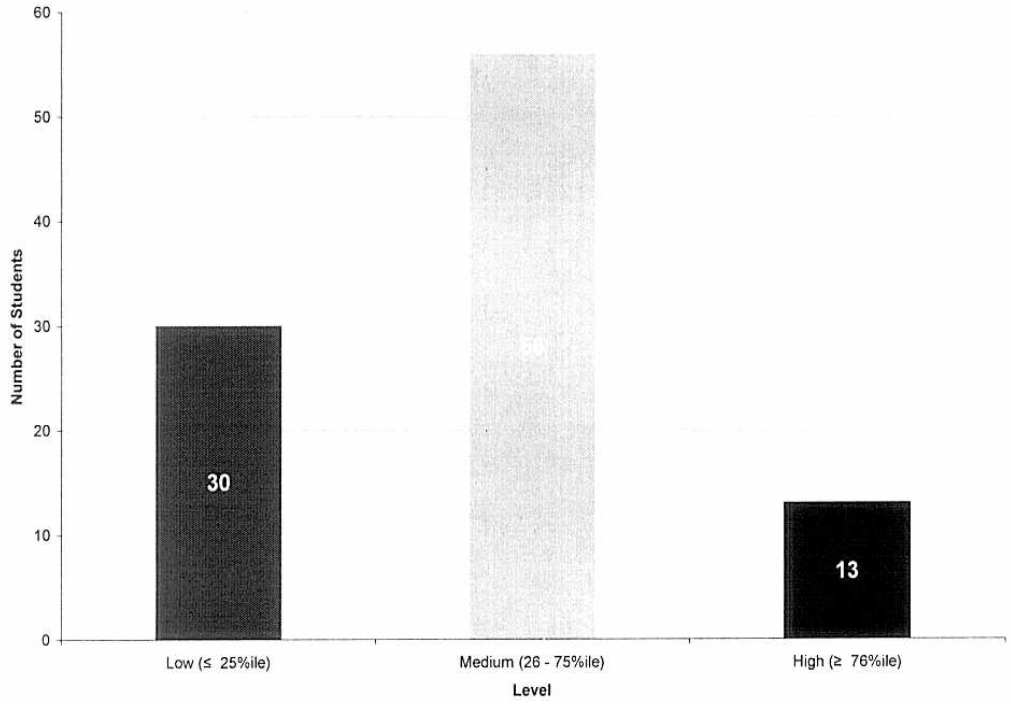
Figure 3. Percentage of Students with Academic Success Index Scores in Each Broad Range



Note. $N = 240$. Numbers may not add up to 100% due to rounding.

Similarly, Figure 4 features students' Retention Index as percentile rank scores, in which students with low, medium, and high retention indices are plotted separately.

Figure 4. Percentage of Students with Retention Index Scores in Each Broad Range



Chapters 4 through 6 of the *ENGAGE College User's Guide* describe how to interpret scores from ENGAGE scales and the success indices, and provide additional information about how to use ENGAGE results.

Appendix

This appendix provides a list of ENGAGE College scales and definitions, as well as a summary of key academic and behavioral information provided by your students at the time they completed ENGAGE. This information is also contained in the Roster Report.

Table A1. ENGAGE Scales and Definitions

Domain	ENGAGE Scales	Definition
Motivation & Skills Personal characteristics that help students to succeed academically by focusing and maintaining energies on goal-directed activities.	Academic Discipline	The amount of effort a student puts into schoolwork and the degree to which a student sees him/herself as hardworking and conscientious.
	Commitment to College	Commitment to staying in college and getting a degree.
	Communication Skills	Attentiveness to others' feelings and flexibility in resolving conflicts with others.
	General Determination	The extent to which one strives to follow through on commitments and obligation.
	Goal Striving	The strength of one's efforts to achieve objectives and end goals.
	Study Skills	The extent to which students believe they know how to assess an academic problem, organize a solution, and successfully complete academic assignments.
Social Engagement Interpersonal factors that influence students' successful integration or adaptation into their environment.	Social Activity	One's comfort in meeting and interacting with other people.
	Social Connection	One's feelings of connection and involvement with the college community.
Self-Regulation Cognitive and affective processes used to monitor, regulate, and control behavior related to learning.	Academic Self-Confidence	The belief in one's ability to perform well in college.
	Steadiness	One's responses to and management of strong feelings.
Behavioral Indicators	Absenteeism	Number of absences, days tardy, and skipped classes reported by the student over the past month.
	Homework Time	Time spent on homework on a typical school evening.

Table A2 includes your students' mean ENGAGE percentile scores, which are norm-referenced, compared to students from similar institutions.

Table A2. Your Students' Mean ENGAGE Percentile Scores Compared to Other 4-Year Institutions

	Your Students [a]		Students at Other 4-Year Institutions [b]	
ENGAGE Scales	***M***	***SD***	***M***	***SD***
Academic Discipline	50	28	46	28
Academic Self-Confidence	53	35	45	36
Commitment to College	48	30	40	32
Communication Skills	46	26	46	26
General Determination	52	29	49	27
Goal Striving	54	27	48	28
Social Activity	55	29	57	30
Social Connection	63	26	62	26
Steadiness	58	25	55	28
Study Skills	54	27	52	25
Academic Success Index	45	26	44	26
Retention Index	54	25	45	27

Note. [a] *N* for Institution 1 = 240. [b] *N* for 4-year institutions = 46,524.
M = Mean; *SD* = Standard Deviation. * Lower scores reflect more risk.

Table A3 includes your students' mean ENGAGE scale scores compared to students from other 4-year institutions. Those scale scores with statistically significant differences between your students and those from other 4-year institutions are marked on the last column to the right.

Table A3. Institution and National Sample Mean ENGAGE Scale Scores

	Your Students [a]		Students at Other 4-Year Institutions [b]		
ENGAGE Scales	***M***	***SD***	***M***	***SD***	*
Academic Discipline	47	9	45	9	*
Academic Self-Confidence	55	7	53	8	*
Commitment to College	56	6	52	7	*
Communication Skills	44	9	44	9	
General Determination	38	11	37	11	
Goal Striving	43	8	47	8	*
Social Activity	43	14	44	14	
Social Connection	41	9	41	9	
Steadiness	40	9	38	10	
Study Skills	40	8	40	8	
Academic Success Index	66	19	65	20	
Retention Index	65	22	67	23	

Note. [a] *N* for Institution 1 = 240. [b] *N* for other 4-year institutions= 46,524.
M = Mean; *SD* = Standard Deviation. * Designates a mean scale or index score that is significantly different from that of the national sample ($p \leq .05$). Lower scores reflect more risk.

Table A4 includes your students' high school GPA as self-reported on ENGAGE, represented by percentages of students selecting each response choice.

Table A4. Student Self-Reported High School GPA

Self-reported high school GPA	Percentage
(A- to A) 3.5 and above	14
(B to B+) 3.0 – 3.4	37
(B- to B) 2.5 – 2.9	38
(C to B-) 2.0 – 2.4	4
(C- to C) 1.5 – 1.9	1
(D to C-) 1.0 – 1.4	7
(D- to D) 0.9 or lower	1

Note. $N = 240$. Percentages may not add up to 100% due to rounding.

Table A5 includes the number of days students reported being absent per month in high school, represented by percentages of students selecting each response choice. Research shows that those students who report less than 80% attendance (i.e., miss more than 5 to 6 days in one month) are more likely to experience a range of academic difficulties.

Table A5. Student Reported Average Number of Days Absent from School per Month in High School

Response	Percentage
None	47
1 – 2 Days	33
3 – 4 Days	12
5 – 6 Days	3
7 – 8 Days	2
9 – 10 Days	0
11 or More Days	1
Missing	1

Note. $N = 240$. Percentages may not add up to 100% due to rounding.

Table A6 includes the frequency with which students reported going to class without having their homework done in high school, as represented by percentages of students selecting each response choice. Research shows that those students who do not complete their homework on a regular basis experience a higher rate of academic difficulties.

Table A6. Percentage of Students Who Reported Going to Class without Homework Done During High School

Response	Percentage
Never	15
Rarely	41
Sometimes	34
Frequently	5
Daily	3
Missing	1

Note. $N = 240$. Percentages may not add up to 100% due to rounding.

Appendix D: Student Readiness Inventory Sample Student Report

Sample Student

Tested on August 30, 2011
1st year of college · ID 926096433

ENGAGE

SAMPLE COLLEGE Class/section: ENG 101

ENGAGE measures personal, behavioral and academic skills critical to college achievement. Low scores on ENGAGE represent areas that, when improved, may increase your GPA and make it easier to focus on completing college. This report is designed to help you identify your strengths and needs in order to ensure that you are successful in your college career.

SCALE	SCORE	PERCENTILES
Academic self-confidence	58	99
Commitment to college	56	99
Goal striving	49	77
Social activity	49	57
Steadiness	37	42
Social connection	27	35
Communication skills	21	33
Academic discipline	19	23
General determination	18	20
Study skills	12	14

20 40 60 80 100

Norms for 4-year institution

UNDERSTANDING YOUR SCORES

Your scores are reported in terms of percentiles. Your percentiles tell you the approximate percentages of students in schools like yours who took ENGAGE and scored at or below your score.

Scales highlighted in red are areas that you may want to focus on developing as you continue your education.

Capitalize on your strengths

99 Academic self-confidence

The belief in one's ability to perform well in school — Your score on this scale suggests you feel highly confident in your ability to succeed academically. Confidence in your abilities is critical to your academic success.

99 Commitment to college

One's commitment to staying in college and getting a degree — Your response suggests that you feel confident in your reasons for continuing your education. You see yourself as determined to invest the necessary time and effort required to attain a high school diploma and college degree.

77 Goal striving

The strength of one's efforts to achieve objectives and end goals — Your response indicates that you see yourself as goal driven. You generally set appropriate goals and you feel confident in your ability to achieve these goals. Establishing and accomplishing goals is an important life skill that is essential for success in high school and beyond and will help you to maintain your motivation, energy, and focus.

Continue to develop your skills

57 Social activity

One's comfort in meeting and interacting with other people — Your response suggests you feel relatively comfortable interacting with people you do not know and making new friends. Your social skills may benefit you in courses that emphasize team projects and other collaborative assignments.

42 Steadiness

One's responses to and management of strong feelings — Your response indicates that you see yourself as capable of effectively controlling your emotions. You feel as though you do not often lose your temper and you manage frustration well. You are fairly effective in keeping emotions from affecting your academic performance and other important activities in your life.

35 Social connection

One's feelings of connection and involvement with the college community — Your response suggests you see yourself as connected with your school and its student body. Your involvement in school activities will provide a valuable source of stress relief and social interaction that will serve to enhance feelings of connection.

33 Communication skills

Attentiveness to others' feelings and flexibility in resolving conflicts with others — Your score on this scale suggests that you tend to see yourself as fairly comfortable when communicating with others, handling interpersonal conflicts, and working collaboratively with others. These skills will help you in learning and work environments as you effectively exchange information, cooperate with others, and work as a team member.

Make plans for improvement

23 Academic discipline

The amount of effort a student puts into schoolwork and the degree to which a student is hardworking and conscientious — Your response suggests you frequently approach academic related tasks with less enthusiasm and effort than other students. You may frequently rush through your homework without giving much attention to detail, turn in poor or incomplete work, or give up on difficult tasks or problems.

20 General determination

The extent to which one strives to follow through on commitments and obligations — Your score on this scale suggests that you see yourself as someone who often has difficulty fulfilling your assigned responsibilities or duties. If something more interesting presents itself, you may pursue that interest rather than uphold your prior obligations and/or tend to your commitments. Other people may not be able to depend on you to fulfill your promises.

14 Study skills

The extent to which students believe they know how to assess an academic problem, organize a solution, and successfully complete academic assignments — Your response indicates that you feel you lack good study skills, problem-solving skills, and learning strategies. Like academic abilities, these skills are important in predicting your success in high school and beyond.

Recommended plan of action

Overall, your ENGAGE scores suggest that you are likely to benefit from campus resources for promoting academic success and attaining a college degree. Consult with a counselor or academic advisor who can assist you to develop a plan of action for improving your skills. Further, consult the student tool shop for helpful information and sample strategies.

There are services available at your institution that may be helpful to you:

- Develop strategies for improvement. Take advantage of campus resources recommended to you. By using campus resources, you can enrich your college experience and improve your chances for success. Your advisor can help you customize a plan of action.
- Capitalize on your strengths. Talk to your academic advisor about ways to take advantage of your strengths.
- Find out more about campus services and get a list of helpful workshops and events at your institution's website or advisory office.
- Visit the student tool shop for information and exercises to aid you in constructing your improvement plan.

Appendix E: IRB Application

BAKER UNIVERSITY

SCHOOL OF EDUCATION
GRADUATE DEPARTMENT

Date: April 20, 2011
IRB PROTOCOL NUMBER M-0090-0426-0616
(IRB USE ONLY)

IRB REQUEST
Proposal for Research
Submitted to the Baker University Institutional Review Board

I: Research Investigator(s) (Students must list faculty sponsor first)

Department(s) **School of Education Graduate Department**

Name	Signature	
1. Anne Daugherty	_____,	Major Advisor
2. Margaret Waterman	_____,	Research Analyst
3.	_____,	University Committee Member
4.		External Committee Member

Principal Investigator: Cassy Bailey _____
Phone: 785-594-8431 (w); 785-615-1802 (c)
Email: cassy.bailey@bakerU.edu
Mailing address: 1205 Palmyra Court, Baldwin City, KS 66006

Faculty sponsor: Dr. Anne Daugherty
Phone: 913.344.6040 (w)
Email: anne.daugherty@bakeru.edu
Expected Category of Review: **X** Exempt ____Expedited ____Full

II: Protocol Title

Summary
The following summary must accompany the proposal. Be specific about exactly what participants will experience, and about the protections that have been included to safeguard participants from harm. Careful attention to the following may help facilitate the review process:

In a sentence or two, please describe the background and purpose of the research.
The purpose of this study will be to determine the relationship of Student Readiness Inventory (SRI) scores to academic success and student retention after the first year of first year, first time students. The study will use the data from Fall Freshman Cohorts in 2007 -2010 at Baker University – College of Arts and Sciences and Undergraduate School of Education in Baldwin City, Kansas.

The results of the study will be used to develop future academic skills and retention oriented programs targeted to audiences based upon SRI scores.

Briefly describe each condition or manipulation to be included within the study.

No condition or manipulation will be included within the study.

What measures or observations will be taken in the study? If any questionnaire or other instruments are used, provide a brief description and attach a copy.

Using multiple regressions, the study will look for correlations of the Student Readiness Inventory components and academic success and retention. A copy of the Student Readiness Inventory is attached to this document. Additional information may be found at http://www.act.org/sri/components.html

Will the subjects encounter the risk of psychological, social, physical, or legal risk? If so, please describe the nature of the risk and any measures designed to mitigate that risk.

There will not be any psychological, social, physical, or legal risks associated with the study.

Will any stress to subjects be involved? If so, please describe.

No, there will not be stress involved to the subjects used in this study.

Will the subjects be deceived or misled in any way? If so, include an outline or script of the debriefing.

The students will not be deceived or mislead in any manner.

Will there be a request for information that subjects might consider to be personal or sensitive? If so, please include a description.

No personal information will be gathered on students for this study.

Will the subjects be presented with materials that might be considered to be offensive, threatening, or degrading? If so, please describe.

The students will not be presented with materials that might be considered offensive, threatening, or degrading.

Approximately how much time will be demanded of each subject?

The SRI is conducted during Summer Enrollment and Orientation days. It takes approximately 30 minutes for a student to complete. No additional time will be asked of the students.

Who will be the subjects in this study? How will they be solicited or contacted? Provide an outline or script of the information which will be provided to subjects prior to their volunteering to participate. Include a copy of any written solicitation as well as an outline of any oral solicitation.

All first year, first time new students from Fall cohorts 2007 - 2010 who completed the SRI will be used in this study. Students complete the Student Readiness Inventory during Summer Enrollment and Orientation days.

There will be no identification of individual student information.

The study will not require any additional information from students.

What steps will be taken to ensure that each subject's participation is voluntary? What if any inducements will be offered to the subjects for their participation?

Students will be asked to voluntarily participate in this study through the completion of the Student Readiness Inventory. Students complete the Student Readiness Inventory during Summer Enrollment and Orientation days. Students choosing not to participate are not prohibited from completing events throughout the day.

Additionally, this study did not utilize any inducements to aid in student participation in the study.

How will you ensure that the subjects give their consent prior to participating? Will a written consent form be used? If so, include the form. If not, explain why not.

A student consent form will not be used. Students participate in the Student Readiness Inventory during Summer Enrollment and Orientation days. Students choosing not to participate are not prohibited from completing events throughout the day

Will any aspect of the data be made a part of any permanent record that can be identified with the subject? If so, please explain the necessity.

The data used in the study will not be used to identify any specific individual student in the study.

Will the fact that a subject did or did not participate in a specific experiment or study be made part of any permanent record available to a supervisor, teacher or employer? If so, explain.

None of the data used in this study will be shared with supervisors, teachers, or employers.

What steps will be taken to ensure the confidentiality of the data?

Data will be provided by the Baker University Student Academic Success department in a manner that is free of any identifier that could be used to identify any specific student.

If there are any risks involved in the study, are there any offsetting benefits that might accrue to either the subjects or society?

There are no risks to students in this study.

Will any data from files or archival data be used? If so, please describe.

Archived data from Baker University covering Baldwin City campus Fall Cohort first year, first time students from 2007-2010 will be used. The data used will include SRI component scores, ethnicity, end of Spring semester GPAs, retention from first to second year, athletic participation, Greek chapter affiliation, and gender.

Appendix F: IRB Approval Letter

June 16, 2011

Cassy Bailey
PO Box 65
Baldwin City, KS 66006

Dear Ms. Bailey:

The Baker University IRB has reviewed your research project application (M-0090-0426-0616) and approved this project under Exempt Review. As described, the project complies with all the requirements and policies established by the University for protection of human subjects in research. Unless renewed, approval lapses one year after approval date.

The Baker University IRB requires that your consent form must include the date of approval and expiration date (one year from today). Please be aware of the following:

1. At designated intervals (usually annually) until the project is completed, a Project Status Report must be returned to the IRB.

2. Any significant change in the research protocol as described should be reviewed by this Committee prior to altering the project.

3. Notify the OIR about any new investigators not named in original application.

4. Any injury to a subject because of the research procedure must be reported to the IRB Chair or representative immediately.

5. When signed consent documents are required, the primary investigator must retain the signed consent documents for at least three years past completion of the research activity. If you use a signed consent form, provide a copy of the consent form to subjects at the time of consent.

6. If this is a funded project, keep a copy of this approval letter with your proposal/grant file.

Please inform Office of Institutional Research (OIR) or myself when this project is terminated. As noted above, you must also provide OIR with an annual status report and receive approval for maintaining your status. If your project receives funding which requests an annual update approval, you must request this from the IRB one month prior to the annual update. Thanks for your cooperation. If you have any questions, please contact me.

Sincerely,

Carolyn Doolittle, EdD
Chair, Baker University IRB

Appendix G: Request of SRI Data

Student Readiness Inventory data follow-up

Cassy Bailey

Sent: Monday, September 12, 2011

To: Judy Smrha

Attachments: IRB application Cassy Bai~1.docx (10 KB)[Open as Web Page]

Hello Judy,

Thank you for our conversation regarding the Student Readiness Inventory student data for the 2007-2010 cohorts. As promised, attached you will find my IRB request, which was approved by Dr. Carolyn Doolittle, Chair. During our conversation you mentioned placing all the SRI data in the Student Academic Success shared drive. If possible, that would be great! I hope to start adding GPA and retention information in the coming week.

Thank you for all your assistance. Please let me know if you have any questions or concerns.

Sincerely,

Cassy Bailey

Appendix H: Data

2007 cohort data

Student	F1Acad Success	F07CumGPA	Fall semester complete	S2Acad Success	S08CumGPA	Spring semester complete	S3 Complete	Retention Index	Academic Success Index	Commitment to College	Goal Striving	Academic Discipline	General Determination	Study Skills	Communication Skills	Social Activity	Social Connection	Academic Self-Confidence	Steadiness
1	0	1.73	1	0	1.08	1	0	39	39	51	99	95	83	51	92	68	81	77	86
2	0	0.43	1	0	1.17	1	0	73	60	99	63	19	66	23	84	15	36	80	71
3	0	1.06	1	0	1.17	1	1	66	37	99	90	37	83	85	84	89	99	86	92
4	0	1.43	1	0	1.41	1	0	54	46	16	85	3	83	63	80	3	45	46	17
5	0	1.41	1	0	1.42	1	1	80	73	57	95	54	89	90	64	74	84	70	83
6	0	1.50	1	0	1.54	1	0	69	57	99	75	68	94	1	34	15	58	19	22
7	1	2.00	1	0	1.60	1	1	83	73	99	46	89	83	55	75	60	93	17	61
8	0	1.00	1	0	1.60	1	0	69	60	99	63	92	78	67	69	64	81	56	74
9	0	1.00	1	0	1.62	1	0	76	73	99	57	73	94	83	99	57	67	42	14
10	1	2.21	1	0	1.63	1	0	80	79	57	85	85	89	80	69	34	63	80	61
11	0	1.44	1	0	1.67	1	1	66	63	99	85	77	66	55	30	17	32	39	88
12	1	2.50	1	0	1.68	1	1	73	69	81	99	97	94	71	84	34	67	53	77
13	1	2.09	1	0	1.69	1	1	14	14	63	80	68	78	83	64	41	25	49	93
14	0	1.64	1	0	1.70	1	0	50	21	81	57	50	83	83	96	97	99	77	31
15	0	1.93	1	0	1.79	1	1	36	24	39	80	41	78	47	34	83	90	70	80
16	0	1.71	1	0	1.88	1	0	47	34	81	85	29	83	74	46	94	49	92	88
17	0	1.71	1	0	1.89	1	1	24	21	28	52	13	30	15	46	83	58	3	74
18	0	1.67	1	0	1.91	1	0	58	43	99	57	41	40	43	64	86	67	77	74
19	1	2.17	1	0	1.96	1	1	91	90	99	57	95	94	63	69	89	72	83	61
20	1	2.00	1	1	2.00	1	1	39	34	99	31	89	89	85	96	91	63	10	95
21	1	2.33	1	1	2.03	1	1	73	73	31	69	68	55	63	96	74	90	56	77
22	1	2.33	1	1	2.04	1	0	62	73	71	40	85	72	71	10	49	16	63	28
23	1	2.07	1	1	2.04	1	0	88	83	81	90	77	94	80	64	26	84	70	46
24	0	1.80	1	1	2.06	1	1	86	83	71	52	82	83	88	89	77	81	83	86
25	1	2.45	1	1	2.11	1	0	30	24	44	69	54	55	77	58	83	67	77	38
26	0	1.57	1	1	2.12	1	1	43	37	81	99	99	99	97	89	68	84	49	90
27	0	1.87	1	1	2.14	1	1	50	51	57	52	64	50	59	58	60	54	73	88
28	1	2.18	1	1	2.15	1	1	69	63	99	95	99	89	88	64	57	87	60	61
29	0	1.50	1	1	2.17	1	1	83	69	71	26	33	50	20	75	71	96	60	31
30	0	1.50	1	1	2.18	1	0	30	20	44	46	29	60	80	75	37	58	26	68
31	0	1.80	1	1	2.18	1	1	83	76	99	95	95	94	80	89	71	96	49	93
32	0	1.91	1	1	2.21	1	1	43	32	51	31	33	60	47	34	53	81	32	42

33	1	2.06	1	1	2.22	1	1	91	90	99	99	99	94	93	80	86	90	90	95
34	1	2.14	1	1	2.23	1	1	76	66	99	95	99	99	74	92	64	96	70	99
35	1	2.07	1	1	2.24	1	0	80	63	99	99	97	89	99	99	99	99	53	77
36	1	2.00	1	1	2.25	1	1	36	32	81	90	85	94	55	75	99	49	32	86
37	1	2.78	1	1	2.26	1	0	43	43	71	52	64	55	63	25	60	36	56	64
38	1	2.00	1	1	2.31	1	0	50	66	22	80	68	89	47	58	49	40	73	88
39	1	2.62	1	1	2.33	1	1	69	60	63	80	92	94	83	69	68	95	88	53
40	1	2.40	1	1	2.33	1	1	66	54	99	99	97	89	95	96	83	95	90	99
41	1	2.58	1	1	2.41	1	1	58	66	39	52	82	50	47	64	23	32	67	74
42	1	2.88	1	1	2.44	1	0	54	57	39	75	92	99	88	84	37	76	73	64
43	1	2.29	1	1	2.45	1	1	24	14	44	31	29	26	20	30	83	84	8	53
44	1	2.60	1	1	2.46	1	1	54	60	31	69	54	78	63	30	64	49	35	25
45	1	2.08	1	1	2.46	1	1	91	90	99	75	89	94	71	75	68	58	80	92
46	0	1.08	1	1	2.48	1	1	95	93	81	99	95	99	88	92	89	98	96	77
47	0	1.91	1	1	2.48	1	1	58	43	71	90	95	94	74	99	83	98	29	90
48	1	2.47	1	1	2.48	1	0	58	30	51	52	11	78	67	96	15	95	73	64
49	1	2.59	1	1	2.50	1	1	47	51	71	57	82	78	47	58	37	36	19	86
50	1	2.53	1	1	2.56	1	1	66	57	57	69	64	72	71	80	74	90	63	93
51	1	2.93	1	1	2.56	1	1	58	60	31	11	33	45	35	69	80	67	32	49
52	1	2.13	1	1	2.59	1	1	83	69	99	80	82	72	47	89	80	96	53	93
53	1	2.30	1	1	2.60	1	1	22	18	44	35	41	60	17	80	53	54	17	57
54	1	2.11	1	1	2.60	1	1	58	32	81	75	54	89	71	80	57	99	35	80
55	1	2.73	1	1	2.61	1	1	88	79	63	85	85	94	55	96	15	87	19	49
56	0	1.76	1	1	2.62	1	0	86	79	99	99	89	99	51	84	71	87	96	88
57	1	2.65	1	1	2.63	1	1	36	37	51	22	54	26	23	21	30	40	46	77
58	0	1.88	1	1	2.65	1	1	86	83	99	80	99	99	88	58	94	87	98	93
59	1	2.53	1	1	2.66	1	1	66	57	99	75	82	94	13	84	80	81	67	64
60	0	1.00	1	1	2.67	1	1	54	54	51	99	82	99	95	52	60	76	39	98
61	1	2.93	1	1	2.69	1	1	58	48	63	31	54	22	2	10	45	67	10	35
62	1	2.91	1	1	2.71	1	1	17	10	57	22	9	60	13	40	7	12	1	38
63	1	2.67	1	1	2.73	1	1	36	24	99	63	64	40	59	40	93	63	19	46
64	1	2.64	1	1	2.73	1	1	58	48	99	85	89	66	63	34	93	81	80	90
65	1	2.78	1	1	2.73	1	1	76	73	51	95	85	99	88	96	80	90	46	64
66	1	2.60	1	1	2.73	1	1	83	76	99	90	99	99	95	69	83	96	86	96
67	1	2.36	1	1	2.79	1	1	98	96	99	69	97	89	88	69	77	87	63	57
68	1	2.79	1	1	2.79	1	1	73	63	63	63	29	60	83	34	57	72	39	77
69	1	3.13	1	1	2.81	1	1	96	93	99	69	77	72	93	69	83	93	73	83
70	1	2.93	1	1	2.85	1	1	50	46	71	46	73	50	51	34	34	58	39	80
71	1	3.36	1	1	2.86	1	1	83	73	81	85	85	99	51	64	96	96	80	77
72	1	2.33	1	1	2.87	1	1	88	83	99	80	95	94	98	99	83	93	22	68
73	1	2.18	1	1	2.87	1	1	73	73	51	75	59	60	47	52	77	67	46	71

74	1	2.94	1	1	2.89	1	1	91	86	81	80	99	94	74	80	83	99	86	35
75	1	2.53	1	1	2.89	1	0	83	90	31	31	73	40	55	21	15	40	46	64
76	1	2.80	1	1	2.90	1	0	83	69	99	80	54	83	67	96	83	93	49	77
77	1	2.71	1	1	2.90	1	1	39	28	63	69	46	83	71	80	80	67	53	64
78	1	3.35	1	1	2.91	1	1	80	66	71	52	25	26	77	64	91	84	77	53
79	1	3.57	1	1	2.93	1	1	99	99	99	80	97	99	77	75	34	95	92	92
80	1	2.87	1	1	2.93	1	0	76	60	99	90	95	83	99	99	94	99	56	68
81	1	3.07	1	1	2.93	1	1	76	83	22	46	68	55	35	30	26	63	70	77
82	1	2.53	1	1	2.96	1	1	76	63	81	52	46	30	31	34	23	72	53	46
83	1	3.18	1	1	2.96	1	1	80	69	99	63	64	66	6	2	2	19	11	74
84	1	2.93	1	1	2.97	1	1	93	90	99	85	99	94	67	84	83	99	46	77
85	1	2.71	1	1	2.97	1	0	76	76	63	80	95	45	55	21	71	72	77	22
86	1	3.00	1	1	2.97	1	1	91	93	35	46	37	60	27	64	49	67	67	57
87	1	2.93	1	1	3.00	1	1	76	79	12	46	25	30	67	58	41	81	70	80
88	1	3.25	1	1	3.00	1	1	80	69	81	90	92	89	67	92	41	87	88	99
89	1	3.25	1	1	3.00	1	1	91	93	99	99	89	94	59	84	3	12	86	88
90	1	2.67	1	1	3.00	1	1	91	76	63	69	50	60	92	99	17	96	32	95
91	1	2.80	1	1	3.00	1	0	99	99	99	99	95	94	71	64	45	72	94	68
92	1	3.31	1	1	3.00	1	1	83	76	99	95	92	94	92	80	57	87	88	80
93	1	3.53	1	1	3.00	1	1	83	76	99	95	82	99	92	92	83	84	86	53
94	1	2.88	1	1	3.03	1	0	83	79	99	85	73	89	27	17	26	49	60	19
95	1	2.65	1	1	3.03	1	1	62	39	99	52	11	35	51	84	68	81	73	35
96	1	3.00	1	1	3.03	1	1	80	60	71	80	59	60	83	99	94	99	86	68
97	1	3.00	1	1	3.04	1	1	33	32	51	63	29	78	35	40	60	40	32	68
98	1	3.18	1	1	3.04	1	1	66	66	63	40	68	50	4	52	11	19	60	86
99	1	3.36	1	1	3.06	1	1	47	41	44	40	25	55	38	75	23	36	67	64
100	1	2.94	1	1	3.06	1	1	91	90	99	95	85	94	55	80	49	63	67	88
101	1	2.76	1	1	3.06	1	1	96	96	81	69	85	94	93	96	83	90	86	96
102	1	2.93	1	1	3.07	1	1	66	51	81	85	85	99	55	80	96	96	70	42
103	1	2.82	1	1	3.09	1	1	83	69	63	85	37	78	63	89	74	95	77	49
104	1	3.45	1	1	3.09	1	0	88	86	99	90	97	99	85	99	74	81	67	98
105	1	3.08	1	1	3.10	1	1	88	79	99	85	97	94	93	96	30	93	83	96
106	1	3.00	1	1	3.10	1	1	50	32	99	90	97	94	74	89	93	98	96	88
107	1	3.50	1	1	3.11	1	1	58	34	81	69	33	60	1	21	60	93	49	17
108	1	2.85	1	1	3.11	1	1	91	90	81	80	89	99	71	92	93	72	86	97
109	1	3.00	1	1	3.12	1	1	76	73	51	85	97	89	51	96	83	95	67	97
110	1	3.07	1	1	3.12	1	1	93	90	99	69	54	94	38	75	77	76	73	61
111	1	3.07	1	1	3.13	1	1	93	86	99	90	68	66	23	80	77	90	70	90
112	1	2.58	1	1	3.13	1	1	86	79	99	90	85	89	71	89	93	87	77	80
113	1	3.21	1	1	3.13	1	1	62	46	71	95	73	99	83	99	20	84	10	46
114	1	2.79	1	1	3.13	1	0	54	48	31	85	59	78	63	80	91	93	60	90

115	1	3.07	1	1	3.16	1	1	58	60	44	63	82	66	55	89	71	67	63	86
116	1	2.60	1	1	3.17	1	1	54	63	51	75	68	60	83	25	60	40	67	93
117	1	3.50	1	1	3.22	1	1	73	57	81	13	29	22	4	40	53	87	19	31
118	1	2.88	1	1	3.24	1	1	93	90	71	80	82	78	67	84	49	93	49	86
119	1	2.78	1	1	3.24	1	1	50	66	20	26	59	35	31	12	49	36	49	86
120	1	3.13	1	1	3.26	1	1	22	17	44	52	19	30	23	40	60	40	17	8
121	1	3.13	1	1	3.27	1	1	88	86	99	75	89	83	63	80	93	81	63	92
122	1	3.06	1	1	3.27	1	1	83	76	99	52	95	94	6	80	57	84	56	46
123	1	3.40	1	1	3.28	1	1	62	69	31	40	37	22	20	15	53	49	32	71
124	1	3.14	1	1	3.28	1	1	50	51	71	80	82	99	59	96	77	58	10	86
125	1	3.57	1	1	3.28	1	1	88	86	81	90	85	89	85	75	49	58	97	90
126	1	3.20	1	1	3.30	1	0	95	93	99	69	89	78	59	75	68	76	80	68
127	1	3.08	1	1	3.30	1	1	66	57	63	35	54	22	38	46	37	67	46	46
128	1	3.29	1	1	3.31	1	1	91	79	99	99	77	94	74	89	83	99	60	19
129	1	3.67	1	1	3.36	1	1	91	90	51	75	95	89	85	99	74	87	73	68
130	1	2.94	1	1	3.38	1	1	83	79	81	90	89	78	74	69	96	81	90	95
131	1	3.20	1	1	3.40	1	1	69	73	39	13	59	40	47	34	9	28	49	77
132	1	2.93	1	1	3.41	1	0	86	83	81	69	89	83	55	58	53	76	80	49
133	1	3.31	1	1	3.42	1	1	96	93	81	95	89	94	96	92	91	95	90	93
134	1	3.80	1	1	3.42	1	1	73	69	99	85	97	94	88	89	45	67	67	83
135	1	3.47	1	1	3.43	1	1	86	83	99	46	89	45	7	52	71	76	70	61
136	1	3.53	1	1	3.44	1	1	73	69	51	69	68	78	77	80	86	81	73	74
137	1	3.29	1	1	3.44	1	1	93	90	99	80	92	94	85	96	49	84	77	96
138	1	3.33	1	1	3.45	1	1	80	76	99	75	85	78	17	46	68	67	60	53
139	1	3.60	1	1	3.46	1	1	96	96	81	95	97	99	74	89	41	72	99	83
140	1	3.55	1	1	3.46	1	1	33	26	71	40	68	30	23	64	1	9	29	35
141	1	3.27	1	1	3.47	1	1	86	83	31	90	95	94	92	92	37	99	46	19
142	1	3.31	1	1	3.48	1	1	93	96	44	31	29	22	15	34	41	28	77	61
143	1	3.62	1	1	3.48	1	1	69	57	71	15	19	10	1	6	17	45	77	1
144	1	3.50	1	1	3.48	1	1	66	48	71	69	37	55	77	92	77	87	49	77
145	1	3.47	1	1	3.48	1	0	99	99	81	90	97	94	98	92	49	96	88	68
146	1	3.57	1	1	3.50	1	1	47	57	31	40	73	66	17	10	64	54	32	31
147	1	3.67	1	1	3.50	1	0	93	93	71	85	97	99	92	80	80	90	77	93
148	1	3.45	1	1	3.52	1	1	83	83	99	90	97	99	95	89	64	54	83	98
149	1	3.14	1	1	3.53	1	1	93	93	99	95	99	99	85	80	80	76	97	93
150	1	3.57	1	1	3.53	1	1	62	73	20	40	64	60	35	64	71	67	73	80
151	1	3.76	1	1	3.53	1	1	76	83	20	1	22	19	9	3	1	4	14	14
152	1	3.21	1	1	3.53	1	1	96	93	99	85	68	83	7	89	49	95	97	86
153	1	3.07	1	1	3.53	1	1	86	76	99	80	73	89	88	84	93	96	53	88
154	1	3.27	1	1	3.54	1	1	58	41	81	22	77	66	63	96	34	93	22	46
155	1	3.80	1	1	3.56	1	0	96	93	99	90	89	99	98	99	64	96	98	99

156	1	3.53	1	1	3.57	1	1	80	76	71	75	77	55	85	34	80	84	49	19
157	1	3.36	1	1	3.57	1	1	76	73	99	90	92	78	59	69	64	72	49	88
158	1	3.82	1	1	3.57	1	1	86	79	99	99	92	99	92	99	64	84	86	99
159	1	3.45	1	1	3.59	1	1	73	76	57	99	92	89	88	84	80	67	46	83
160	1	3.57	1	1	3.60	1	1	83	83	51	46	25	40	27	21	6	16	46	68
161	1	3.63	1	1	3.60	1	0	93	86	63	85	64	83	90	92	93	98	80	71
162	1	3.50	1	1	3.62	1	1	96	96	71	85	89	66	63	58	83	90	88	71
163	1	3.81	1	1	3.65	1	1	86	93	28	52	37	40	74	34	41	25	88	74
164	1	3.65	1	1	3.65	1	0	54	60	63	57	85	72	2	64	26	25	49	68
165	1	3.60	1	1	3.65	1	0	80	79	99	63	95	72	9	52	15	40	60	83
166	1	3.86	1	1	3.66	1	1	76	83	44	85	82	78	85	89	71	40	67	93
167	1	3.60	1	1	3.67	1	1	91	93	71	22	92	60	17	15	26	40	42	8
168	1	3.73	1	1	3.68	1	1	86	83	81	80	92	94	83	92	77	81	80	95
169	1	3.45	1	1	3.69	1	1	76	69	81	75	77	72	51	64	74	84	67	90
170	1	3.80	1	1	3.70	1	1	88	86	81	85	92	99	55	89	86	93	63	83
171	1	3.79	1	1	3.70	1	1	96	96	99	85	97	94	77	69	60	67	73	68
172	1	4.00	1	1	3.72	1	1	76	79	39	57	77	66	59	58	41	54	67	35
173	1	3.65	1	1	3.72	1	0	93	90	63	63	95	99	71	58	26	81	29	71
174	1	3.83	1	1	3.74	1	1	99	99	99	69	97	99	51	52	15	19	73	86
175	1	3.42	1	1	3.75	1	1	91	90	99	85	99	99	92	89	53	81	56	68
176	1	3.50	1	1	3.75	1	1	99	99	99	85	95	83	55	96	83	95	97	95
177	1	3.88	1	1	3.76	1	0	91	86	71	35	64	55	55	52	11	54	73	71
178	1	3.53	1	1	3.77	1	1	80	79	99	80	97	99	55	89	49	67	67	86
179	1	3.80	1	1	3.80	1	1	73	73	44	80	68	83	71	46	71	67	39	53
180	1	3.79	1	1	3.81	1	1	47	48	18	52	46	50	80	52	89	87	32	38
181	1	3.65	1	1	3.81	1	1	95	96	81	31	97	83	47	75	9	49	49	80
182	1	3.81	1	1	3.81	1	0	83	76	99	99	99	99	90	96	97	95	90	99
183	1	3.81	1	1	3.82	1	1	69	57	57	99	89	94	80	89	99	98	92	61
184	1	3.80	1	1	3.82	1	1	80	79	71	99	99	94	96	99	23	76	94	99
185	1	3.73	1	1	3.85	1	1	96	93	99	90	95	99	80	96	80	98	80	71
186	1	4.00	1	1	3.86	1	0	95	93	81	40	77	60	43	58	23	67	35	53
187	1	3.79	1	1	3.88	1	1	91	90	71	90	89	94	90	92	80	81	77	90
188	1	3.77	1	1	3.90	1	0	88	86	99	63	92	78	55	69	74	81	83	77
189	1	4.00	1	1	3.90	1	0	93	90	57	80	95	83	67	89	80	98	88	68
190	1	3.79	1	1	3.90	1	1	99	99	99	95	99	99	95	92	97	96	99	88
191	1	4.00	1	1	3.91	1	1	95	93	99	99	97	99	83	64	53	81	86	61
192	1	3.82	1	1	3.91	1	1	99	99	99	85	97	99	95	96	64	87	96	93
193	1	3.89	1	1	3.91	1	1	99	99	99	80	92	83	96	80	89	87	97	98
194	1	4.00	1	1	3.94	1	1	99	99	99	99	95	99	88	75	91	93	97	96
195	1	3.94	1	1	3.97	1	1	96	99	71	80	92	78	77	46	34	25	94	74
196	1	4.00	1	1	4.00	1	1	83	83	99	95	95	99	80	84	83	58	67	95

197	1	4.00	1	1	4.00	1	1	99	99	71	80	99	89	83	84	41	90	99	77
198	1	4.00	1	1	4.00	1	1	99	99	99	85	95	83	71	84	64	76	92	92
199	1	4.00	1	1	4.00	1	1	95	93	99	63	73	66	59	64	89	87	90	92
200	1	4.00	1	1	4.00	1	1	99	99	99	80	95	89	67	99	91	98	88	68
201	1	4.00	1	1	4.00	1	1	99	99	71	69	73	60	63	64	53	58	73	88
202	1	4.00	1	1	4.00	1	1	95	93	57	69	92	72	27	69	83	84	56	68
203	1	4.00	1	1	4.00	1	1	99	99	81	90	92	83	47	92	17	84	99	8
204	1	4.00	1	1	4.00	1	1	96	93	81	99	99	99	99	99	71	96	97	98
205	1	4.00	1	1	4.00	1	1	91	90	81	75	99	99	85	89	71	84	86	93
206	1	4.00	1	1	4.00	1	1	83	79	99	80	77	78	43	89	80	63	98	99
207	1	4.00	1	1	4.00	1	1	96	93	99	75	68	45	74	75	94	87	88	95
208	1	4.00	1	1	4.00	1	0	99	99	99	95	99	89	63	69	74	93	99	92
209	0	0.55	1	0	0.55	0	0	8	2	35	31	4	19	27	21	37	67	11	31
210	0	0.00	1	0	0.00	0	0	80	73	71	35	54	55	55	52	68	81	77	74
211	1	3.57	1	1	3.57	0	0	96	96	71	46	64	40	31	34	49	63	90	74
212	0	0.00	1	0	0.00	0	0	66	41	81	46	37	45	67	89	77	98	29	68
213	1	3.20	1	1	3.20	0	0	95	93	63	99	64	94	95	84	77	93	94	88
214	1	2.00	1	1	2.00	0	0	98	93	99	90	73	78	74	52	74	96	97	64
215	0	0.38	1	0	0.38	0	0	15	17	14	52	22	26	7	46	30	58	2	14
216	0	1.07	1	0	1.07	0	0	95	90	99	75	54	50	71	58	41	81	63	95
217	1	3.14	1	1	3.14	0	0	86	83	44	63	92	72	59	69	11	81	80	86
218	0	0.71	1	0	0.71	0	0	62	41	81	90	85	99	92	99	99	98	56	96
219	0	1.38	1	0	1.38	0	0	54	39	44	75	68	94	88	89	99	99	67	86
220	0	1.82	1	0	1.82	0	1	83	73	81	80	37	78	11	84	57	72	90	68
221	0	0.27	1	0	0.27	0	0	69	48	63	80	33	89	31	84	99	95	67	80
222	1	2.36	1	1	2.36	0	1	50	41	71	40	25	66	55	75	37	40	67	77
223	1	4.00	1	1	4.00	0	0	96	93	99	90	95	99	63	96	71	99	80	95
224	1	3.77	1	1	3.77	0	0	95	93	99	63	95	72	59	58	23	76	88	80
225	0	0.00	1	0	0.00	0	0	73	57	99	85	13	40	31	89	64	72	88	8
226	1	3.38	1	1	3.38	0	0	69	63	71	99	99	99	98	96	94	84	90	99
227	0	1.07	1	0	1.07	0	0	96	93	99	85	95	99	27	75	23	95	90	4
228	1	.	0	1	.	0	0	22	7	71	31	2	22	71	75	64	58	70	88
229	0	1.93	1	0	1.93	0	0	62	51	81	85	77	78	15	64	97	72	56	98
230	1	2.33	1	1	2.33	0	0	54	48	51	95	77	99	15	21	99	76	92	77
231	1	2.12	1	1	2.12	0	0	50	30	57	95	50	99	98	89	83	99	46	22
232	1	2.50	1	1	2.50	0	0	83	83	57	35	11	45	9	21	30	14	92	88
233	1	3.29	1	1	3.29	0	0	91	83	81	40	41	35	38	58	91	87	83	38
234	0	1.00	1	0	1.00	1	0	91	76	81	85	41	89	77	99	49	99	86	97

2008 cohort data

Student	F1Acad Success	F07CumGPA	Fall semester complete	S2Acad Success	S08CumGPA	Spring semester complete	S3 Complete	Retention Index	Academic Success Index	Commitment to College	Goal Striving	Academic Discipline	General Determination	Study Skills	Communication Skills	Social Activity	Social Connection	Academic Self-Confidence	Steadiness
235	1	2.33	1	0	1.38	1	0	95	90	99	75	64	60	74	92	96	98	92	38
236	0	1.67	1	0	1.45	1	0	62	60	57	57	77	60	80	52	57	72	49	64
237	0	1.43	1	0	1.48	1	0	39	24	99	99	73	89	2	52	91	81	53	92
238	0	1.20	1	0	1.60	1	0	36	32	44	63	77	78	43	58	93	72	98	25
239	0	1.67	1	0	1.66	1	0	86	79	99	90	37	66	97	84	41	49	67	80
240	0	1.62	1	0	1.69	1	0	91	86	81	46	50	45	63	52	68	72	73	71
241	1	2.07	1	0	1.84	1	1	66	48	99	99	99	99	93	92	77	99	77	97
242	1	2.36	1	0	1.86	1	0	33	15	51	80	25	40	85	84	68	93	11	61
243	0	1.45	1	0	1.95	1	1	36	30	28	63	33	72	63	30	41	84	32	12
244	1	2.20	1	0	1.97	1	1	88	76	99	63	64	60	51	69	96	96	88	61
245	0	1.64	1	1	2.03	1	1	50	34	99	99	89	99	95	99	99	93	86	80
246	1	2.87	1	1	2.03	1	1	96	93	81	95	99	99	93	58	83	95	99	98
247	0	1.58	1	1	2.03	1	1	54	37	99	99	82	99	83	96	99	90	67	99
248	1	2.67	1	1	2.10	1	0	58	48	51	75	59	83	93	84	91	87	32	68
249	0	0.91	1	1	2.12	1	1	50	32	99	75	73	89	97	69	13	72	63	99
250	1	2.00	1	1	2.14	1	0	73	66	99	90	92	72	92	92	94	84	88	98
251	1	2.50	1	1	2.14	1	1	73	60	99	85	85	83	63	80	96	96	80	96
252	1	2.13	1	1	2.17	1	1	27	12	81	75	13	72	88	46	77	67	92	74
253	1	2.14	1	1	2.17	1	1	73	60	71	40	50	72	59	89	57	90	39	98
254	1	2.14	1	1	2.19	1	1	27	21	28	26	29	50	38	40	34	67	22	12
255	0	1.73	1	1	2.19	1	1	47	34	71	85	89	99	51	84	20	87	32	92
256	1	2.28	1	1	2.20	1	0	43	41	71	40	64	50	63	46	23	32	39	53
257	1	2.40	1	1	2.21	1	1	43	34	51	35	16	26	5	3	23	40	22	4
258	1	2.65	1	1	2.28	1	1	58	30	99	40	33	66	80	89	41	95	32	64
259	0	1.64	1	1	2.32	1	0	66	69	25	35	50	30	47	40	34	67	19	64
260	0	1.75	1	1	2.34	1	1	17	7	57	52	29	35	55	80	45	81	3	80
261	0	1.55	1	1	2.38	1	1	58	43	51	35	8	26	59	69	83	63	67	57
262	1	2.47	1	1	2.43	1	1	50	43	71	46	59	72	67	46	49	54	39	88
263	1	3.29	1	1	2.43	1	0	76	69	99	80	73	99	96	92	64	72	56	98
264	1	2.67	1	1	2.43	1	1	58	51	99	80	68	83	43	89	77	67	53	92
265	1	2.18	1	1	2.44	1	1	86	83	63	75	89	60	74	58	57	81	73	90
266	1	2.60	1	1	2.45	1	1	54	54	25	69	29	35	80	30	64	67	53	38

267	1	2.47	1	1	2.46	1	1	66	54	99	95	97	99	99	92	80	96	73	99
268	1	2.80	1	1	2.48	1	1	99	96	57	31	54	45	47	58	97	98	98	38
269	1	2.73	1	1	2.52	1	1	91	76	63	22	4	12	11	52	20	84	77	25
270	1	2.27	1	1	2.53	1	1	54	46	51	80	68	78	90	46	60	87	67	74
271	1	2.07	1	1	2.54	1	1	93	86	99	99	97	99	93	92	86	96	98	92
272	1	2.33	1	1	2.55	1	1	39	23	99	99	85	89	99	92	71	95	73	96
273	1	2.44	1	1	2.57	1	1	83	76	99	95	97	94	59	84	64	93	67	93
274	1	3.14	1	1	2.57	1	1	47	39	99	75	92	72	80	52	60	72	53	71
275	1	2.83	1	1	2.59	1	1	39	39	51	57	85	60	80	58	91	72	77	71
276	1	2.50	1	1	2.60	1	1	69	57	57	69	64	94	77	80	74	96	46	92
277	1	3.10	1	1	2.62	1	1	54	39	81	99	89	94	90	99	94	96	35	80
278	1	3.00	1	1	2.63	1	1	47	30	99	99	92	89	80	92	89	93	60	57
279	1	2.57	1	1	2.63	1	1	69	69	63	63	95	60	23	21	68	67	83	83
280	1	2.29	1	1	2.63	1	0	47	51	14	18	54	35	5	46	1	32	49	64
281	1	2.67	1	1	2.64	1	1	83	76	71	63	85	94	90	92	71	93	60	97
282	1	2.36	1	1	2.67	1	1	83	79	63	75	73	94	59	84	77	76	39	53
283	1	2.67	1	1	2.69	1	1	76	73	99	95	89	89	95	89	86	72	56	99
284	1	2.79	1	1	2.69	1	1	88	76	99	75	59	89	85	99	71	98	32	77
285	1	3.14	1	1	2.70	1	1	73	57	99	85	97	99	80	96	74	99	73	97
286	1	2.93	1	1	2.72	1	1	86	79	99	46	64	78	80	84	57	84	32	68
287	1	2.45	1	1	2.72	1	1	80	60	99	85	92	99	90	99	99	99	80	97
288	1	2.25	1	1	2.75	1	1	36	30	57	57	64	78	55	46	53	63	17	2
289	1	2.64	1	1	2.75	1	0	47	34	81	52	73	60	74	69	83	81	53	83
290	1	3.14	1	1	2.76	1	1	73	57	81	85	37	78	23	69	34	76	46	80
291	1	2.93	1	1	2.76	1	1	69	60	99	85	68	89	38	84	30	67	42	31
292	1	3.06	1	1	2.76	1	1	83	79	71	75	68	55	93	75	91	72	90	80
293	1	2.57	1	1	2.77	1	1	69	69	63	69	77	55	51	30	80	72	39	86
294	1	2.93	1	1	2.78	1	1	76	76	39	75	46	72	5	25	89	67	63	93
295	1	2.54	1	1	2.81	1	1	96	96	99	90	97	99	63	89	91	93	99	96
296	1	2.38	1	1	2.81	1	1	95	96	71	95	77	94	95	89	64	67	92	86
297	1	2.65	1	1	2.82	1	1	91	86	99	90	77	94	85	84	99	81	94	53
298	1	3.07	1	1	2.83	1	1	39	24	57	52	29	45	35	80	83	81	14	53
299	1	2.44	1	1	2.85	1	1	69	66	63	46	92	78	85	80	94	87	49	96
300	1	3.15	1	1	2.86	1	1	76	73	99	99	99	94	98	89	89	67	97	98
301	1	2.50	1	1	2.88	1	1	80	83	71	85	92	78	17	64	45	49	49	61
302	1	3.00	1	1	2.89	1	1	88	83	99	85	89	89	88	84	89	87	99	92
303	1	2.93	1	1	2.90	1	1	96	93	63	99	85	99	80	99	99	99	99	99
304	1	2.79	1	1	2.90	1	1	83	79	81	13	54	55	47	40	23	40	46	46
305	1	2.57	1	1	2.93	1	1	76	63	81	85	85	83	63	69	86	95	83	80
306	1	2.40	1	1	2.94	1	1	83	79	99	80	92	94	63	69	71	87	60	96
307	1	2.73	1	1	2.95	1	0	62	51	99	95	97	94	90	92	64	90	60	90

308	1	2.50	1	1	2.96	1	1	66	48	99	75	97	89	85	92	91	96	63	88
309	1	2.75	1	1	3.00	1	1	69	63	71	63	50	35	55	34	26	54	10	38
310	1	3.00	1	1	3.00	1	1	83	79	63	57	77	66	71	40	60	81	67	74
311	1	3.46	1	1	3.03	1	1	73	66	51	57	50	45	67	69	64	81	73	68
312	1	2.79	1	1	3.03	1	1	76	66	99	75	68	83	77	84	9	54	39	96
313	1	3.27	1	1	3.04	1	1	66	57	57	99	97	83	95	96	93	96	67	68
314	1	2.93	1	1	3.06	1	0	98	99	71	80	99	99	93	92	45	76	83	83
315	1	3.29	1	1	3.07	1	1	58	46	81	35	54	55	74	84	91	76	26	57
316	1	2.93	1	1	3.07	1	1	95	96	71	95	85	89	80	80	49	58	49	92
317	1	3.18	1	1	3.08	1	0	91	93	99	99	99	83	74	92	86	67	92	64
318	1	3.27	1	1	3.10	1	0	88	79	99	99	99	99	99	96	64	99	90	71
319	1	3.47	1	1	3.10	1	1	80	66	81	46	16	26	51	21	60	72	67	71
320	1	3.14	1	1	3.10	1	1	73	69	81	46	46	45	2	92	30	40	67	88
321	1	2.93	1	1	3.13	1	1	43	34	63	75	89	72	74	84	99	87	32	83
322	1	2.83	1	1	3.15	1	1	73	63	81	57	73	83	88	92	89	87	32	38
323	1	2.93	1	1	3.17	1	1	88	79	99	85	92	94	95	96	93	99	60	77
324	1	2.94	1	1	3.17	1	1	76	73	51	46	68	72	55	30	13	63	53	42
325	1	3.14	1	1	3.17	1	1	66	57	99	99	89	99	99	84	71	84	83	97
326	1	3.35	1	1	3.19	1	1	54	60	99	95	99	99	67	58	93	40	80	53
327	1	2.71	1	1	3.19	1	0	91	90	99	63	89	78	71	80	64	63	77	92
328	1	3.14	1	1	3.20	1	1	66	57	71	46	54	83	71	89	41	63	56	71
329	1	3.21	1	1	3.21	1	1	43	37	99	63	50	60	67	80	64	40	56	86
330	1	3.00	1	1	3.21	1	1	83	86	44	46	64	60	63	64	74	58	70	83
331	1	3.06	1	1	3.23	1	1	62	43	71	63	77	99	35	92	99	96	10	64
332	1	2.73	1	1	3.23	1	1	93	86	99	95	99	94	90	92	91	98	92	99
333	1	3.31	1	1	3.23	1	1	86	76	99	99	92	99	77	89	80	96	73	98
334	1	4.00	1	1	3.24	1	1	96	96	51	11	92	94	83	84	1	6	2	35
335	1	3.13	1	1	3.24	1	1	88	83	99	80	95	83	93	99	53	96	56	92
336	1	3.25	1	1	3.25	1	1	86	83	81	95	92	83	47	96	80	81	56	92
337	1	3.65	1	1	3.25	1	1	88	83	81	90	97	89	74	89	80	96	90	88
338	1	3.27	1	1	3.26	1	1	58	48	81	57	64	55	59	46	30	58	39	57
339	1	3.25	1	1	3.28	1	1	69	51	99	80	97	94	90	80	97	99	86	64
340	1	3.31	1	1	3.29	1	1	88	76	81	95	64	60	92	96	96	99	83	99
341	1	3.25	1	1	3.29	1	1	99	99	99	80	59	94	95	52	80	87	99	64
342	1	3.43	1	1	3.30	1	0	88	90	99	52	77	78	90	58	37	36	46	57
343	1	3.50	1	1	3.30	1	1	91	86	99	52	50	66	59	69	23	49	90	83
344	1	3.44	1	1	3.30	1	0	8	9	7	7	8	10	51	21	26	58	14	17
345	1	3.45	1	1	3.31	1	1	80	76	63	85	89	99	31	58	9	45	77	1
346	1	3.00	1	1	3.31	1	1	62	54	81	22	54	60	20	58	91	72	39	49
347	1	3.43	1	1	3.31	1	1	86	79	81	52	50	55	35	58	60	76	70	49
348	1	3.29	1	1	3.32	1	1	80	63	99	46	77	50	43	46	3	58	49	17

349	1	3.67	1	1	3.34	1	1	98	96	71	22	19	19	17	46	23	58	86	31
350	1	3.33	1	1	3.37	1	1	76	83	51	69	95	72	63	69	80	45	94	93
351	1	3.57	1	1	3.38	1	1	86	76	57	90	77	89	85	84	74	99	80	71
352	1	3.14	1	1	3.38	1	1	62	63	99	85	97	94	92	84	74	58	67	83
353	1	3.12	1	1	3.40	1	1	86	86	81	80	97	99	90	75	53	58	73	98
354	1	3.57	1	1	3.40	1	1	80	79	71	85	82	78	83	89	89	63	83	90
355	1	3.29	1	1	3.40	1	1	47	39	57	63	50	26	51	80	83	76	49	74
356	1	3.18	1	1	3.41	1	1	86	79	99	95	99	99	90	92	93	95	92	90
357	1	3.16	1	1	3.42	1	1	95	93	99	99	99	99	83	92	86	90	97	99
358	1	3.23	1	1	3.43	1	1	91	90	99	95	99	99	95	96	60	87	99	96
359	1	3.50	1	1	3.44	1	1	80	63	99	80	41	89	93	99	53	87	67	61
360	1	3.47	1	1	3.44	1	1	93	90	99	99	99	99	83	46	45	84	96	92
361	1	3.00	1	1	3.46	1	0	91	86	81	52	77	55	17	80	74	90	67	71
362	1	3.64	1	1	3.46	1	1	33	28	99	99	59	89	97	80	45	36	46	46
363	1	3.50	1	1	3.47	1	1	95	86	81	52	33	50	74	52	45	87	88	31
364	1	2.87	1	1	3.48	1	1	83	76	81	52	54	78	55	58	64	81	60	53
365	1	3.63	1	1	3.48	1	1	91	96	16	22	46	35	59	64	49	72	42	68
366	1	3.29	1	1	3.49	1	1	73	66	81	69	77	89	7	64	97	63	90	71
367	1	3.20	1	1	3.50	1	1	99	99	63	18	64	30	9	25	13	40	94	17
368	1	3.79	1	1	3.53	1	1	62	66	39	46	77	45	55	52	86	63	53	83
369	1	3.36	1	1	3.53	1	1	99	99	99	85	97	99	85	99	49	95	86	74
370	1	3.40	1	1	3.55	1	1	86	76	99	95	97	99	95	69	80	99	97	99
371	1	3.75	1	1	3.56	1	1	88	79	81	6	46	22	4	10	1	25	60	19
372	1	3.14	1	1	3.58	1	1	91	86	63	99	97	99	63	96	93	99	90	53
373	1	3.07	1	1	3.58	1	1	99	99	81	90	92	99	95	84	94	93	83	74
374	1	3.07	1	1	3.58	1	1	96	93	99	95	92	72	55	80	91	96	83	93
375	1	3.53	1	1	3.58	1	1	95	99	81	99	92	89	85	40	60	25	99	74
376	1	3.33	1	1	3.58	1	1	99	99	99	90	92	99	80	96	80	95	90	83
377	1	3.36	1	1	3.60	1	1	66	69	35	57	68	45	43	69	45	63	49	92
378	1	3.79	1	1	3.63	1	1	91	86	63	85	99	99	77	58	68	99	73	77
379	1	3.57	1	1	3.63	1	1	80	76	81	85	95	99	97	96	68	84	67	28
380	1	3.57	1	1	3.66	1	1	66	60	81	35	68	60	35	80	74	72	70	88
381	1	3.81	1	1	3.66	1	1	91	83	99	57	37	26	9	84	86	67	77	68
382	1	3.33	1	1	3.67	1	1	93	90	81	90	92	94	85	84	83	96	88	93
383	1	3.47	1	1	3.68	1	1	76	66	99	95	99	89	17	40	93	98	60	86
384	1	3.53	1	1	3.69	1	1	88	93	81	57	73	60	74	58	26	19	49	22
385	1	3.57	1	1	3.70	1	1	73	60	81	46	54	50	43	75	91	90	77	88
386	1	3.56	1	1	3.71	1	1	86	90	51	46	77	30	47	40	41	54	53	53
387	1	3.73	1	1	3.72	1	1	83	76	99	63	85	55	43	75	83	87	67	71
388	1	3.84	1	1	3.74	1	1	99	99	71	22	37	22	51	15	41	87	96	8
389	1	3.47	1	1	3.74	1	0	91	79	81	75	41	99	93	92	68	98	49	42

390	1	3.69	1	1	3.77	1	1	99	99	81	95	82	83	90	17	60	58	99	80
391	1	3.56	1	1	3.77	1	1	95	93	71	80	95	83	93	89	53	96	77	86
392	1	3.79	1	1	3.79	1	1	76	69	99	69	97	89	77	84	93	84	99	99
393	1	4.00	1	1	3.80	1	1	95	93	99	80	95	89	74	89	71	90	77	90
394	1	3.75	1	1	3.80	1	1	95	93	99	99	82	94	38	89	96	87	73	99
395	1	4.00	1	1	3.81	1	1	83	83	57	40	73	50	55	34	77	58	56	80
396	1	3.82	1	1	3.81	1	1	98	99	81	69	92	66	59	58	41	67	49	57
397	1	4.00	1	1	3.81	1	1	86	83	71	85	92	89	67	80	71	84	86	92
398	1	3.80	1	1	3.81	1	1	99	99	81	90	85	78	77	92	60	84	96	97
399	1	4.00	1	1	3.82	1	1	95	93	63	75	99	66	35	89	86	84	90	74
400	1	3.81	1	1	3.82	1	1	88	83	81	99	95	99	92	99	93	93	67	95
401	1	3.82	1	1	3.83	1	1	86	90	81	95	97	94	71	92	68	45	60	98
402	1	3.87	1	1	3.84	1	1	96	96	81	75	85	55	80	92	30	49	88	96
403	1	4.00	1	1	3.87	1	1	98	99	44	31	89	60	38	58	37	45	83	31
404	1	4.00	1	1	3.90	1	1	73	57	71	95	89	99	80	99	91	99	73	74
405	1	3.79	1	1	3.90	1	1	95	90	81	75	85	94	71	89	68	99	94	64
406	1	3.79	1	1	3.90	1	0	62	69	51	22	73	50	31	25	17	22	22	10
407	1	4.00	1	1	3.90	1	1	99	99	71	80	89	89	38	96	83	76	98	77
408	1	3.81	1	1	3.90	1	1	96	96	81	22	77	55	55	21	3	12	6	4
409	1	3.82	1	1	3.91	1	1	96	99	31	85	99	99	95	96	30	67	83	92
410	1	3.83	1	1	3.92	1	1	99	99	81	85	97	99	92	96	15	49	94	98
411	1	4.00	1	1	4.00	1	1	96	93	99	99	97	99	99	99	71	98	86	92
412	1	4.00	1	1	4.00	1	1	83	93	22	26	11	9	35	12	64	16	94	35
413	1	4.00	1	1	4.00	1	1	91	86	99	75	97	94	80	84	9	67	92	92
414	1	4.00	1	1	4.00	1	1	98	96	63	75	92	60	77	96	68	84	83	90
415	1	4.00	1	1	4.00	1	1	95	93	99	99	85	99	92	99	99	81	99	99
416	1	4.00	1	1	4.00	1	1	93	90	51	1	13	5	6	40	2	16	11	2
417	1	4.00	1	1	4.00	1	0	93	93	31	46	85	66	43	80	7	72	60	38
418	1	4.00	1	1	4.00	1	1	96	93	99	95	50	78	85	58	94	84	96	88
419	1	4.00	1	1	4.00	1	1	99	99	51	35	97	50	51	34	9	58	73	42
420	1	4.00	1	1	4.00	1	1	99	99	99	80	97	89	77	69	86	81	86	57
421	1	4.00	1	1	4.00	1	1	99	99	99	99	97	94	74	69	74	87	98	90
422	1	4.00	1	1	4.00	1	1	96	96	71	52	82	60	55	69	41	45	53	90
423	1	4.00	1	1	4.00	1	1	93	96	44	85	95	66	59	46	80	40	92	92
424	1	4.00	1	1	4.00	1	1	99	99	81	52	82	66	83	58	41	19	77	92
425	1	3.06	1	1	3.06	0	0	83	86	25	40	41	40	59	34	37	54	86	35
426	0	0.50	1	0	0.50	0	0	58	60	99	85	85	83	35	58	74	32	83	96
427	1	2.73	1	1	2.73	0	0	58	48	71	69	77	66	83	58	71	81	60	93
428	0	1.50	1	0	1.50	0	0	33	14	99	63	82	60	7	40	94	95	39	88
429	0	1.92	1	0	1.92	0	0	99	99	99	99	99	99	97	96	96	95	99	96
430	1	2.63	1	1	2.63	0	0	30	10	71	52	25	66	20	75	71	95	29	83

431	1	2.67	1	1	2.67	0	0	99	99	99	95	92	94	59	92	99	99	99	96
432	0	0.50	1	0	0.50	0	0	86	83	81	80	73	60	88	80	80	67	86	95
433	0	0.00	1	0	0.00	0	0	54	34	99	99	85	94	83	80	97	95	63	99
434	1	2.00	1	1	2.00	0	0	86	83	99	95	99	94	80	75	77	90	80	88
435	0	0.00	1	0	0.00	0	1	69	51	99	99	92	89	59	99	99	96	39	92
436	1	3.00	1	1	3.00	0	0	99	99	99	99	64	94	71	99	94	93	98	97
437	1	2.62	1	1	2.62	0	0	95	93	63	90	73	89	59	64	89	95	98	93
438	0	0.64	1	0	0.64	0	0	54	43	81	85	85	55	77	40	49	84	53	74
439	0	0.58	1	0	0.58	0	1	73	66	99	80	89	94	67	84	89	76	60	92
440	0	1.67	1	0	1.67	0	0	76	79	99	90	97	94	96	46	49	45	97	83
441	0	1.64	1	0	1.64	0	0	17	13	39	18	22	30	13	25	20	36	2	9
442	1	2.93	1	1	2.93	0	0	66	63	44	52	46	66	71	84	9	32	29	53
443	0	0.57	1	0	0.57	0	0	76	76	51	69	82	78	90	80	60	87	86	77
444	0	0.25	1	0	0.25	0	0	36	48	18	46	64	40	1	15	30	54	56	42
445	0	0.71	1	0	0.71	0	0	86	86	51	31	33	45	63	40	26	40	53	53

2009 cohort data

Student	F1Acad Success	F07CumGPA	Fall semester complete	S2Acad Success	S08CumGPA	Spring semester complete	S3 Complete	Retention Index	Academic Success Index	Commitment to College	Goal Striving	Academic Discipline	General Determination	Study Skills	Communication Skills	Social Activity	Social Connection	Academic Self-Confidence	Steadiness
446	0	1.75	1	0	1.61	1	0	27	26	22	63	50	72	80	69	83	87	14	88
447	0	1.42	1	0	1.75	1	1	54	41	99	57	54	45	51	15	45	58	46	4
448	1	2.36	1	0	1.77	1	0	22	20	22	99	64	99	83	92	99	87	53	57
449	0	1.43	1	0	1.78	1	0	50	51	71	80	85	66	5	10	77	49	86	95
450	0	1.67	1	0	1.86	1	0	17	21	28	35	37	35	15	8	64	40	60	57
451	1	2.00	1	0	1.88	1	0	62	60	99	85	97	94	71	69	53	54	63	86
452	0	1.71	1	0	1.89	1	1	39	43	25	7	8	9	27	46	53	32	32	57
453	1	2.00	1	0	1.90	1	1	66	60	99	80	64	83	74	75	49	49	70	80
454	1	2.23	1	0	1.90	1	1	58	32	99	75	41	66	59	89	97	96	42	71
455	1	2.33	1	0	1.92	1	1	80	73	71	75	68	66	85	52	57	81	56	74
456	1	2.47	1	0	1.96	1	1	88	76	99	75	82	99	92	99	57	99	80	61
457	0	1.71	1	1	2.00	1	1	58	57	99	85	82	83	77	34	77	49	77	99
458	0	1.64	1	1	2.00	1	1	80	76	57	40	37	35	35	92	45	67	35	53
459	1	2.09	1	1	2.03	1	1	62	57	81	69	85	94	74	64	64	67	83	64
460	1	2.25	1	1	2.09	1	0	43	30	57	69	25	40	27	69	96	63	98	74
461	1	2.14	1	1	2.10	1	1	54	48	99	80	89	78	95	30	26	49	56	68
462	0	1.87	1	1	2.10	1	1	83	86	51	57	41	60	51	21	53	32	86	74
463	1	2.27	1	1	2.10	1	1	58	46	99	99	77	94	85	96	96	76	94	90
464	0	1.86	1	1	2.11	1	1	15	15	20	31	29	60	80	46	74	67	19	77
465	1	2.36	1	1	2.13	1	1	58	57	63	18	46	22	23	21	64	49	73	12
466	0	1.81	1	1	2.13	1	1	76	69	99	85	85	94	83	96	68	84	39	92
467	0	1.38	1	1	2.16	1	1	69	60	99	75	82	72	83	69	68	76	88	90
468	1	2.13	1	1	2.19	1	1	73	66	51	75	73	55	47	69	96	90	67	93
469	1	2.50	1	1	2.19	1	1	95	93	81	75	73	83	83	58	80	76	94	92
470	1	2.79	1	1	2.19	1	0	47	32	99	57	54	55	90	75	49	63	46	68
471	1	2.35	1	1	2.21	1	1	27	7	63	22	2	17	20	25	57	81	39	19
472	0	1.53	1	1	2.22	1	1	80	73	71	13	41	30	23	64	6	25	77	71
473	1	2.00	1	1	2.23	1	1	43	48	51	85	46	83	83	58	60	25	77	74
474	1	2.33	1	1	2.27	1	0	86	79	71	69	77	83	71	58	80	87	88	61
475	1	2.73	1	1	2.28	1	1	69	57	99	95	97	99	99	80	89	90	73	98
476	1	2.00	1	1	2.30	1	0	58	63	20	35	13	35	67	30	68	49	60	53
477	1	3.36	1	1	2.33	1	1	80	63	81	63	33	66	55	17	64	93	60	14

478	1	2.00	1	1	2.36	1	1	80	76	81	99	95	78	99	75	91	84	86	99
479	0	1.39	1	1	2.37	1	1	39	51	20	7	2	22	7	12	30	9	46	35
480	1	2.42	1	1	2.38	1	1	62	60	44	46	59	45	59	52	34	63	49	90
481	1	2.20	1	1	2.39	1	1	86	83	81	52	68	45	51	46	77	63	77	80
482	1	2.00	1	1	2.42	1	1	58	51	57	90	82	78	83	30	34	76	35	49
483	1	2.47	1	1	2.43	1	1	54	48	57	52	29	30	55	58	83	49	53	53
484	1	2.50	1	1	2.45	1	1	66	43	99	95	41	72	88	52	77	93	86	86
485	1	2.17	1	1	2.45	1	1	58	60	63	52	82	72	80	52	30	40	56	77
486	1	2.12	1	1	2.48	1	1	96	93	99	31	73	72	47	80	15	49	77	64
487	1	2.60	1	1	2.50	1	1	62	57	71	15	64	35	13	69	93	63	8	22
488	1	2.24	1	1	2.50	1	1	50	30	51	80	22	89	1	34	77	96	4	12
489	1	2.33	1	1	2.52	1	1	47	37	71	99	50	89	38	30	64	67	39	83
490	1	3.27	1	1	2.54	1	1	86	83	81	80	92	99	83	92	80	81	70	61
491	1	3.00	1	1	2.59	1	1	91	86	99	80	82	83	71	64	57	90	77	90
492	1	2.13	1	1	2.59	1	1	99	96	99	40	64	60	11	84	86	95	92	61
493	1	2.79	1	1	2.59	1	1	62	60	81	57	82	50	63	46	23	49	19	74
494	1	2.20	1	1	2.61	1	1	17	16	28	15	8	60	51	58	80	36	1	61
495	1	2.50	1	1	2.62	1	1	73	34	81	69	5	72	47	99	4	81	53	10
496	1	2.47	1	1	2.63	1	1	76	66	39	63	41	78	20	46	26	87	26	19
497	1	2.47	1	1	2.63	1	0	58	66	44	57	85	83	63	52	53	49	29	86
498	1	3.14	1	1	2.66	1	1	69	46	71	80	37	30	5	75	97	99	56	49
499	1	2.79	1	1	2.69	1	1	39	48	51	57	16	89	35	34	30	6	26	25
500	1	3.29	1	1	2.69	1	1	36	24	57	63	37	45	80	52	91	72	39	35
501	1	2.60	1	1	2.70	1	1	62	73	14	69	64	78	43	52	99	76	97	88
502	1	2.61	1	1	2.70	1	1	83	73	71	90	92	83	74	80	64	96	60	92
503	1	2.87	1	1	2.73	1	0	83	73	71	80	59	78	74	89	97	90	63	80
504	1	3.21	1	1	2.74	1	1	62	54	63	63	77	60	43	58	80	90	22	77
505	1	3.14	1	1	2.76	1	0	76	66	63	95	64	89	77	69	93	87	73	77
506	1	3.36	1	1	2.76	1	0	80	76	81	63	73	83	83	96	64	72	73	88
507	1	2.73	1	1	2.77	1	1	66	63	81	40	64	40	55	58	41	54	32	61
508	1	3.20	1	1	2.79	1	1	86	79	99	90	99	94	92	92	71	95	96	97
509	1	2.72	1	1	2.79	1	1	73	60	99	99	73	83	74	80	94	87	90	95
510	1	2.73	1	1	2.79	1	0	33	23	51	57	41	45	38	46	64	76	29	71
511	1	3.21	1	1	2.79	1	1	66	54	99	75	82	89	59	80	57	84	19	92
512	1	3.00	1	1	2.79	1	1	69	63	81	80	92	60	43	52	57	84	49	74
513	1	2.91	1	1	2.80	1	1	30	21	63	52	59	55	27	30	94	63	60	88
514	1	3.00	1	1	2.84	1	1	91	90	57	69	59	72	85	75	71	76	63	83
515	1	2.67	1	1	2.85	1	1	88	66	81	52	3	45	11	89	94	96	98	98
516	1	3.14	1	1	2.86	1	1	73	73	44	46	68	60	17	64	53	67	42	92
517	1	3.29	1	1	2.86	1	1	86	76	63	40	2	60	47	52	74	45	90	95
518	1	2.74	1	1	2.87	1	1	43	23	99	85	46	66	71	84	74	90	67	71

519	1	3.00	1	1	2.88	1	1	47	28	51	57	37	55	23	34	60	93	14	42
520	1	2.83	1	1	2.90	1	1	76	63	99	80	97	94	92	80	17	87	53	97
521	1	3.20	1	1	2.90	1	1	86	76	81	46	64	30	83	69	37	84	67	93
522	1	2.79	1	1	2.90	1	0	76	66	99	99	99	99	98	92	93	93	49	95
523	1	3.19	1	1	2.93	1	1	80	76	81	90	92	94	93	96	60	87	77	95
524	1	3.36	1	1	2.93	1	1	58	48	99	99	99	83	90	80	96	87	88	92
525	1	3.00	1	1	2.96	1	1	62	60	31	31	33	35	15	64	1	14	11	46
526	1	2.92	1	1	2.96	1	1	62	51	71	95	77	94	88	80	86	87	67	80
527	1	3.12	1	1	2.97	1	0	88	83	81	80	89	60	85	64	53	81	63	49
528	1	3.36	1	1	2.97	1	1	66	66	81	85	77	66	51	52	60	45	77	77
529	1	2.73	1	1	2.97	1	1	86	83	81	85	85	89	80	89	97	67	73	92
530	1	3.00	1	1	3.00	1	1	80	76	99	95	97	99	96	64	77	84	90	99
531	1	3.27	1	1	3.00	1	1	73	63	71	85	85	89	93	96	68	95	46	80
532	1	3.73	1	1	3.00	1	1	62	43	99	85	68	89	20	92	71	95	32	92
533	1	3.18	1	1	3.00	1	1	62	51	99	69	64	89	47	46	68	81	56	74
534	1	3.21	1	1	3.00	1	1	47	48	44	35	46	35	27	46	64	45	67	46
535	1	3.06	1	1	3.03	1	1	88	86	99	90	92	83	23	58	74	72	88	88
536	1	2.87	1	1	3.03	1	1	62	69	31	69	68	66	51	58	64	58	77	99
537	1	3.27	1	1	3.03	1	0	98	96	81	95	95	99	96	99	96	93	83	99
538	1	2.60	1	1	3.03	1	1	99	99	81	85	92	89	90	96	30	93	94	88
539	1	2.67	1	1	3.04	1	1	73	79	99	52	89	78	88	21	60	32	63	86
540	1	3.29	1	1	3.04	1	1	27	43	5	15	3	12	9	30	41	36	83	53
541	1	2.56	1	1	3.05	1	1	95	93	71	46	82	55	74	80	68	84	83	92
542	1	3.39	1	1	3.06	1	1	58	34	99	75	77	45	59	84	99	99	39	74
543	1	3.38	1	1	3.06	1	0	58	60	71	63	99	66	63	34	15	40	63	49
544	1	3.42	1	1	3.07	1	1	73	60	63	69	59	66	88	69	80	90	39	90
545	1	3.21	1	1	3.07	1	1	73	83	12	35	37	60	13	69	11	36	29	88
546	1	3.56	1	1	3.08	1	1	69	69	57	85	82	45	59	25	80	72	86	42
547	1	3.14	1	1	3.08	1	1	88	83	57	35	37	60	67	34	17	58	88	83
548	1	2.87	1	1	3.10	1	0	76	79	57	31	77	40	43	25	37	40	29	83
549	1	3.47	1	1	3.13	1	1	76	63	99	75	85	66	83	84	86	96	92	97
550	1	3.47	1	1	3.13	1	1	73	66	99	75	68	72	15	80	77	72	73	83
551	1	2.94	1	1	3.15	1	1	95	93	81	85	92	78	71	99	41	90	63	68
552	1	3.29	1	1	3.16	1	1	83	79	99	69	97	89	88	34	83	87	80	74
553	1	3.13	1	1	3.16	1	1	86	90	57	57	77	50	31	58	71	40	67	74
554	1	2.53	1	1	3.17	1	1	83	79	81	99	59	45	90	84	53	72	99	93
555	1	3.36	1	1	3.17	1	1	66	51	99	63	85	99	93	96	77	90	22	97
556	1	3.44	1	1	3.19	1	0	83	76	99	95	97	89	71	75	64	84	77	92
557	1	3.18	1	1	3.19	1	1	83	76	99	99	99	99	99	96	53	95	90	99
558	1	3.21	1	1	3.19	1	1	91	86	63	99	99	94	96	96	89	93	94	99
559	1	3.36	1	1	3.21	1	1	95	90	57	90	73	94	51	89	77	98	90	61

560	1	2.78	1	1	3.22	1	1	80	90	28	63	89	83	1	75	49	54	42	10
561	1	3.18	1	1	3.22	1	1	66	57	99	63	97	72	71	92	89	87	42	74
562	1	3.19	1	1	3.28	1	1	86	83	81	90	97	99	92	99	68	90	80	93
563	1	3.57	1	1	3.28	1	1	22	43	8	15	19	30	3	10	41	25	29	35
564	1	3.14	1	1	3.28	1	1	73	66	63	95	46	89	97	75	49	72	73	77
565	1	3.15	1	1	3.29	1	1	83	76	57	35	46	60	59	75	15	63	53	57
566	1	3.21	1	1	3.29	1	1	73	66	71	57	68	78	71	69	17	63	56	31
567	1	3.42	1	1	3.29	1	1	69	66	71	31	68	72	63	25	20	49	6	68
568	1	3.27	1	1	3.30	1	1	95	93	71	85	82	94	88	92	41	81	92	77
569	1	3.14	1	1	3.31	1	1	76	66	99	99	99	99	38	96	64	93	46	28
570	1	2.94	1	1	3.32	1	1	93	90	81	95	99	94	95	99	64	93	92	97
571	1	3.67	1	1	3.32	1	0	86	86	57	85	77	94	51	46	34	72	83	57
572	1	3.79	1	1	3.34	1	1	88	79	99	90	95	94	55	21	89	98	88	93
573	1	3.50	1	1	3.34	1	1	96	96	71	99	95	83	92	96	64	84	94	97
574	1	3.93	1	1	3.35	1	1	93	93	57	90	59	89	74	34	71	67	80	68
575	1	3.33	1	1	3.37	1	1	30	37	31	5	33	14	31	34	41	28	8	71
576	1	3.14	1	1	3.38	1	1	66	60	63	85	82	99	77	89	74	84	22	83
577	1	3.60	1	1	3.39	1	1	66	63	81	57	59	60	85	80	68	49	49	71
578	1	3.27	1	1	3.39	1	1	91	90	39	80	73	89	67	84	41	84	67	64
579	1	3.43	1	1	3.39	1	1	76	73	71	69	68	55	71	80	74	76	73	68
580	1	3.25	1	1	3.40	1	1	91	90	57	15	50	35	55	58	15	40	53	74
581	1	3.53	1	1	3.41	1	1	99	99	71	80	89	83	77	64	20	67	42	61
582	1	3.53	1	1	3.41	1	1	66	79	63	15	68	35	59	34	30	9	70	53
583	1	3.43	1	1	3.41	1	0	76	73	71	35	64	60	43	58	86	67	56	77
584	1	2.79	1	1	3.41	1	1	95	90	81	99	92	99	83	92	68	95	92	86
585	1	3.21	1	1	3.42	1	1	39	48	14	35	37	40	80	40	2	14	53	25
586	1	3.57	1	1	3.44	1	1	93	83	99	99	82	94	74	84	93	99	99	86
587	1	3.47	1	1	3.46	1	1	83	76	63	52	33	66	80	96	68	76	67	71
588	1	3.36	1	1	3.48	1	1	43	66	39	80	95	89	67	46	57	19	39	57
589	1	3.45	1	1	3.48	1	1	80	83	51	40	54	30	27	52	80	58	77	57
590	1	3.40	1	1	3.50	1	1	83	79	25	46	73	78	77	89	4	76	26	46
591	1	3.47	1	1	3.52	1	1	43	48	28	31	50	45	67	75	77	63	46	74
592	1	3.73	1	1	3.54	1	1	76	76	71	75	92	78	38	69	53	72	67	90
593	1	3.62	1	1	3.54	1	1	93	93	99	75	95	72	74	64	89	81	92	83
594	1	3.60	1	1	3.55	1	1	76	66	99	95	73	89	38	89	83	90	77	53
595	1	3.76	1	1	3.56	1	1	95	93	63	31	41	55	35	40	20	36	73	49
596	1	3.73	1	1	3.56	1	1	27	24	31	22	59	50	43	46	17	58	10	57
597	1	3.79	1	1	3.57	1	1	93	86	81	35	59	22	20	75	23	87	49	12
598	1	3.47	1	1	3.57	1	1	62	63	44	57	68	72	71	34	80	58	63	92
599	1	3.79	1	1	3.57	1	1	80	76	99	52	97	89	88	92	71	84	29	46
600	1	3.69	1	1	3.59	1	1	93	90	99	85	97	99	74	64	30	67	77	90

601	1	3.75	1	1	3.61	1	1	98	96	99	99	92	99	93	99	68	84	99	99
602	1	3.75	1	1	3.61	1	1	99	99	71	85	89	89	85	89	23	67	67	57
603	1	3.38	1	1	3.61	1	1	99	96	99	85	97	83	92	89	96	87	96	88
604	1	3.17	1	1	3.62	1	1	83	73	99	90	77	89	63	64	99	93	98	71
605	1	3.13	1	1	3.62	1	1	88	69	71	99	8	99	92	75	99	95	96	95
606	1	3.21	1	1	3.62	1	1	80	76	44	99	97	83	80	92	91	95	97	74
607	1	3.73	1	1	3.63	1	1	91	93	99	99	99	99	99	96	37	63	80	83
608	1	3.79	1	1	3.63	1	1	99	99	81	95	97	99	93	92	91	96	94	96
609	1	3.61	1	1	3.63	1	1	83	79	51	63	46	66	63	75	68	67	46	88
610	1	4.00	1	1	3.64	1	1	95	90	81	85	50	60	77	92	68	84	86	49
611	1	4.00	1	1	3.64	1	1	96	93	99	95	99	94	90	96	34	95	92	99
612	1	4.00	1	1	3.65	1	1	88	90	81	75	92	83	63	34	77	58	88	97
613	1	3.53	1	1	3.68	1	1	88	90	35	7	29	30	43	40	53	63	39	25
614	1	3.79	1	1	3.69	1	1	95	96	99	57	89	89	77	89	91	67	83	46
615	1	3.43	1	1	3.71	1	1	86	83	51	75	77	55	83	75	71	90	92	99
616	1	4.00	1	1	3.71	1	1	80	79	31	52	64	60	35	84	89	95	35	57
617	1	4.00	1	1	3.71	1	1	99	99	99	75	73	72	77	80	86	58	97	88
618	1	3.82	1	1	3.71	1	1	93	90	99	95	97	94	88	96	80	93	70	99
619	1	3.76	1	1	3.72	1	1	95	90	81	99	89	99	98	96	83	90	96	98
620	1	3.56	1	1	3.76	1	1	95	99	20	46	33	40	55	75	71	54	53	53
621	1	3.87	1	1	3.77	1	1	96	93	63	57	29	50	35	64	77	76	86	80
622	1	3.71	1	1	3.77	1	1	69	79	35	31	77	72	31	96	37	36	49	57
623	1	4.00	1	1	3.78	1	1	39	21	99	90	41	45	92	69	97	67	63	99
624	1	3.75	1	1	3.78	1	1	88	90	71	40	68	50	38	30	45	49	80	57
625	1	3.81	1	1	3.79	1	1	76	76	99	95	77	99	92	99	91	58	83	97
626	1	3.53	1	1	3.79	1	1	91	90	99	90	97	99	63	99	71	84	90	96
627	1	3.73	1	1	3.79	1	1	73	63	71	95	77	89	97	75	94	93	90	92
628	1	3.73	1	1	3.79	1	1	96	93	99	57	89	60	59	80	94	76	83	90
629	1	3.79	1	1	3.80	1	1	98	96	99	90	99	83	90	99	89	96	90	74
630	1	4.00	1	1	3.81	1	0	88	86	81	90	89	72	77	52	23	63	67	49
631	1	3.84	1	1	3.81	1	1	93	90	99	80	95	72	80	52	37	72	92	96
632	1	4.00	1	1	3.81	1	1	86	90	71	46	97	78	55	92	17	22	56	49
633	1	3.81	1	1	3.82	1	1	99	99	99	99	95	94	90	99	91	95	99	99
634	1	3.82	1	1	3.82	1	1	88	90	63	95	95	89	95	84	71	72	73	86
635	1	4.00	1	1	3.87	1	1	98	99	63	22	64	19	67	34	30	32	88	64
636	1	4.00	1	1	3.87	1	1	99	99	99	40	92	66	51	40	13	54	94	68
637	1	3.79	1	1	3.90	1	1	73	60	71	95	54	83	47	92	71	87	83	96
638	1	4.00	1	1	3.90	1	1	99	99	81	85	97	89	59	80	13	45	98	93
639	1	3.79	1	1	3.90	1	1	98	96	71	57	64	72	20	52	64	76	88	74
640	1	4.00	1	1	3.90	1	1	91	90	99	80	99	78	85	64	71	81	73	71
641	1	4.00	1	1	3.91	1	1	83	90	81	63	82	94	51	75	80	16	88	96

642	1	4.00	1	1	3.91	1	1	99	99	81	95	89	83	88	80	94	99	80	98
643	1	3.75	1	1	3.91	1	1	98	99	63	95	82	72	88	69	80	84	99	64
644	1	4.00	1	1	3.91	1	1	99	99	71	69	95	55	80	69	49	54	92	93
645	1	4.00	1	1	3.91	1	1	99	99	81	90	97	99	85	99	45	93	77	74
646	1	4.00	1	1	3.92	1	1	99	99	99	95	99	99	97	99	68	95	92	99
647	1	4.00	1	1	4.00	1	0	93	90	71	18	85	66	71	84	60	96	53	53
648	1	4.00	1	1	4.00	1	1	99	99	81	95	97	89	95	58	77	90	77	80
649	1	4.00	1	1	4.00	1	1	91	93	63	46	85	60	31	52	37	40	77	35
650	1	4.00	1	1	4.00	1	1	98	99	57	85	95	89	74	64	41	72	88	83
651	1	4.00	1	1	4.00	1	1	99	99	51	69	89	66	23	52	41	76	88	83
652	1	4.00	1	1	4.00	1	1	88	90	99	99	97	94	83	92	89	45	96	99
653	1	4.00	1	1	4.00	1	1	95	93	81	99	95	83	88	84	80	84	90	77
654	1	4.00	1	1	4.00	1	1	99	99	99	90	97	94	47	64	91	45	98	71
655	1	4.00	1	1	4.00	1	1	99	99	99	99	95	94	95	89	71	96	98	77
656	1	4.00	1	1	4.00	1	1	98	99	35	31	95	94	92	40	11	4	98	71
657	0	1.79	1	0	1.79	0	0	66	60	63	40	64	45	38	46	60	63	63	68
658	0	0.27	1	0	0.27	0	0	22	11	18	35	8	26	43	92	96	95	90	46
659	0	0.58	1	0	0.58	0	0	69	63	35	75	33	55	43	69	93	90	96	77
660	0	0.60	1	0	0.60	0	0	47	37	44	35	13	17	23	52	80	63	83	61
661	1	3.75	1	1	3.75	0	0	91	86	99	85	95	83	71	99	49	84	77	97
662	1	3.57	1	1	3.57	0	0	54	43	71	75	46	78	85	80	49	63	46	53
663	1	2.55	1	1	2.55	0	0	54	37	81	95	29	83	38	52	93	72	86	28
664	1	3.14	1	1	3.14	0	0	76	73	99	95	99	66	80	92	23	72	94	98
665	1	2.13	1	1	2.13	0	0	43	41	51	69	37	60	17	34	77	58	60	92
666	1	2.83	0	1	2.83	0	0	88	83	71	57	73	83	51	69	34	81	35	80
667	1	3.72	1	1	3.72	0	0	95	96	81	63	95	78	47	40	60	49	73	83
668	0	1.14	1	0	1.14	0	0	80	73	35	26	9	22	31	46	60	72	77	49
669	1	3.65	1	1	3.65	0	0	80	86	25	40	59	35	31	40	53	54	77	64
670	0	0.00	1	0	0.00	0	0	83	76	99	99	95	94	4	75	99	84	99	98

2010 cohort data

Student	F1Acad Success	F07CumGPA	Fall semester complete	S2Acad Success	S08CumGPA	Spring semester complete	S3 Complete	Retention Index	Academic Success Index	Commitment to College	Goal Striving	Academic Discipline	General Determination	Study Skills	Communication Skills	Social Activity	Social Connection	Academic Self-Confidence	Steadiness
671	1	4	1	0	1	1	1	99	99	99	85	99	89	97	52	94	84	98	98
672	0	1.9	1	0	1.03	1	0	88	79	99	63	97	99	95	89	60	96	77	77
673	0	1.8	1	0	1.16	1	0	69	48	81	85	46	99	38	96	91	96	90	71
674	0	1.4	1	0	1.23	1	0	62	46	99	75	46	72	77	75	34	72	46	93
675	0	1.4	1	0	1.61	1	0	54	60	25	35	46	50	51	25	64	58	49	77
676	0	1.1	1	0	1.76	1	1	39	51	31	31	54	50	63	25	30	25	26	35
677	0	1.9	1	0	1.77	1	0	58	60	20	26	13	50	11	15	77	63	3	2
678	1	2.3	1	0	1.79	1	1	36	32	44	69	29	22	51	52	77	49	60	86
679	0	0.6	1	0	1.81	1	0	93	90	63	95	92	94	98	89	41	95	80	68
680	1	2.3	1	1	2.03	1	1	83	79	81	80	89	94	83	96	64	84	53	96
681	0	1.9	.	1	2.08	.	.	54	43	99	69	68	78	63	75	20	45	53	61
682	0	1.4	.	1	2.11	.	1	58	41	57	80	59	83	63	69	86	98	42	86
683	1	2.4	1	1	2.13	1	1	73	63	63	95	68	89	80	92	74	87	77	90
684	1	2.1	1	1	2.17	1	1	96	96	71	35	50	50	3	58	20	45	90	17
685	1	2.9	1	1	2.17	1	0	73	69	99	90	92	55	51	30	41	58	88	88
686	1	2.3	1	1	2.19	1	1	17	7	81	52	22	40	77	69	89	54	42	83
687	1	2.9	1	1	2.32	1	1	93	93	99	85	97	89	20	52	11	36	73	53
688	0	1.9	1	1	2.34	1	0	69	63	81	90	97	89	55	46	77	84	39	86
689	1	2.9	1	1	2.35	1	1	54	43	99	80	77	78	55	69	86	84	3	74
690	1	2.2	1	1	2.36	0	0	43	41	51	52	64	89	74	92	23	40	17	38
691	1	2.3	1	1	2.36	1	1	93	93	99	99	99	99	95	99	57	81	96	64
692	1	2.1	1	1	2.38	1	1	62	48	71	57	41	40	38	34	49	72	39	31
693	1	3.1	1	1	2.38	1	1	83	76	81	63	97	78	74	80	74	93	53	93
694	1	2.4	1	1	2.39	1	1	86	76	99	95	95	99	71	75	80	96	77	71
695	1	2.3	1	1	2.45	1	1	73	63	99	95	73	99	83	99	68	81	67	95
696	1	2.2	1	1	2.48	1	1	43	20	71	63	16	55	47	80	13	67	22	14
697	1	2.3	1	1	2.48	1	1	83	73	99	52	82	78	71	58	11	67	60	42
698	1	2.1	.	1	2.5	1	1	43	43	44	31	46	55	51	52	57	54	29	49
699	1	2.5	1	1	2.5	1	0	66	54	63	63	68	45	43	64	20	81	26	31
700	1	2.3	1	1	2.5	1	1	69	69	51	80	85	66	51	46	71	84	67	88
701	1	3.1	1	1	2.5	1	0	88	83	99	90	73	89	63	25	83	87	90	25
702	0	1.8	1	1	2.5	1	1	43	39	51	26	54	22	51	40	57	58	22	57

703	1	2.8	1	1	2.52	1	1	30	10	44	13	11	40	13	30	80	96	14	5
704	1	3.1	1	1	2.54	1	0	83	76	99	80	92	94	63	75	77	84	73	35
705	1	2.9	1	1	2.55	1	0	83	73	81	69	68	99	13	80	74	90	29	97
706	1	2.3	1	1	2.59	1	1	95	93	51	99	85	89	92	89	71	90	56	90
707	0	1.4	1	1	2.61	1	1	73	63	71	40	22	40	88	40	71	72	56	9
708	1	2.7	1	1	2.65	1	1	11	6	99	75	50	89	38	46	34	25	92	74
709	1	2.5	1	1	2.65	1	1	80	76	81	90	95	99	77	84	99	76	77	90
710	1	3.1	1	1	2.65	1	0	36	43	44	90	41	89	85	46	77	32	63	83
711	1	2.5	1	1	2.68	1	1	50	14	99	90	6	89	63	92	93	99	77	90
712	0	1.5	1	1	2.7	1	0	86	76	81	90	64	99	88	89	23	87	42	83
713	1	2.1	1	1	2.71	1	1	83	69	81	90	77	89	6	99	74	98	49	68
714	1	3.1	1	1	2.71	1	0	17	8	57	22	16	26	6	46	86	58	5	46
715	1	3	1	1	2.74	1	1	62	57	99	85	68	66	47	17	77	49	56	86
716	1	2.6	1	1	2.74	1	1	88	83	71	85	97	94	96	96	23	90	83	71
717	1	3.3	1	1	2.74	1	1	76	57	71	80	59	83	88	99	97	99	56	98
718	1	2.5	1	1	2.75	1	0	17	7	71	9	8	26	51	92	26	40	5	53
719	1	2.7	1	1	2.79	1	1	76	57	71	80	50	83	77	75	91	96	70	86
720	1	2.5	.	1	2.8	1	.	62	60	63	52	68	55	23	46	91	54	49	77
721	1	2.7	1	1	2.8	1	1	80	76	71	75	73	66	90	46	37	72	39	64
722	1	3	1	1	2.82	1	1	93	96	63	80	89	94	85	58	30	25	77	80
723	1	3.3	1	1	2.88	1	1	96	93	99	63	54	60	74	5	30	72	83	6
724	1	2.6	1	1	2.89	1	1	80	73	99	99	97	83	74	80	99	93	88	98
725	1	2.7	1	1	2.89	1	1	91	90	44	85	82	99	43	84	71	84	53	31
726	1	2.5	1	1	2.89	1	1	91	90	99	85	64	78	90	34	57	40	96	61
727	1	2.5	1	1	2.9	1	1	86	86	99	90	95	99	59	69	20	45	46	80
728	1	2.6	1	1	2.9	1	1	80	66	99	75	68	55	43	40	77	93	56	74
729	1	3.1	1	1	2.93	1	1	95	93	57	85	73	89	93	92	60	93	96	83
730	1	3	1	1	2.93	1	1	66	63	99	95	82	78	43	52	45	54	56	86
731	1	2.9	1	1	2.93	1	1	76	69	71	75	41	55	35	75	89	72	53	61
732	1	3.1	1	1	2.94	1	.	62	51	63	63	64	78	67	80	68	90	46	68
733	1	2.8	1	1	2.96	1	1	69	63	99	99	99	99	96	99	86	84	96	99
734	1	3.1	1	1	2.96	1	1	83	86	51	85	92	83	80	40	86	81	92	22
735	1	3.4	1	1	3	1	1	76	69	81	63	97	94	85	69	41	84	26	12
736	1	3.4	1	1	3	1	1	91	83	99	90	95	99	88	75	86	98	80	53
737	1	2.6	1	1	3	1	1	47	51	63	69	89	30	35	40	89	49	22	86
738	1	3.6	1	1	3	1	0	95	96	81	69	68	35	31	40	34	19	96	93
739	1	2.3	1	1	3	1	1	73	63	57	85	59	78	96	89	23	81	39	95
740	1	2.8	1	1	3	1	1	76	63	99	85	50	66	23	96	77	84	70	90
741	1	2.4	1	1	3.03	1	1	69	73	28	26	16	14	5	75	23	40	56	77
742	1	3.3	1	1	3.04	1	1	76	73	51	63	73	83	74	80	41	81	63	80
743	1	2.8	1	1	3.06	1	1	66	54	81	75	82	78	85	84	60	84	19	96

744	1	3	1	1	3.1	1	1	50	37	63	52	46	40	17	30	77	84	73	71
745	1	3.3	1	1	3.1	1	1	93	90	81	80	95	89	51	34	80	87	73	57
746	1	2.8	1	1	3.1	1	1	83	73	81	35	54	45	38	69	34	76	70	49
747	1	2.7	1	1	3.11	1	1	88	90	99	52	99	99	83	75	68	40	90	64
748	1	3.3	1	1	3.13	1	1	86	83	81	35	82	40	35	40	68	76	53	31
749	1	3.1	1	1	3.13	1	1	86	79	81	85	95	99	59	89	71	96	77	90
750	1	3.1	1	1	3.16	1	1	80	69	99	99	99	99	98	99	80	99	86	86
751	1	3.4	1	1	3.17	1	1	96	96	63	46	33	35	59	58	64	76	90	74
752	1	3.2	1	1	3.19	1	1	80	79	39	63	89	89	83	89	80	84	32	53
753	1	3.1	1	1	3.23	1	1	91	76	99	95	37	94	38	80	99	98	88	86
754	1	3.1	1	1	3.23	1	1	47	51	71	15	77	72	31	8	9	14	10	35
755	1	3.1	1	1	3.24	1	1	76	69	99	90	97	83	85	80	99	84	83	95
756	1	3.3	1	1	3.24	1	1	76	73	57	57	37	72	31	15	60	54	46	31
757	1	3.2	1	1	3.24	1	1	80	76	99	57	85	72	67	58	17	54	73	90
758	1	3.3	1	1	3.25	1	1	88	83	99	85	85	66	63	92	83	93	88	97
759	1	3.1	1	1	3.25	1	1	96	96	81	85	82	99	88	96	26	72	92	83
760	1	3.5	1	1	3.27	1	0	86	79	99	85	89	94	67	89	80	87	80	68
761	1	3.8	1	1	3.28	1	1	80	76	44	80	50	89	35	75	94	76	42	14
762	1	3.1	.	1	3.28	.	1	86	76	99	85	95	99	90	92	57	95	32	31
763	1	3.4	1	1	3.29	1	1	47	30	63	95	50	83	80	92	89	90	29	64
764	1	3	1	1	3.31	1	1	95	93	71	80	73	83	15	69	60	87	73	35
765	1	3.8	1	1	3.38	1	1	80	69	99	85	82	99	71	96	86	90	73	90
766	1	3	1	1	3.45	1	1	86	76	63	75	16	89	55	69	37	81	98	38
767	1	3.3	1	1	3.45	1	1	91	90	63	31	82	50	20	15	71	67	70	77
768	1	3.3	1	1	3.45	1	1	88	86	99	69	97	45	93	92	68	84	86	86
769	1	3.3	1	1	3.45	1	1	91	90	63	85	82	66	59	52	45	72	88	88
770	1	3.5	1	1	3.46	1	1	91	86	99	80	82	66	31	64	9	54	63	99
771	1	3.3	1	1	3.47	1	1	96	96	63	52	73	89	85	58	41	72	77	71
772	1	3	1	1	3.48	1	0	93	86	99	85	97	94	77	89	83	99	97	95
773	1	3.4	1	1	3.48	1	1	76	86	71	52	89	99	71	64	3	3	67	93
774	1	3.4	1	1	3.48	1	1	76	73	71	85	97	99	80	69	49	81	56	77
775	1	3.4	1	1	3.52	1	1	88	83	99	80	85	89	80	99	93	84	70	95
776	1	3.4	1	1	3.52	1	1	98	96	57	52	73	78	38	84	45	76	53	71
777	1	4	1	1	3.52	1	.	62	57	63	85	82	83	38	34	34	67	46	19
778	1	3	1	1	3.57	1	1	73	57	99	90	82	99	98	99	77	95	49	92
779	1	4	1	1	3.6	1	1	80	69	71	40	50	55	43	84	45	90	60	64
780	1	3.8	1	1	3.6	1	1	99	99	99	85	92	72	74	96	45	90	88	88
781	1	3.8	1	1	3.66	1	1	93	93	99	99	97	94	98	89	80	72	88	92
782	1	4	1	1	3.71	1	1	88	86	99	31	92	94	93	52	68	72	77	9
783	1	3.5	1	1	3.75	1	1	98	99	63	63	92	83	77	58	68	81	88	83
784	1	4	1	1	3.77	1	1	83	79	99	85	95	89	85	96	96	76	92	98

785	1	3.8	1	1	3.77	1	1	99	99	99	80	77	89	85	64	71	90	98	61
786	1	3.8	1	1	3.78	1	1	88	90	63	90	97	89	92	64	57	58	90	93
787	1	3.8	1	1	3.78	1	1	91	90	81	69	95	99	74	64	26	72	60	83
788	1	3.8	1	1	3.79	1	1	93	93	81	85	97	99	59	64	77	87	88	92
789	1	4	1	1	3.79	1	1	93	90	99	90	46	83	77	64	71	81	94	71
790	1	4	1	1	3.8	1	1	66	73	71	63	92	89	77	40	34	28	70	93
791	1	4	1	1	3.81	1	1	88	90	51	63	77	72	85	89	34	67	53	57
792	1	3.8	1	1	3.81	1	1	95	93	99	99	99	83	71	58	49	72	92	88
793	1	4	1	1	3.82	1	1	80	73	81	75	85	89	63	80	94	87	70	93
794	1	3.7	1	1	3.86	1	1	96	96	81	90	95	89	93	84	57	95	77	71
795	1	4	1	1	3.9	1	1	98	96	99	90	97	78	55	64	57	76	90	68
796	1	3.6	1	1	3.9	1	1	54	48	51	46	59	78	67	40	86	72	10	46
797	1	3.8	1	1	3.9	1	1	69	57	63	80	29	78	80	75	71	87	77	71
798	1	4	1	1	3.91	1	1	99	99	81	69	95	83	93	69	68	76	70	95
799	1	4	1	1	4	1	1	99	99	81	99	77	99	88	89	60	81	97	83
800	1	4	1	1	4	1	1	99	99	71	75	77	99	17	92	86	72	83	31
801	1	4	1	1	4	1	1	99	99	99	95	99	99	99	99	68	96	97	61
802	1	4	1	1	4	1	1	91	90	81	90	85	89	27	84	71	84	96	80
803	1	4	1	1	4	1	1	98	96	81	63	64	66	74	80	64	76	77	71
804	1	4	1	1	4	1	1	99	99	39	31	73	40	51	52	23	45	86	92
805	1	4	1	1	4	1	1	98	96	99	75	82	94	90	84	41	84	60	61
806	1	4	1	1	4	1	1	99	99	99	99	97	99	90	92	53	93	96	12
807	1	4	1	1	4	1	1	98	96	99	95	97	94	59	99	77	93	94	93
808	1	4	1	1	4	1	1	96	93	99	85	95	72	59	58	96	95	97	96
810	1	4	1	1	4	1	1	98	96	99	63	68	72	67	80	86	84	97	97
811	1	4	1	1	4	1	1	99	99	39	52	92	78	90	75	4	19	86	86
812	1	3.3	1	1	3.31	0	0	69	63	63	85	82	55	63	64	64	87	29	90
813	0	0.3	1	0	0.33	0	0	88	90	51	90	82	94	88	84	89	76	86	83
814	1	3.1	1	1	3.08	0	0	80	73	63	46	41	78	74	58	45	81	17	31
815	0	1.3	1	0	1.27	0	0	73	66	99	63	73	89	55	75	86	76	60	71
816	1	2.7	1	1	2.71	0	0	66	60	57	90	85	72	83	75	93	84	42	49
817	0	1.1	1	0	1.07	0	0	62	48	81	40	41	30	17	15	4	22	46	57
818	1	2.1	1	1	2.08	0	0	27	34	25	40	54	50	63	40	45	45	56	57
819	0	0	0	0	0	0	0	88	86	44	99	68	94	80	89	34	81	88	28
820	0	0.2	1	0	0.2	0	0	50	26	99	69	50	60	55	96	93	95	67	86
821	0	0	1	0	0	0	0	76	69	81	52	77	89	7	34	80	81	60	49
822	1	3.5	1	1	3.54	0	0	83	76	99	99	82	99	59	58	86	76	99	88
823	1	2.7	1	1	2.7	0	0	88	83	71	90	92	83	35	84	68	93	67	38
824	1	2.7	1	1	2.69	0	0	50	46	51	63	41	55	6	12	68	58	53	77
825	1	2.5	1	1	2.54	0	0	54	34	81	85	77	94	95	89	91	96	63	83
826	0	0.1	1	0	0.1	0	0	50	34	99	63	64	66	43	64	91	84	42	92

827	0	0.3	1	0	0.27	0	0	98	99	39	52	54	45	88	80	77	81	83	93
828	0	0	1	0	0	0	0	54	32	81	90	46	94	88	75	74	96	6	95
829	1	3.1	1	1	3.08	0	0	80	66	99	90	97	72	95	96	64	99	92	86