

TUSCULUM COLLEGE'S BLOCK CALENDAR SYSTEM:

*Analysis of the Impact of the Block Calendar System
on Retention of First-Year Tusculum College Students*

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EXECUTIVE SUMMARY

The following project was developed in response to a request by Tusculum College for data and analysis of its block calendar system. The block system is a unique calendar system utilized by only four institutions in the United States. It consists of a focused calendar where students take one class at a time rather than 4-6 academic courses concurrently. Students attend one course for 3-4 hours per day for 18 consecutive days.

When Tusculum adopted the block calendar system in 1992, this system became a defining component of institutional strategy. As such, it represents a significant strategic investment by the institution and is perceived to be a competitive advantage for institutional recruitment.

Institutional administrators are concerned, however, that the block calendar system may negatively impact student retention. Like most other postsecondary institutions, Tusculum monitors student retention carefully, as it provides both a barometer for student welfare and a tool for institutional management. Initial data collected by Tusculum does, in fact, indicate the block calendar system is problematic for some students. The present project provides a more complete analysis of whether and to what extent the block calendar system negatively impacts student retention at Tusculum College.

Multiple linear regression analysis using 2007 IPEDS data indicates Tusculum College's first-year retention rate is, in fact, lower than its Carnegie peers. However, the research offers no evidence the difference is attributable to the block calendar system. A second regression analysis, which included all United States institutions utilizing a block calendar, offers the same results.

Thereafter, the project team administered an original survey to freshman students at Tusculum to ascertain whether dissatisfaction with the block calendar system impacted student retention decisions over and above demographic variables and a set of constructs identified by Braxton, Hirschy, and McClendon (2004). Data from the survey, for which responses were received from 72.88 percent of the institutions' 316 freshman students, indicate dissatisfaction with the block calendar system is significantly, although weakly, correlates with their withdrawal decisions. An additional analysis suggests student satisfaction with the manner in which the block calendar structures their social lives is significantly and moderately correlated with social integration.

Given the findings from this research, the project team offers a series of recommendations related to Tusculum College's level of institutional selectivity, enrollment management practices, freshman orientation program, integrated first year activities, and organizational behavior. Additionally, the team suggests using qualitative research methods to probe findings from the survey research. While this project utilized a model proposed by Braxton, Hirschy, and McClendon (2004), the team recommends further study utilizing Bean's student attrition model (1990).

TABLE OF CONTENTS

I.	Definition of the Problem	1
II.	Project Question One	5
	a. The Identification of Factors That Influence Student Retention: A Review of Pertinent Literature.	5
	b. Data Analysis and Findings	9
	i. Variables	
	ii. Methodology	
	iii. Results	
	c. Further Analysis: Addition of Other Institutions with Block Schedules	17
	d. Discussion	20
III.	Project Question Two	21
	a. Literature Pertinent to Project Question Two	21
	b. Data Analysis and Findings	24
	i. Survey Design	
	ii. Rationale for Selected Variables	
	iii. Results	
	c. Secondary Analysis	40
	d. Discussion	42
IV.	Conclusions	44
V.	Recommendations	45
VI.	References	54
VII.	Appendices	58

DEFINITION OF THE PROBLEM

Student retention has long been a proxy for student success. It is an objective means of measuring student progress toward degree completion and is used as a barometer for post-secondary student achievement. Accordingly, there is a significant body of research that explores the many factors influencing students' decisions to remain at an institution and, ultimately, to obtain a degree from the institution. The research suggests that continuous enrollment, remaining at the initial institution, full-time attendance, and prior academic preparations are important factors related to student persistence and subsequent completion (Swail, 2004).

Institutional retention rates have emerged as a central concern for leaders of colleges and universities across the country. Declining or lower-than-expected retention rates negatively impact the stability of institutional enrollments and budgets and increase recruiting costs (Braxton, Hirschy, and McClendon, 2004; McClanahan, 2004). Conversely, the possibility of increasing rates of student retention represents an attractive opportunity to increase institutional effectiveness. The vast majority of higher education institutions work hard to retain students, and an array of research and programs support them in this endeavor.

Institutions have been particularly concerned with the rates at which they retain first-year students. Since most attrition occurs among first-year students, institutional retention rates are driven, in large part, by the experience of these students. Over the previous decade, institutions have become increasingly cognizant of particular challenges new students face in beginning their academic careers. Thus, institutions have targeted retention strategies to address both social issues related to leaving home for the first time and the academic challenges posed by the collegiate environment.

A cursory review of national data reveals that the rates at which institutions retain their students vary widely. For example, ACT reported that mean retention rates ranged from 53.7 percent among two-year public institutions to 80.6 percent among PhD-granting private institutions (2009). Likewise, mean rates of retention also varied with admission policies, ranging from 64.3 percent for institutions with liberal and open admission policies to 90.4 percent among institutions with highly selective policies (2009).

Tusculum College in Greeneville, Tennessee reported a first-year retention rate of 57 percent for academic year 2007-2008. First-year retention rates have been relatively consistent over the prior four years, ranging from 57 to 62 percent. Tusculum is interested in maximizing the rate at which it retains its first-year students. Fortunately, Tusculum administrators have accumulated a significant amount of data with which to begin piecing together the complex "student departure puzzle" (Braxton et al, 2000).

Analysis of first-year student retention at Tusculum College is made somewhat more complex by a unique academic schedule that impacts both the academic and social fabric of the Tusculum student experience. In 1992, Tusculum adopted this unique schedule, which is commonly called the “block” schedule. This innovative course schedule is utilized by only four colleges in the United States. It consists of a focused calendar where students take one class at a time rather than 4-6 academic courses concurrently. The student attends the same course for 3-4 hours per day for 18 consecutive days. Each block is the equivalent of one 4 credit hour course. Students take four course blocks per semester.

Adoption of the block calendar system was an attempt on the part of Tusculum College to establish a niche market for traditional age students, to incorporate more active learning in the classroom environment, and to provide additional opportunities for hands on learning, field trips and travel. Only two other liberal arts colleges, Colorado College in Colorado Springs, Colorado and Cornell College in Mount Vernon, Iowa, offer coursework in a block format. One public institution, the University of Montana Western in Dillon, Montana, also utilizes this format.

Institutional administrators indicated to the project team a concern that the block calendar system may negatively impact retention, although they are unsure whether and to what extent this relationship exists. In order to define the problem, the project team reviewed responses to two sets of institutionally-administered surveys. The Exit Survey asks students to identify primary and secondary factors contributing to the student’s departure decision and what motivates them to abandon their pursuit of a Tusculum College education (Tusculum College, 2006-2007, 2007-2008, 2008-2009). The Student Block System Survey explores students’ perceptions of a variety of aspects of the block system.

Exit surveys, or “autopsy studies” (Terenzini, 1982) do not provide a sufficient foundation on which to construct a retention program, as the reasons articulated by students often do not reflect the root causes of their decisions (Braxton et al, 1988). Tusculum’s Exit Survey was reviewed in order to provide a general understanding of how frequently the block calendar system was mentioned relative to other reasons for withdrawal.

According to Exit Surveys, the articulated reasons for student withdrawal are numerous and distinct. Table 1 outlines the nine reasons cited most frequently as a “major” reason for which a student withdrew. Over a three-year period from 2006 to 2009, students identified the desire to be closer to parents or loved ones (10.7 percent), lack of affordability (10.4 percent), wanting to move to a new location (8.1 percent), unavailability of desired major (5.7 percent), unexpected expenses (4.3 percent), and family responsibilities (4.2 percent) ahead of the block calendar system, which was identified by 4.1 percent of withdrawing students as a major reason for this decision. Though not cited as frequently as some other items, dissatisfaction with the block calendar system has appeared consistently on both Exit Surveys and Student Satisfaction Surveys. The regularity with which students comment on the block calendar reinforces administrators’ concerns the block may negatively impact student retention.

Additionally, administrators hypothesize that the block calendar system may be much more rigorous than a traditional schedule, particularly in math, science and foreign language courses. The level of intensity and the fast pace of the courses may be better suited to highly motivated, well-organized students with good study skills. Indeed, responses to questions such as “I would learn and retain more if most courses were taught over a longer period” and “I have difficulty remaining effectively engaged in academic instruction for a full three hour block” indicate a bimodal distribution with approximately 40 percent of respondents indicating agreement or strong agreement and the same percentage indicating disagreement or strong disagreement (Tusculum College Student Block System Survey, 2005).

Table 1. Tusculum College Exit Survey Results, 2006-2009.

Top Reason for Withdrawal	Number	Percent of Responses
Wanted to be closer to parents or loved ones	89	10.7
Tuition and fees were more than I could afford	86	10.4
Wanted to move to a new location	67	8.1
Changed to a major not offered by Tusculum	47	5.7
Encountered unexpected expenses	36	4.3
Family responsibilities were too great	35	4.2
Focused calendar/block plan	34	4.1
Health related problem	33	4.0
Athletic program did not meet my expectations	30	3.6
<hr/>		
Top nine reasons	457	55.1
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All other reasons	372	44.9
Total	829	100.0

While the block calendar system is problematic for some students, it is also perceived by students and administrators to offer a variety of benefits. Tusculum students describe these benefits as the ability to become fully immersed in a single subject, increased opportunities for hands-on experiences, personal attention from the faculty, and a singular academic focus (Tusculum College Student Block System Survey, 2005). Additionally, students on a block schedule participate in either a morning or an afternoon block. Therefore, they have the freedom to study, work on assignments, hold a job, or simply pursue other extracurricular interests including college sports for the remaining 21 hours a day.

Furthermore, administrators reported to the project team a strong perception that the block calendar system gives the college a competitive recruiting edge. Indeed, 84 percent of student respondents agreed the block system was somewhat important or very important in their decisions to attend Tusculum College (Tusculum College Student Block System Survey, 2005).

Finally, the project team recognizes that Tusculum's adoption of the block calendar system in 1992 was a defining institutional decision. As such, this calendar system represents a significant strategic investment by the institution and is perceived to be a competitive advantage for institutional recruitment.

It is beyond the scope of this project to determine whether the block calendar system impacts Tusculum's recruitment efforts and, subsequently, to provide the institution with a cost-benefit analysis of the block. Instead, the present research focuses on administrators' concerns related to the block system. The primary purpose of this project will be to determine whether and to what extent the block calendar system negatively impacts student retention at Tusculum College.

To that end, two project questions will be addressed:

- Project Question One: Is there a difference in first-year retention rates between Tusculum College and peer institutions that do not use the block calendar system? If so, can the difference be attributed to the use of the block calendar system?
- Project Question Two: What is the nature and extent of the impact of the block calendar system on student retention decisions?

It is our hope that the information gleaned from our study will be informative as the administration continues to evaluate the costs and benefits associated with the unique aspects of the block calendar system and make determinations as to the continued utility of this scheduling mechanism in its present configuration.

PROJECT QUESTION ONE

- Is there a difference in first-year retention rates between Tusculum College and peer institutions that do not use the block calendar system?
- If so, can the difference be attributed to the use of the block calendar system?

The Identification of Factors that Influence Student Retention: A Review of Pertinent Literature

It is impossible to know precisely what Tusculum College's first-year retention rate would be in the absence of the block calendar system. In order to estimate this counterfactual, the project team identified an adequate set of peer institutions. Then, the team controlled for variables known to predict institutional retention rates in order to isolate the effect of the block calendar system.

The following studies were consulted to inform the selection of peer institutions and to determine which variables will be held constant in the present study. Table 2 highlights this research as it applies to the present project.

In 1975, Astin used students' first-semester grade point averages to calculate expected institutional dropout rates for 358 two- and four-year institutions. Using longitudinal Cooperative Institutional Research Program (CIRP) data, he examined the differences in actual versus expected institutional dropout rates which remained after controlling for student-level characteristics. He found that measures of college characteristics, including type, control, religion, selectivity, size, and geographic region improved the fit of his predictive model. In particular, he found that private, four-year institutions in the northeastern or southern states, Roman Catholic or Protestant-affiliated institutions, institutions with fewer than 500 students, and selective institutions had higher than expected retention rates. Additionally, he tested whether the beneficial effects of dormitory living on first-year retention at four-year institutions were compromised by a residence requirement and found no evidence to support this hypothesis.

In 1983 and 1993, Tinto used ACT data to conduct an in-depth study of student attrition, both from the level of the student and the institution. He reported that higher institutional selectivity, as measured by average SAT scores, is associated with lower rates of first-year attrition among beginning full-time students. Furthermore, he found that rates of attrition declined during the 1980s in all but the least selective institutions, further strengthening the relationship between selectivity and institutional retention rates. Based on this research, he posited that different types of postsecondary institutions required different types of retention policies and programs (1993).

Marcus (1989) also reported the most significant determinant of first-year retention rates among 302 private four-year colleges was an institution's average SAT score. Using two and three stage least squares regression, he found that the average standardized test score had a positive, direct correlation on first-year retention rates (see also Astin, 1975). Marcus also found that institutional acceptance rates had a significant and direct negative

correlation with retention rates. Thus, institutions with lower rates of acceptance tended to have higher rates of retention of their first-year students.

Astin (1993) again examined the relationship between institutional characteristics and first-year retention. He used CIRP data to examine a variety of research questions related to the manner in which college impacted students at 478 four-year institutions. In this study, retention was significantly and negatively correlated with institutional size, and it was positively correlated with factors such as living on campus and peer socioeconomic status. Retention rates also varied according to institutional control, with private institutions demonstrating higher rates of retention. Astin concluded that the effects of institutional control are indirect, with the more direct influences relating to the types of interactions fostered within different institutional environments.

Using data from 230 four-year institutions, Antley (1999) developed a series of models to predict first-year retention rates based on institutional and aggregate cohort characteristics. Average SAT scores, institutional type (Carnegie classifications), the percentage of the cohort residing on campus, and percentage of nontraditional students (over age 24) emerged as consistently significant predictor variables across the eight models. Selective, private, highly residential institutions with low percentages of nontraditional students had the highest rates of retention. Factors such as the size of the first-year cohort, percentage of minority students, and percentage of part-time undergraduates were not strong predictors. The model fit, however, was higher for those models based on public institutions than those based on private institutions.

In a more recent study of 384 four-year institutions, Titus (2004) used hierarchical generalized linear modeling to examine the extent to which retention rates are influenced by student-level and institutional-level characteristics. He found increases in average high school grades and SAT scores as well as increases in the percentage of first-time, full-time freshman living on campus increased the average likelihood of persistence. In Titus' model, average socioeconomic status did not significantly impact persistence beyond the impact of student academic preparation.

Titus refined the previous study in 2006 to examine the influence of institutional financial context on student persistence. Using data from 367 four-year institutions, he found that the percentage of revenue an institution derived from tuition positively influenced student persistence while the percentage of an institution's expenditures on administration exerted a smaller negative influence (Titus, 2006). While he also found that persistence is positively influenced by total institutional expenditures per FTE student, this variable is moderately and positively associated with selectivity.

Recently, Gansemer-Topf and Schuh (2006) examined the relationships among selectivity, institutional expenditures and retention rates at 466 private, four-year institutions. Their work built upon prior studies indicating conflicting relationships between institutional expenditures and first-year retention rates (Astin, 1993; see also Hayek, 2001; Ryan, 2005). Gansemer-Topf and Schuh examined institutional expenditures, obtained from IPEDS, along with selectivity, as measured by high school grade point average, SAT scores, high school rank and the percentage of applicants who were accepted. In their model, institutional expenditures, particularly for instruction, along with selectivity accounted for 58.8 percent of the variance in first-year retention rates among the 466 private institutions.

Multi-institutional studies have tended to either omit or to have inconclusive findings related to the impact of student engagement on retention. While student engagement and other related concepts are useful predictors of student experiences and behaviors, including individual departure decisions, Astin (2006) concludes these constructs are currently less useful at the institutional level. In particular, it appears that variation in levels of engagement, like variation in retention rates, is more highly related to variation in entering student characteristics than institutional characteristics. Astin posited measures of selectivity capture the effects of a peer group with high aspirations and excellent academic preparation. Thus, measures of engagement are more useful for predicting student decisions rather than institutional retention rates.

Table 2 provides a brief synopsis of the research that informs the development of the present study. The institutional level characteristics in Table 2, including some aggregate measures of student characteristics, will be used in the analysis of Project Question One.

Table 2. Summary of Prior Research on First-Year Retention Rates.

Author	Sample	Significant Predictors	Positive Correlations
Astin, 1975	358 2 and 4-year institutions	Institutional type Institutional control Religious affiliation Selectivity Size Geographic region	Four-year Private Catholic/Protestant Selective Fewer than 500 students Northeast/Southern
Tinto, 1983, 1993	ACT 1990 entering cohort	Selectivity	Selective
Marcus, 1989	302 private 4-year institutions	Selectivity	Selective
Astin, 1993	478 4-year institutions	Institutional size Residentiality Peer SES Institutional control	Small Residential High SES Private
Antley, 1999	230 4-year institutions	Institutional type Residentiality Selectivity	Private Residential Selective
Titus, 2004	384 4-year institutions	Tuition dependency Instruction expenditures per FTE	High tuition dependency High instruction expenditures
Gansemmer-Topf & Schuh, 2006	466 private 4-year institutions	Instruction expenditures Selectivity	High instruction expenditures Selective

Data Analysis and Findings

To determine whether there is a difference in first-year retention rates between Tusculum College and peer institutions that do not utilize the block calendar, a set of peer institutions was identified. Institutions were selected on the basis of the Carnegie Foundation's Undergraduate Instructional Program classification. Using this classification allowed the project team to isolate first-year, full-time students on primarily four-year campuses with sizable graduate and professional school populations.

We collected 2007 data from the National Center for Education Statistics' Integrated Postsecondary Education Data System (IPEDS). This was the most recent data available through IPEDS at the time the study was initiated. Data were obtained for Tusculum College and the remaining 97 institutions whose undergraduate instructional programs are classified by Carnegie as Professions-Focused with Some Graduate Coexistence. Three institutions, Arizona State University – Polytechnic, New York Institute of Technology – Central Islip, and Ottawa University – Kansas City, were omitted from the sample, as these institutions reported only system wide retention rates for 2007. Descriptive statistics are provided in Table 3.

Variables

Block Calendar

This variable is a dichotomous variable indicating whether an institution uses a block calendar system. Tusculum College is the only institution within the selected peer set that utilizes a block calendar system.

Retention Rate

Information on the dependent variable was obtained from IPEDS. The full-time, first-year retention rate is the percentage of the fall 2006 full-time cohort (minus exclusions from the fall 2006 cohort) that re-enrolled at the institutions as either full- or part-time in fall 2007. The fall 2006 full-time cohort includes all first-time full-time bachelor's degree seeking undergraduates enrolled in fall 2006. Students enrolled for the first time in the preceding summer term are also included. Exclusions include students who left the institutions for the following reasons: died or were totally and permanently disabled; to serve in the armed forces; to serve with a foreign aid service of the Federal Government, such as the Peace Corps; or to serve on official church missions (NCES, 2009). The fall 2006 cohort was selected, as this was the most recent data available through IPEDS at the time the study was initiated.

Based on the results of the above review of pertinent literature, the following variables were explored as controls in the present study: institutional control, institutional size, selectivity, absence/presence of a residency requirement, geographic region, tuition dependency, instructional expenditures, and religious affiliation.

Institutional Control

Many studies have identified institutional control as a predictor of institutional retention rates (Astin, 1975, 1993; Tinto, 1993; Antley, 1999). Astin (1993) concluded the effects of institutional control are indirect, with the more direct influences relating to the types of interactions fostered within different institutional environments. Since measures of student-student and student-faculty interactions are not available in most institution-level data, institutional control may be used as a proxy for these effects (Antley, 1999).

Additionally, institutional type and institutional control are often considered simultaneously. In the present research, however, institutions were selected on the basis of the Carnegie Classification assigned to their undergraduate instructional programs. Each selected institution was assigned classification as a four-year institution. Thus, for the purposes of this study, institutional control indicates whether an institution is under public, private, or for-profit control.

Institutional Size

Institutional size is frequently considered a predictor of institutional retention rates (Astin, 1975, 1993). IPEDS reports the following size classes: under 1,000, 1,000-4,999, 5,000-9,999, 10,000-19,999, 20,000 and above, not reported, and not applicable. These classifications were adopted for the present analysis.

Selectivity

Selectivity is one of the strongest and most consistent predictors of institutional retention rates (Astin, 1975, 1993; Tinto, 1993; Marcus, 1989; Antley, 1999; Titus, 2004; Gansemer-Topf and Schuh, 2006). Researchers frequently measure this variable by attaining mean scores on standardized tests. Additionally, researchers consider mean high school grade point averages, mean high school ranks, institutional acceptance rates, and mean college grade point averages as indicators of the level of academic preparation present within an institution's student population.

For the present study, the variable of selectivity will be determined utilizing Barron's selectivity rankings. In classifying schools, Barron's considers SAT/ACT scores, the percentages of freshmen who ranked in the upper one-fifth and two-fifths of their high school graduating classes, the minimum class rank and grade point average required for admission (if any), and the percentage of applicants to the class who were accepted (Barron's Education Series, 2009). Schools are classified as noncompetitive, less competitive, competitive, very competitive, highly competitive, and most competitive. Tusculum exemplifies the modal ranking, which is competitive.

While Barron's did not rate any of the thirteen University of Phoenix campuses included in this sample, these institutions are classified in this analysis as noncompetitive in the present analysis. According to Barron's definitions, noncompetitive colleges require only

evidence of graduation from an accredited high school. In contrast to institutions assigned at least a less selective rating, nonselective institutions do not require minimum scores on standardized test or entrance examinations, class rank, or other data. Additionally, the project team considered the percentage of applicants admitted to each institution, as reported on IPEDS.

Residency

Much research related to the relationship between living on campus and persistence has examined student-level impacts. Recognizing the strong association between these two variables, Astin (1975) tested whether the relationship was compromised by institutional residency requirements and found no evidence with which to assume a negative impact. Later research, including Titus (2004), has found the percentage of full-time freshman living on campus to be a significant predictor of institutional retention rates. In fact, Braxton, Hirschy, and McClendon (2004) postulated separate theories of departure in residential and commuter colleges.

The IPEDS data set does not measure the percentage of full-time freshman living on campus. Instead, it offers a measure of whether or not an institution has a residency requirement for first-time, full-time freshman students. This dichotomous variable fails to capture the extent to which compliance with the policy exists on a given campus. For this reason, the project team used the 2005 Carnegie Size and Setting classifications. This variable is described as follows:

Four-year institutions are divided into four categories of full-time equivalent (FTE) enrollment and three categories of residential character. The residential character measure is based on two attributes: the proportion of degree-seeking undergraduates who attend full-time and the proportion living in institutionally-owned, -operated, or -affiliated housing (NCES, 2009).

With respect to residential character, Tusculum College is classified as a primarily residential institution on a continuum between primarily nonresidential, primarily residential, and highly residential. With respect to size, Tusculum is classified as a small institution on a continuum between very small, small, medium, and large. This variable will be referred to as Size and Residentiality.

Geographic Region

Astin (1975) found that measures of geographic region improved the fit of his predictive model. In particular, institutions located in the northeastern or southern states had higher than expected retention rates. IPEDS offers the following geographic classifications: US Service schools, New England, Mid East, Great Lakes, Plains, Southeast, Southwest, Rocky Mountains, Far West, and Outlying Areas.

Tuition Dependency

Titus (2006) found the percentage of institutional revenues derived from tuition and fees positively influenced persistence rates. This variable was operationalized in the same manner in this study.

Instructional Expenditures

Gansemer-Topf and Schuh (2006) found that instruction expenditures consistently and positively contributed to retention and graduation rates across a variety of models. The present study considered instructional expenditures per full-time equivalency (FTE).

Religious Affiliation

Astin (1975) found that institutions affiliated with the Roman Catholic or Protestant churches had higher than expected retention rates. IPEDS classifies institutions according to 27 denominational affiliations. Using this data, a binary variable was constructed to indicate whether a campus had any religious affiliation.

Aggregate Measures

Based on the extant literature related to student-level retention decisions, researchers often include aggregated measures of student-level characteristics in analyses of institutional retention rates. Like Titus (2004, 2005), the present study considered aggregate measures of financial need, operationalized as Pell eligibility, gender, and race/ethnicity.

Methodology

The project team used linear regression with a dummy variable to ascertain that Tusculum College has a first-year retention rate that is, on average, lower than its peers. The regression indicated Tusculum College's retention rate is 5.5 percentage points lower than the peer group's average rate of 62.5 percent.

Next, the project team examined whether the difference in first-year retention rates between Tusculum College and its peer institutions that do not use the block calendar system can be attributed to the block calendar system. The team used multiple linear regression analysis to explore this relationship. Multiple linear regression analysis enables researchers to model the relationship between independent and dependent variables (Jaeger, 1993).

The variables listed in Table 3 (with the exception of first-year retention rate) were tested for inclusion as independent variables in the model. Variables 3-10 are institutional characteristics that have been found in prior studies to impact first-year retention rates. Variables 11-13 are aggregates of student-level characteristics that have also been found to

impact first-year retention decisions. The extant literature does not offer guidance as to whether the block calendar variable would be expected to impact first-year retention rates.

Table 3. Descriptive Statistics for Institutions Classified by Carnegie as Professions-Focused with Some Graduate Coexistence and for Tusculum College.

Variable	Number	Mean	Median	Mode	Standard deviation	<i>Tusculum College</i>
1. First-year Retention Rate (%)	94	62.47	67.00	70.00	16.42	57.00
2. Block Calendar	94	.02	0.00	0.00'	.13	1.00
3. Institutional Control	94	2.15	2.00	2.00''	.548	2.00
4. Selectivity	87	2.34	3.00	3.00'''	.974	3.00
5. Admit Rate (%)	94	77.88	78.00	100.00	19.059	68.00
6. Size and Residentiality	94	10.19	9.50	9.00*	2.41	8.00
7. Geographic Region	94	4.68	4.00	3.00**	2.36	5.00
8. Tuition Dependency (%)	94	73.00	78.00	93.00	22.50	67.52
9. Instructional Expenses	94	4946.53	4694.50	569.00	2920.64	2658.00
10. Religious Affiliation	94	.38	.00	0.00'	.103	1.00
11. Enrollment White (%)	93	57.51	62.00	0.00	25.85	84.00
12. Enrollment Women (%)	93	56.91	59.00	58.00	14.13	62.00
13. Pell Eligible (%)	94	36.27	33.00	36.00	24.40	39.00

' No

''Private control

'''Competitive

*Small, primarily nonresidential

**Great Lakes region

Table 4. Multiple Linear Regression Results on First-Year Retention Rates among Institutions Classified as Professions-Focused with Some Graduate Coexistence.

	Model 1: With Block Variable Adjusted R2 = .695	Model 2: Without Block Variable Adjusted R2 = .696
Selectivity	3.607 (1.424) .013**	3.465 (1.410) .016*
Institutional Control	-8.848 (2.084) .000***	-8.753 (2.076) .000***
Size and Residentiality	.643 (.436) .144	.636 (.435) .147
Religious Affiliation	6.025 (2.330) .012**	5.883 (2.318) .013**
Instruction Expenses	.002 (.000) .000***	.002 (.000) .001***
Geographic Region	-1.379 (.533) .012**	-1.418 (.530) .009**
Block Calendar	-7.524 (9.301) .421	

Standard Errors in parentheses, *p*-values listed below standard errors.

*Statistical significance at the .05 level

**Statistical significance at the .01 level

***Statistical significance at the .001 level

Results

The block calendar variable was not a statistically significant predictor of first-year retention rates, and inclusion of this variable decreased model fit. Furthermore, the estimated effect size for the block calendar variable was extremely small. The standardized mean difference between the two groups indicated that approximately one-third standard deviation separated the two means ($d = .333$). Table 4 presents both the model that includes the block calendar variable (Model 1) and the one that excludes it (Model 2). Model 2 accounted for 69.6 percent of the variance in first-year retention rates among these peer institutions.

Given the assumptions inherent in this regression analysis, the project team tested the linearity of the relationship between the dependent and independent variables. A plot of observed versus predicted values demonstrated a reasonably symmetric distribution around a diagonal line, indicating linearity. Both models were tested for outlier distortion using Cook's D test, and Chancellor University was omitted on the basis of a test statistic of .490. (This was not surprising, as Chancellor University emerged from a series of severe financial travails in 2006. The institution's first-year retention rate of 19 percent was the lowest retention rate among this set of peers.) Furthermore, multicollinearity was examined using the variance inflation factor (VIF), none of which exceeded 2.027.

The results of the multiple linear regression analysis are consistent with the extant literature on first-year retention rates. Unsurprisingly, institutional control ($\beta = -8.753$, $p = .000$) and Barron's selectivity ratings ($\beta = 3.465$, $p = .016$) emerge as statistically significant and relatively strong predictors of first-year retention rates. In both models, holding the other variables constant, institutional control is predicted to account for a nearly 9 percentage point change in first-year retention rates. Additionally, a one unit increase in Barron's selectivity ratings (for example, from "competitive" to "very competitive") is predicted to account for more than a 3 percentage point change in retention of first-year students.

A more surprising finding is the strength of the significant and positive relationship between religious affiliation ($\beta = 5.883$, $p = .013$) and first-year retention rates. The presence of a religious affiliation is predicted to account for a nearly 6 percentage point increase in first-year retention rates. Additionally, instructional expenses and geographic region were significant predictors of the dependent variable. While the size and residentiality variable was not statistically significant, it was included in the model, as it improved model fit and has theoretical importance. Finally, the aggregate measures (percentage white, percentage female, and percentage Pell eligible), the percentage of revenues derived from tuition, and the percentage of students admitted were not significant predictors of first-year student retention.

Further Analysis: Addition of Other Institutions with Block Schedules

The project team decided to further explore the relationship between the block calendar and first-year retention rates by widening the sample to include the other three institutions that utilize the block calendar and their respective peers. Like Tusculum College, the other institutions utilizing the block calendar system schedule most classes to meet over 18 days for three to four hours each day. Despite this common pattern of scheduling, a few differences were also observed. First, Cornell College and Colorado College provide students with the option to take multi-block courses, while Tusculum College and the University of Montana Western do not provide this option. Given that multi-block courses were optional, the project team concluded it was unlikely the presence of this option would fundamentally change the nature of the student experience with the block calendar system. Second, the University of Montana Western is unique in that it has adopted this schedule much more recently than the other institutions. Given that the university piloted the schedule in 2003 and implemented it in 2004, the project team concluded sufficient time had elapsed for implementation to have been refined when the class of 2006 entered. Finally, only institutions in the United States were considered, as IPEDS data is not available for international institutions. Table 6 provides descriptive statistics for the expanded sample.

Thus, data were obtained from IPEDS for the 86 institutions classified by Carnegie as Arts and Sciences-Focused with No Graduate Coexistence and the 130 institutions classified as Professions plus Arts and Sciences with No Graduate Coexistence. Seven institutions were omitted from the sample, as they reported only system-wide retention rates to IPEDS. Descriptive statistics for the expanded sample is provided in Table 5. Linear regression using a dummy variable for the four institutions utilizing the block calendar system indicated their retention rates are 6.32 percentage points higher than the peer group's average rate of 69.52 percent.

Multiple linear regression analysis was conducted on the expanded sample. The resulting models were tested for outlier distortion using Cook's D test. Again, Chancellor University (.100) was eliminated from the analysis. Finally, multicollinearity was examined using the variance inflation factor (VIF), none of which exceeded 4.21. Table 6 displays the results of multiple regression analysis conducted with and without the block calendar variable.

Two key findings emerge from multiple regression analysis using the expanded sample. First, the block calendar variable was not a statistically significant predictor of retention rates among the expanded sample of institutions. Furthermore, the standardized mean difference between the two groups indicated approximately one-third standard deviation separated the two means ($d = .3625$). Table 6 presents the models with the block calendar variable (Model 1) and without this variable (Model 2).

Second, the results of this analysis remain consistent with the literature on institutional retention rates. Institutional control ($\beta = -8.851$, $p = .000$) and selectivity ($\beta = 5.167$, $p = .000$) emerge as statistically significant and important predictors of first-year retention rates. In both models, holding the other variables constant, institutional control is predicted to account for a nearly 9 percentage point change in first-year retention rates. Additionally, a one unit increase in Barron's selectivity ratings (for example, from "competitive" to "very competitive") is predicted to account for a 5 percentage point increase in retention of first-year students. In these models, the presence of a religious affiliation ($\beta = 4.609$, $p = .000$) also accounted for a 5 percentage point increase in the dependent variable. Finally, size and residentiality, undergraduate instructional program, instructional expenses, and geographic

region variables were also found to be statistically significant, although these variables had relatively small coefficients.

Regression analysis on the expanded sample differed from the analysis conducted using the original sample in that the size and residentiality variable and the percentage of students admitted were significant predictors of first-year retention rates. Additionally, the undergraduate instructional program variable, which was added in the analysis of the expanded sample, was also a significant predictor of first-year retention rates.

Table 5. Descriptive Statistics for Expanded Sample and for Block Calendar Institutions.

Variable	Number	Mean	Median	Mode	Standard deviation	<i>Block Institutions</i>
1. First-year Retention Rate (%)	303	69.52	70.00	61.00	17.18	75.75
2. Block Calendar	303	.01	.00	0.00'	.11	1.00
3. Institutional Control	303	1.95	2.00	2.00''	.47	1.75
4. Selectivity	284	3.18	3.00	3.00'''	1.40	3.25
5. Admit Rate (%)	288	67.77	69.00	100.00	21.76	48.33
6. Size and Residentiality	303	9.70	10.00	11.00*	2.02	11.00
7. Geographic Region	303	4.26	4.00	5.00**	2.17	7.00
8. Tuition Dependency (%)	303	51.95	50.00	100.00	26.13	37.75
9. Instructional Expenses	297	7886.81	6005.00	4411.00	5503.29	8609.75
10. Religious Affiliation	303	.45	.00	0.00'	.50	.50
11. Enrollment White (%)	301	63.20	71.00	0.00	26.50	81.50
12. Enrollment Women (%)	301	58.56	58.00	61.00	13.93	55.25
13. Pell Eligible (%)	302	34.40	30.50	36.00	22.79	28.00

' No

'' Private control

''' Selective

*Small, highly residential

**Southeast region

Table 6. Linear Regression Results on First-Year Retention Rates among Expanded Sample.

	Model 1: With Block Variable	Model 2: Without Block Variable
	Adjusted R2 = .692	Adjusted R2 = .693
Selectivity	5.191 (.825) .000***	5.167 (.824) .000***
Institutional Control	-8.766 (1.335) .000***	-8.851 (1.327) .000***
Size and Residentiality	1.125 (.317) .000***	1.120 (.316) .000***
Religious Affiliation	4.586 (1.291) .000***	4.609 (1.289) .000***
Instruction Expenses	.001 (.000) .000***	.001 (.000) .000***
Geographic Region	-.627 (.301) .038*	-.605 (.299) .044*
Admit Rate	.013 (.039) .733	.012 (.039) .768
Instructional Program	-2.981 (1.042) .005**	-3.044 (1.037) .004**
Block Calendar	3.271 (4.799) .496	

Standard Errors in parentheses, *p*-values listed below standard errors.

*Statistical significance at the .05 level

**Statistical significance at the .01 level

***Statistical significance at the .001 level

Discussion

Neither the analysis of Tusculum College, as compared with its Carnegie peers, nor the comparison of the four block institutions with their peers offered evidence the difference in first-year retention rates between institutions using the block calendar and those that do not can be attributed to the block calendar system. Not only did the block calendar variable decrease model fit in both multivariate regression analyses, but the estimated effect sizes were extremely small. In both analyses, mean scores were separated by approximately one-third of a standard deviation.

This analysis bolstered prior studies that indicated a strong relationship between certain institutional characteristics and first-year retention rates. In particular, differences in first-year retention rates among these four-year institutions were most closely related to institutional control and selectivity. More surprising was the strength of the positive association between religious affiliation and retention of first-year students. Like Antley (1999) and Titus (2004) but in contrast to studies of student-level retention decisions, the present research did not find aggregate measures of student-level characteristics to be significant predictors of first-year retention rates.

Overall, the variable for selectivity was most closely related to first-year retention rates. Highly competitive institutions, such as Colorado College, had an average first-year retention rate of 87.17, which Colorado College exceeded by nearly 10 percentage points (more than one standard deviation). Very competitive institutions, such as Cornell College, had an average rate of 79.64, which Cornell exceeded by approximately five percentage points (less than one standard deviation). Competitive institutions, such as Tusculum College, averaged 67.86 percent, while Tusculum's rate was approximately 10 percentage points (slightly less than one standard deviation) beneath the average for the 114 institutions in this selectivity classification. Noncompetitive institutions, such as University of Montana Western averaged 51.05 retention rates, which the University of Montana Western exceeded by 15 percentage points (slightly less than one standard deviation.)

The project team concedes several limitations inherent in this study. The internal validity of the research is threatened by three factors. First, small effect sizes combined with small numbers of institutions utilizing the block calendar system increase the likelihood of Type II error, meaning this research could fail to detect the effect of the block calendar system on first year retention rates. Second, internal validity is threatened if the students who attend Tusculum or the other block institutions are substantially different from students at their peer institutions in ways for which the research design did not account. While the design accounted for those variables that have been deemed significant by prior studies and were available in the IPEDS database, it is possible that important differences remain. For example, the extent to which the students who choose to attend Tusculum are engaged in other pursuits, such as working off campus or participating in athletics, or the extent to which the student population is comprised of first-generation college students could cause selection bias. Finally, differences in the administration and design of the block calendar (such as the multi-block option) could confound the effect of the block calendar if these differences fundamentally change the nature of the experience in ways that impact student retention.

PROJECT QUESTION TWO

- What is the nature and extent of the impact of the block calendar system on student retention decisions at Tusculum College?
- What is the predicted impact of the block calendar system on student retention decisions at Tusculum College over and above the constructs of student social integration, institutional commitment, and institutional integrity?

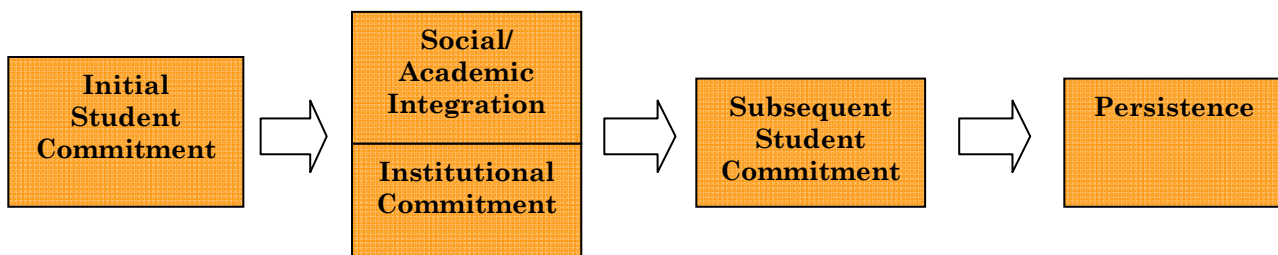
Literature Pertinent to Project Question Two

There is a significant body of research that analyzes individual student level characteristics and their impact on student retention decisions. This literature informs the development of the survey for the present project. The following discussion outlines key concepts from the literature.

Theoretical Framework

According to Tinto (1993) whose retention framework has been cited consistently for more than 30 years, students' past educational experiences, intentions, educational goals, and their level of commitment to the institution are the factors that most often explain student persistence. More specifically, Tinto theorized that academic and social integration are the two primary factors that impact student's level of commitment to the institution. High levels of academic and social integration strengthen a student's level of commitment to the institution and the student's academic goals, thereby resulting in increased persistence (Braxton, Hirschy & McClendon, 2004). Tinto's Interactionalist Theory is illustrated in Figure 1.

Figure 1: Tinto's Interactionalist Theory of College Student Departure.



Academic integration, as articulated by Tinto, refers to the intersection between the student's intellectual abilities and aspirations and the institutional academic environment. According to Braxton et al. (2004, p. 8), it consists of structural and normative dimensions. The structural integration entails meeting the specific academic demands of college life. The normative dimension is the individual student's identification with the values, norms and beliefs inherent in the academic system. Thus, academic integration is the congruence of the student's values and intellectual affiliation

with the institution's academic community (Braxton et al., 2004). Therefore, the student's self-perception of intellectual capacity, the clarity of their goals and aspirations, combined with the student's perception of whether the institutions supports the development and attainment of these goals, impacts the extent to which the student integrates academically into the fabric of the institution. Academic integration therefore, is the full range of experiences which take place in the formal and informal domains of the college or university. The higher the level of integration, the greater the likelihood is for persistence.

In addition to academic integration, Tinto credits social integration with increased student persistence. Social integration incorporates the quality of a student's relationships and interactions with peer groups into a perceived sense of belonging at the institution. It refers to the formal social systems of the college such as extracurricular and co-curricular activity as well as the informal day-to-day interactions with peers and members of the institution. To the extent that a student feels connected to the institution by peer interactions and relationships, he is more likely to persist.

Considering both academic and social integration therefore, Tinto hypothesized that students who do not feel fully integrated into the social fabric of an institution, will be more likely to have lower levels of subsequent commitment to their college or university. Lower levels of academic integration result in lower subsequent goal commitments. Both types of subsequent commitment, in turn, influence student persistence decisions.

Though Tinto's theory had attained near paradigmatic status in the literature on student retention (Braxton, 2000), it has not gone unchallenged. A number of scholars have pointed out that its usefulness as a retention model is tempered by both institution type and student-level characteristics (Braxton, 2000; Pascarella & Terenzini, 1991). Specifically, Braxton (2000) observed that adaptations and variations of the model are appropriate for different types of institutions and students. Differences in students and institution type are clearly relevant. For example, Braxton, Sullivan and Johnson (1997) conclude that Tinto's interactionist theory does not apply equally to commuter students/colleges. The model also breaks down when applied to racial and ethnic minorities as their adaptations to college life tend to vary greatly from those of traditional, white students. Additionally, in his 2000 work, Braxton noted the emergence of alternative, environmental, psychological and economic theories that attempt to shed light on student departure decisions of different kinds of students.

The kindred theories of academic and social integration have provided scholars of student retention theory with a number of opportunities for increasing persistence. The effect of place of residence (on/off campus) was explored by Astin (1993) who reported a high positive correlation between on-campus housing and satisfaction with the college experience and retention. Additionally, Astin (1975, 1993) found that a student's chances of persisting through graduation were significantly impacted by the nature and extent of a student's employment. Full-time employment was found to have a strong negative correlation with persistence as did holding a part-time job off campus. Finally, it is worthy of note that the academic integration theories posited by both Tinto and Astin suggest strongly that students who are heavily involved with academic pursuits, including hours spent studying and the establishment of relationships with faculty outside of class are likely to increase student performance and persistence.

Astin (1993) posited that student involvement was the key to student persistence. Simply stated, students who become involved in campus activities and who establish relationships with faculty outside of the classroom are more likely to persist. According to Astin, providing opportunities for student involvement with both peers and faculty are critical. Thus, Astin and Tinto (1975, 1993) concur that student persistence is positively impacted where students feel connected in a meaningful way to the institution, both inside and outside of the classroom. Pascarella and Terenzini (1991) provide

ample research in support of Astin's proposition that a key factor in student retention is the quality of effort that students invest in the institution's resources and the level of their involvement in both academic and non-academic activities. He noted that the level of student involvement and integration in any of the components of an institution's academic and social systems can be a critical factor in students' persistence decision (Pascarella & Terenzini, 2005).

Importantly, for purposes of this analysis, student involvement has been determined to have predictive value when considering student decisions regarding persistence (Astin, 1993). This decision is primarily driven by the salient characteristics of Tusculum and its student population. It is a small, non-selective, religiously affiliated, primarily residential academic institution located in rural area of Eastern Tennessee. Thus, its student body is less diverse than other similarly situated institutions. Accordingly, it is anticipated that Tinto's interactionist theory will have predictive validity for the project.

In addition, the theoretical framework for the project is further shaped by Braxton, Hirschy & McClendon (2004) who articulate six (6) factors that influence student social integration and therefore, the student's level of commitment. Two of the six factors adapted for exploration in this project are Institutional Commitment to the Welfare of Its Students and Institutional Integrity.

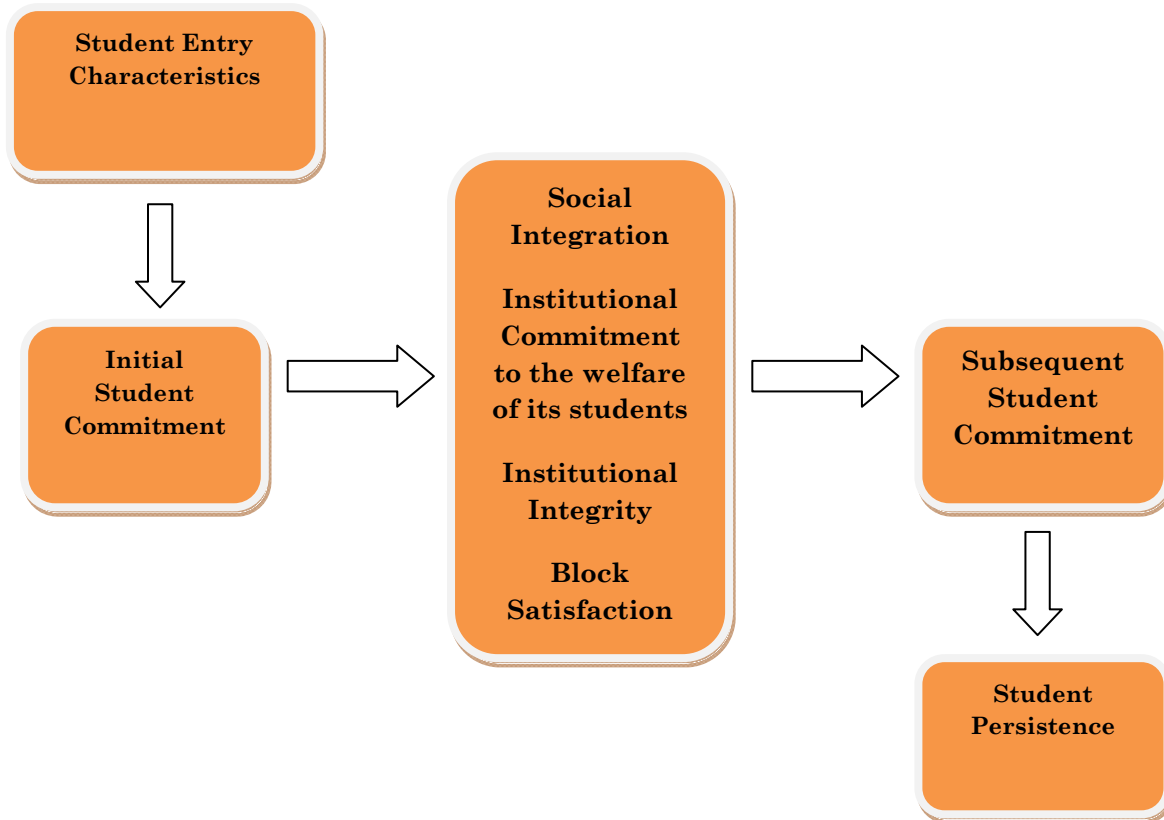
Institutional commitment to the welfare of its students is described as the student's perception that the institution values students as a group and the student individually. It also entails an abiding commitment of the institution to the growth and development of its students. The equitable treatment of students and treating them with respect as individuals are additional aspects of this factor. This commitment can be manifested in the policies and procedures of the institution relative to a host of student service functions and interactions. The greater the student's perception of the institutional commitment to the welfare of its students the greater the likelihood the student will become socially integrated and indirectly persist (Braxton, Hirschy & McClendon, 2004).

The measure of institutional integrity is the extent to which the actions of the college's administrators, faculty and staff are compatible with the institutional mission and goals (Braxton, Hirschy & McClendon, 2004). This construct is extended to include the student's perception of whether the institution behaves equitably in its treatment of students. Student perceptions of high levels of institutional integrity are associated with increased social integration, subsequent institutional commitment and increased student persistence.

In light of the above, the project team has adopted the conceptual framework provided by Braxton et al., (2004) for analyzing the project question #2. Specifically, the project team adapted the constructs of social integration, institutional commitment to the welfare of its students, and institutional integrity. The survey instrument designed for the project is adapted from of Braxton's (2006) College Experiences Survey (CES).

The research team seeks to ascertain the extent to which the block schedule impacts student retention decisions over and above the constructs discussed above. Therefore, block satisfaction is analyzed as an additional construct potentially impacting student retention decisions for Tusculum College Freshmen. This revised model of student retention is illustrated in Figure 2.

Figure 2: Integrated Model of College Student Retention.



Data Analysis and Findings

Survey Design

The project team seeks to ascertain the extent to which the block calendar impacts retention decisions for the freshmen student population at Tusculum. More specifically, the researchers are interested in whether the block has a measurable impact on the retention decisions of freshmen students over and above the impact of the oft-cited constructs of institutional integrity, institutional commitment to the welfare of its students and student social integration. To this end, a survey instrument was designed to capture relevant demographic information as well as student attitudes and opinions about the block calendar, their level of social integration, and their perceptions about Tusculum College's level of institutional integrity and commitment of the institution to the welfare of its students.

From a methodology standpoint, surveys such as the one developed for this study, are widely used in social science research as they provide an effective means of systematically gathering information from a sample that can be generalized to a population (Babbie, 2002; Creswell, 2003). Moreover, according to Kerlinger and Lee (2000), survey research is a useful tool for education as it is best adapted to obtaining personal and social facts, beliefs and attitudes. Therefore, inasmuch as student retention decisions are largely individual decisions based on a host of personal and social attitudes, feelings and opinions, the project team determined that survey research would be the best way to gather relevant and accurate data for the study.

The survey developed for this study included a host of demographic questions, followed by 30 Likert scale items, subdivided into 4 (4-8) item scales designed to serve as a proxy for the constructs of institutional commitment to the welfare of its students, institutional integrity, social integration, and student satisfaction with the block calendar (Appendix A – Survey Instrument).

Students indicated their level of agreement with each of the 30 statements on a scale ranging from “Strongly Agree” to “Strongly Disagree.” The items were scored from one to four with reverse scoring on the negative items. Additionally, students were asked to indicate whether they intended to re-enroll as a student at Tusculum College for the spring semester. The intent to re-enroll variable serves as a proxy variable for actual fall to spring retention given the time constraints placed on the study (Bean, 1980, 1983).

The demographic items on the survey were designed to elicit information that, according the extant research, may impact student retention behaviors. The demographic variables and their descriptors are summarized in Table 7.

Table 7: Demographic Variables.

Variable	Description
Gender	Male = 0 Female = 1
Employment Status	Unemployed = 0 Employed on Campus = 1 Employed off Campus = 2
Residence	On Campus = 1 Off Campus = 0
Extra-Curricular Activity	None = 0 Intercollegiate Athletics = 1 Student Government = 2 Intramurals = 3 Clubs or Organizations = 4
Extra-Curricular (binary)	No = 1 Yes = 2
Race	Caucasian/White = 0 Other = 1
High School Grades	As = 1 Bs = 2 Cs = 3 Ds or lower = 4
Parents' Level of Education	Less than High School = 0 High School Diploma = 1 College Graduate = 2

Rationale for Selected Demographic Variables:

Individual student characteristics have been shown to effect student departure (Braxton, Hirschy, & McClendon, 2004). For purposes of this project, student background characteristics include precollege academic performance, gender, race/ethnicity and parents' level of attainment. These variables are used as control variables in the regression model designed to predict the impact of the block calendar on student retention.

Precollege Academic Performance (High School Grades)

Pre-college academic performance has been demonstrated to be a strong predictor of student persistence (Dewitz, Woolsey & Walsh, 2009; Nora & Cabrera, 1996). Logically, students with lower high school GPAs may have a more difficult time meeting the academic expectations of college. Weaker students may struggle with time management, lack of study skills and striking an effective balance between academic and social pressures in the collegiate context.

In the context of Tusculum College, these difficulties may be heightened by the block calendar system as evidenced by the administration's decision in 2005 to increase the academic admissions requirements for incoming freshmen students. Currently, students are fully admitted with a 2.0 academic GPA and a 19 composite score on the ACT. Students with a composite score of 18 on the ACT are required to have a 2.25 GPA and those with a composite score of 17 on the ACT are required to have a 2.5 GPA. Students who are admitted with composites of 17 and 18 on the ACT are required to participate in the "Bridge Program," an academic support program wherein students are required to participate in tutoring and other enhanced academic experiences.

Gender

Astin (1972, 1993) found that men persist at higher rates than women. This disparity is a function of cultural norms, societal roles and family obligations. Tinto (1975) attributed the persistence difference to men's perceptions that a college degree is an economic necessity. Approximately one half of Tusculum freshmen (49%) are female and (51 %) are male. Therefore, to the extent that retention/attainment disparities continue to exist, gender is included in the model as a relevant control variable.

Race/Ethnicity

According to Sibloski & Snyder (1996), student characteristics such as race are valid predictors of student retention. According to Fischer (2007), minority students are more likely to be first generation college students and to be from low socioeconomic status (SES) backgrounds. Moreover, Braxton et al., (2004) noted that the perceived inability to pay for college adversely affects minority student social integration and therefore negatively impacts minority retention. Cultural differences between and among minority groups has lead researchers to conclude that comprehensive retention strategies must be developed that target racial minorities to increase persistence (Braxton et al., 2004). This is particularly true in a predominantly white campus environment like Tusculum College. Despite the gains in higher educational enrollment and degrees awarded, Braxton et al., (2004, p. 3) note that the rate of departure for racial and ethnic minority students differs appreciably from those of Caucasian students. Therefore, student race/ethnicity is included in the model as a relevant control variable.

Parent Educational Attainment

A review of extant research reveals that first generation college students face unique challenges as they transition from high school to higher education (Terenzini et. al., 1994). According to Chase (1970), students raised by college educated parents are less likely to depart than students whose

parents are less well educated. More recently, Pike & Kuh (2005) concluded that first generation students may lack the knowledge and experience to meet the challenges of a college environment. Generally, first generation students perceive the college campus environment to be less supportive. Therefore, these students do not become academically and socially integrated, thereby resulting in higher attrition (Pike & Kuh, 2005).

Additional Demographic Variables Indicated by Extant Research:

Residency

Astin (1993) found that living on a college campus was positively associated with satisfaction with the college experience and retention. More specifically, he reported a high positive correlation between on campus housing and satisfaction with faculty as well as attainment of a bachelor's degree. These findings are consistent with those of Pascarella, Bohr, Nora, Zusman, Inman and Desler (1993) who reported that after controlling for pre-college characteristics, living on campus enhanced students' cognitive and intellectual growth. This correlation is consistent among all categories of students regardless of sex, race, academic ability or family background (Flowers & Pascarella, 1999). Accordingly, student residential status was included in the demographic section of the survey instrument as a relevant control variable.

Employment

According to Riggart et. al. (2006), "student employment is no longer an isolated phenomenon; it is an educational fact of life (p. 64)." More than 50% of 16-24 year old students work while enrolled in college courses (Riggart, 2006). For many students, working and going to school is not optional. Therefore, the impact of student employment status on student retention has been explored repeatedly.

Astin (1975, 1993) reported that a student's chances of graduating from college were significantly impacted by the nature and extent of their employment during the school year. Full-time employment was found to have a negative impact, as did holding a part-time job off campus. Students employed off campus earned lower grades, experienced decreased college satisfaction and were less likely to re-enroll. To the contrary, Astin (1993) found a positive relationship between holding a job on campus and attainment. Therefore, the survey was designed to distinguish between students employed on and off campus as well as the number of hours worked per week during the school year.

According to Pascarella et. al. (2004), student employment is regarded as an external obligation that carries with it the potential to significantly interfere with student retention. Employment not only limits a student's time and energy for academics, but also decreases opportunities for interactions with peers, faculty and other elements of college life (Riggart, 2006). Consequently, if the student's employment obligations limit the student's opportunity for academic and social integration, the risk of departure is increased for that student.

Interestingly, upon review of empirical studies attempting to measure the impact of student employment, Riggart et. al. (2006) note that the relationship between student employment and retention appears considerably stronger than the relationship between student employment and

academic performance measures such as GPA. Further, the relationship between employment and retention appears to be nonlinear. When the number of hours worked per week increases, retention decreases.

The significance of the student employment variable is magnified for Tusculum College students. In 2005 Tusculum College surveyed its student body (Tusculum College Student Survey – Block System Survey). The results revealed that 63% of their student body was employed either on or off campus. Tusculum’s enrollment management team suggested to the project team that many students choose Tusculum because the predictable academic schedule is conducive to student employment. Accordingly, student employment status is an important variable.

Participation in Extracurricular Activities

Astin (1993) reported that student participation in sports, clubs and organizations increased overall college satisfaction. Pascarella and Terenzini (1991) likewise affirm the positive role of out-of-class intellectual and social involvement. Student participation in clubs and organizations on campus is an indicator of the student’s level of social integration (Braxton et al, 2004). More specifically, on largely residential college campuses like Tusculum, participation in extracurricular activities can help to foster and stimulate higher levels of student social integration by facilitation friendships based on common interests (Christi & Dinham).

Tusculum administrators have indicated that extracurricular activities, particularly varsity sports, are benefited to a large degree by the block schedule. Specifically, it is noted that student athletes are relieved of the pressure to schedule their academic coursework around team meetings, practices and games. Most athletes select a morning block in order to facilitate afternoon practices and/or evening games. It is worthy of note however, that students who are forced to miss classes due to sports-related travel for games or other activities effectively miss the equivalent of a full week of academic instruction for every “block” they are absent from. Accordingly, the project team acknowledges both the potential benefits and disadvantages of the block calendar for student athletes.

Each of the variables discussed above has a noted predictive impact on student retention decision. Therefore, each is included in the model to increase predictive validity of the regression model. Descriptive statistics for each of these variables are provided in Table 2.2.

Table 8. Descriptive Statistics of the Sample.

	N	%
Gender	249	
Male	127	51%
Female	122	49%
<hr/>		
Age	241	
17	2	.8%
18	174	72.2%
19	58	24.1%
20	2	.8%
22 or older	5	2.0%
<hr/>		
Race		
Caucasian/White	184	75.4%
Other	60	24.6%
<hr/>		
Residency	247	
On Campus	212	85.8%
Off Campus	35	14.2%
<hr/>		
Employment	249	
No Job	137	55%
Job	112	45%
Off Campus	31	32.5%
On Campus	81	67.5%
<hr/>		
Extracurricular Activities	249	
None	85	34.1%
Intercollegiate Athletics	91	36.5%
Student Government	4	1.6%
Intramurals	21	8.4%
Clubs or Organizations	48	19.3%
<hr/>		
Extracurricular (binary)	249	
No	85	34.1%
Yes	164	65.9%
<hr/>		
Parent Attainment	246	
Neither parent college educated	139	56.5%
One parent college educated	54	22%
Both parents college educated	53	21.5%

In addition to the demographic variables explored above, the survey instrument captures relevant student perceptions regarding institutional commitment to student welfare, institutional integrity, social integration and satisfaction with the block calendar. The constructs for institutional commitment to student welfare, institutional integrity and social integration were measured using portions of Braxton's (2006) College Experiences Survey (CES).

Four separate scales were adapted and/or developed to capture the constructs of institutional commitment to student welfare (InstCommScale), institutional integrity (InstIntegrityScale), social integration (SocIntScale) and satisfaction with the block calendar system (BlockSatisfaction).

The social integration scale (SOCINTSCALE) variable is a composite score comprised of the responses to four (4) items extracted from the College Experiences Survey (Braxton, 2006). These items are summarized in Table 9.

Table 9. Social Integration Scale.

Survey Items
<ul style="list-style-type: none"> • Most of the students I know would be willing to help me if I had a personal problem. • It has been difficult for me to make friends with other students enrolled at this college. • Most students at this college have values and attitudes which are similar to my own. • I developed friendships with others students in my first 2 blocks.

Participants scored each item on a scale of 1-4. (1) – Strongly Agree; (2) Agree; (3) Disagree; or (4) Strongly Disagree. Therefore, the range of scores on this variable is 4-16. The Chronbach's alpha coefficient for this scale was .67.

The Institutional Commitment to the Welfare of Students Scale (INSTCOMMSCALE) variable is a composite score comprised of the responses to seven (7) items extracted from the College Experiences Survey (Braxton, 2006). These items are summarized in Table 10.

Table 10. Institutional Commitment to the Welfare of Students Scale.

Survey Items
<ul style="list-style-type: none"> • Most of the student services staff with which I have had contact with genuinely interested in students. • Most other college staff with which I have had contact are genuinely interested in students. • I have experienced negative interactions with student services staff. • I have experienced negative interactions with other college staff. • In general, student services staff treat students with respect. • In general, other college staff treat students with respect. • In general, I know where to go if I need information about a policy.

Participants scored each item on a scale of 1-4. (1) – Strongly Agree; (2) Agree; (3) Disagree; or (4) Strongly Disagree. Therefore, the range of scores on this variable is 7-28. The Chronbach’s alpha coefficient for this scale was .829, suggesting a relatively high level of internal consistency reliability among the items on the scale.

The Institutional Integrity Scale (INSTINTSCALE) variable is a composite score comprised of the responses to five (5) items extracted from the College Experiences Survey (Braxton, 2006). These items are summarized in Table 11.

Table 11: Institutional Integrity Scale.

Survey Items
<ul style="list-style-type: none"> • The actions of the administration are consistent with the mission of the institution. • My college almost always does the right thing. • The values of this college are communicated clearly to the campus community. • Since I have been a student here, the rules of this college appear in harmony with the values promoted by the college. • Since I have been a student here, the decisions made at this college rarely conflict with the values endorsed by the college.

Participants scored each item on a scale of 1-4. (1) – Strongly Agree; (2) Agree; (3) Disagree; or (4) Strongly Disagree. Therefore, the range of scores on this variable is 5-20. The Chronbach’s alpha coefficient for this scale was .847, suggesting a relatively high level of internal consistency reliability among the items on the scale.

Each of the three (3) scales described above was adapted from Braxton’s (2006) College Experiences Survey (CES). Results from prior administration of the Survey indicated the instrument’s acceptable reliability and predictive validity.

The Block Satisfaction Scale (BLOCKSATSCALE) variable is a composite score comprised of the responses to nine (9) items created to solicit student opinions and perceptions about the characteristics and effects of the block. These items are summarized in Table 12.

Table 12: Block Satisfaction Scale.

Survey Items

- I am able to maintain my attention span during a 3 hour block.
- My faculty engage me in the academic instruction for the 3 hour block.
- The course material is covered adequately in a 3 hour block.
- I am able to retain the material covered in a 3 hour block.
- I developed friendships with others students in my first 2 blocks.
- I have time to spend with my family and friends.
- I have time to study and to complete homework.
- I have time to participate in sports or other extracurricular activities.
- I have time for a job, if I want one.

Participants scored each item on a scale of 1-4. (1) – Strongly Agree; (2) Agree; (3) Disagree; or (4) Strongly Disagree. Therefore, the range of scores on this variable is 9-36. The Chronbach’s alpha coefficient for this scale was .816, suggesting a relatively high level of internal consistency reliability among the items on the scale.

Of the nine (9) items related to the block calendar, these items were further subdivided into to sub-scales of four (4) and five (5) items respectively that attempt to isolate what aspects of the block calendar are most/least attractive to students.

In an effort to more thoroughly explore the impact of the block calendar system, the project team further divided the Block Satisfaction Scale into two separate subscales. The subscale variables, INCLASSBLOCK and OUTOFCLASSBLOCK attempt to distinguish between the student perceptions of the block schedule on their academic performance and their ability to maintain the delicate balance of academics and socialization with peers, participation in extracurricular activities, work and family obligations. The items contained in each subscale are summarized in Table 13.

Table 13. In Class/ Out of Class Block.

Survey Items - In Class Block	Survey Items - Out of Class Block
<ul style="list-style-type: none"> I am able to maintain my attention span during a 3 hour block. 	<ul style="list-style-type: none"> I have time to spend with my family and friends.
<ul style="list-style-type: none"> My faculty engage me in the academic instruction for the 3 hour block. 	<ul style="list-style-type: none"> I have time to study and to complete homework.
<ul style="list-style-type: none"> The course material is covered adequately in a 3 hour block. 	<ul style="list-style-type: none"> I have time to participate in sports or other extracurricular activities.
<ul style="list-style-type: none"> I am able to retain the material covered in a 3 hour block. 	<ul style="list-style-type: none"> I have time for a job, if I want one.
<ul style="list-style-type: none"> I developed friendships with others students in my first 2 blocks. 	

Participants scored each item in the INCLASSBLOCK variable on a scale of 1-4. (1) Strongly Agree; (2) Agree; (3) Disagree; or (4) Strongly Disagree. Therefore, the range of scores on this variable is 5-20. The Chronbach's alpha coefficient for this scale was .74, suggesting a relatively high level of internal consistency reliability among the items on the scale.

Participants scored each item in the OUTOFCLASSBLOCK variable on a scale of 1-4. (1) Strongly Agree; (2) Agree; (3) Disagree; or (4) Strongly Disagree. Therefore, the range of scores on this variable

is 4-16. The Chronbach's alpha coefficient for this scale was .72, thereby suggesting a relatively high level of internal consistency reliability among the items on the scale.

Table 14. Means and Standard Deviations of Scale Variables.

	Variable Mean	Standard Deviation
Social Integration	12.5	2.12
Inst Commitment to Student Welfare	22.03	3.49
Inst Integrity	15.18	2.51
Block Satisfaction	27.01	4.29
In Class Block	11.94	2.15
Out of Class Block	15.05	2.73

Sample

The population under study included all freshmen students at Tusculum College. Extant literature suggests that the first semester of college is when entry characteristics and level of student commitment (measured by levels of student academic and social integration) are the most impactful (Elkins et al, 2000). Moreover, it is acknowledged that the first, year, semester or, in the instant case, the first block, are critical for the long term success of the student. (Hermanowicz, 2003). Therefore, the project team limited its analysis to freshmen students.

In an effort to ensure a robust sample, surveys were administered at the end of the third block to all Tusculum College students in class as a part of their end of course evaluation process. A total of 827 surveys were administered and responses were received from 631, for a total response rate of 75.38%. The entering freshman class in fall, 2009, numbered 316. Prior to the administration of the survey, 15 freshmen students had withdrawn from the College. Accordingly, the total freshmen population at the time of the survey administration was 343. These included students who were first-time freshman as

well as students who were characterized as freshmen as a result of their having failed to earn 30 college credit hours prior to the start of the fall semester (42). A total of 249 valid responses were received from students identified as freshmen for a total freshman response rate of 72.88%

The sample was highly representative of the first year student population at Tusculum College. The sample was comprised of 51% men and 49% women as compared to 54% and 46% respectively in the first year class. Similarly, 75.4% of the sample was white with the remaining 24.6% being made up of racial minorities. The freshman student population was 72.6% white 27.4 % racial minorities. Upon review of the entering students' academic characteristics, the average GPA for freshmen students was 3.02. Among the sample, the mean GPA was 3.13. Accordingly, the research team has a high degree of confidence in the representativeness of the sample.

Results

The project team designed a multiple linear regression model to analyze the impact of the block calendar system over and above the constructs of institutional commitment to the welfare of its students, institutional integrity and social integration, on student retention decisions. Based on the binary nature of the dependent variable (intent to return), logistic regression was also considered. Auxiliary analysis using logistic regression revealed similar findings to the present analysis.

For purposes of this analysis, student retention is measured by student's stated intent to re-enroll for the spring semester. Intent to re-enroll is a proxy measure for student persistence and is highly correlated to actual re-enrollment (Bean, 1980, 1983). Upon analysis, the number of students indicating the intent to re-enroll was extremely skewed in favor of re-enrollment. Only six (6) students indicated that they did not intend to re-enroll during the spring semester.

Demographic variables (controls) were classified as inputs – parent attainment, high school grades, race and gender. This is consistent with Braxton, Hirschy & McClendon (2004) research theorizing that individual student characteristics impact initial institutional commitment, social integration and ultimately student departure. Thereafter, college experiences were added to the model including student residency status, employment status, and participation in extracurricular activities.

The constructs of institutional integrity, institutional commitment to the welfare of students and social integration were added sequentially as independent variables. Finally, student satisfaction with the block calendar system was added to the model. As indicated in the variable rationales above, the Block Satisfaction Scale (BLOCKSATSCALE) was subdivided into two (2) distinct subscales designed to separate student experience with the Block in class (INCLASS) and the effect of the block on students outside of the classroom (OUTOFCLASS).

Table 10 presents the regression results for seven (7) models. Model 7 includes all control variables as well as the independent variable proxies for institutional commitment to student welfare, institutional integrity, student social integration, in class block satisfaction and out of class block satisfaction. The variables in the model accounted for 19.1 percent of the variance in student retention decisions. The low R-squared resulting from the regression analysis highlights the complex and personal nature of student departure decisions and the seemingly infinite number of factors that contribute to departure decisions. Notwithstanding this acknowledgement, the model yields a number of important findings.

The results of the linear regression analysis are consistent with the extant research regarding first-year retention rates in a number of key respects. The OUTOFCLASS Block variable was statistically significant ($\beta = .014$; $p = .015$). This variable is an aggregate measure of the impact of the block system on students' experiences outside of class. Students indicated the extent to which the block system interfered with their ability to hold a job, participate in extracurricular activities, or spend time with friends and family. Indeed, the coefficients indicate a positive correlation between student satisfaction with the out of class aspects of the block calendar system and their intent to return. Logically, students with limited time to engage in campus social, co-curricular or extracurricular activities would be less likely to persist. Therefore, the findings are consistent with the research articulating a coherent theory of social integration.

Similarly, the results of the linear regression analysis revealed statistically significant findings relative to the (SOCINT) social integration construct variable ($\beta = .007$; $p = .023$). According to the literature, a student's ability to socially integrate into the college environment has been found to correlate positively with student persistence (Nora, 1987; Pascarella & Terenzini, 1983; Titus, 2004). As indicated by Pascarella and Terenzini (2005), the level of student involvement and integration in any of the components of an institution's academic and social systems can be a critical factor in students' persistence decisions. More specifically, students who report higher levels of social integration during their freshman year are more likely to remain at the institution for a second year (Carey, 2005; Kuh et al., Nora et al., 1996). Thus, the positive statistically significant relationship between satisfaction with the out of class block schedule, student social integration and intent to persist is supported by the extant research. Moreover, the positive statistically significant relationship between social integration and intent to persist are important findings for Tusculum administrators as they begin to shape policy that impacts student socialization into the campus environment.

Statistically significant results were also noted for the INCLASS Block variable ($\beta = .016$; $p = .021$). Students indicating high levels of satisfaction with the in class block experience, report being able to retain material, feel engaged by the faculty member and are able to maintain their attention span during the entire academic block.

Marginally significant results were also noted for the variables HSGRADES ($\beta = .033$; $p = .075$). Given the accelerated format of the Block schedule, better prepared students are likely better equipped to manage the intense focus and level of preparation necessary to succeed in the Block academic environment. Researchers, Nora & Cabrera (1996) reported that academic proficiency, as defined by grade point average, predicted persistence to a significant degree. Dewitz, Woolsey & Walsh (2009) have likewise concluded that better prepared students, succeed at a higher rate than their less well prepared peers (Dewitz, Woolsey & Walsh (2009). Accordingly, the marginal statistically significant results for HSGRADES and positively statistically significant results for the INCLASS block are not altogether surprising to the project team and should be informative for Tusculum administrators particularly in light of the Project Question #1 findings regarding the predictive value of institutional selectivity on student retention.

Marginally significant, negative results were also noted for the variable EMPLOYMT ($\beta = -.043$; $p = .078$). Logically, as student employment increased, retention decreased. This is consistent with Astin (1975, 1993), who reported that a student's chances of graduating from college were significantly impacted by the nature and extent of their employment during the school year. Full-time employment was found to have a negative impact, as did holding a part-time job off campus.

According to Pascarella et. al. (2004), student employment is regarded as an external obligation that carries with it the potential to significantly interfere with student retention. Employment not only limits a student's time and energy for academics, but also decreases opportunities for interactions with peers, faculty and other elements of college life (Riggart, 2006). Consequently, if the student's employment obligations limit the student's opportunity for social integration, the risk of departure is increased for that student.

While extracurricular activity was not found to be statistically significant, Tusculum enrollment managers indicate that the block schedule is particularly attractive to athletes because it leaves time for practice and travel associated with games. Student athletes are relieved of the pressure to schedule their academic coursework around team meetings, practices and games. Most athletes select a morning block in order to facilitate afternoon practices and/or evening games. It is worthy of note however, that students who are forced to miss classes due to sports-related travel for games or other activities effectively miss the equivalent of a full week of academic instruction for every block from which they are absent. Further, it is not difficult to imagine that student athletes have very little time to engage in meaningful social relationships with their peers outside of athletics. Accordingly, participation in intercollegiate athletics and other student clubs and organizations may actually compromise social integration.

The regression model was unable to detect any significant values for gender (GENDER), race (RACE), parent attainment (PARENTATT) or residentiality (RESIDENCE). As indicated in Table 8, survey respondents were nearly evenly divided along gender lines. Similarly, the ratio of minority to majority students is significantly more diverse than the population of the region served by the institution. Accordingly, feelings of isolation that small numbers of minority students often experiences on majority white campuses would be far less intense in a more integrated academic environment.

Interestingly, despite the working class demographics of the region, nearly 44% of Tusculum students had at least one college educated parent. More than 22% of students had parents who were both college educated. Given the extant literature, the project team is surprised that the model did not detect a statistically significant relationship between parent attainment and retention.

Finally, the model was unable to detect significance for the variable RESIDENCE. 86 percent of Tusculum students reside on campus. This finding - or lack thereof, suggests that the block calendar system does not have a disparate impact on non-residential students and that commuter students are equally satisfied with Tusculum College.

Table 10: Results of Linear Regression Analysis.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Gender	-.005 (.026) .839	-.004 (.026) .864	-.008 (.026) .766	-.009 (.026) .739	-.008 (.026) .763	-.009 (.025) .724	-.012 (.024) .622
Race	.003 (.009) .737	.001 (.009) .953	.000 (.009) .957	.000 (.009) .968	.000 (.009) .948	-.004 (.009) .683	-.004 (.009) .649
HS Grades	.042 (.019) .026*	.037 (.019) .055	.034 (.019) .078	.033 (.019) .081	.031 (.019) .100	.026 (.018) .164	.033 (.018) .075
Parent Attainment	-.006 (.015) .675	-.010 (.015) .532	-.012 (.015) .417	-.011 (.015) .470	-.009 (.015) .537	-.003 (.015) .839	-.002 (.015) .866
Student Employment		-.049 (.026) .057	-.048 (.025) .059	-.051 (.026) .049*	-.048 (.025) .059	-.049 (.024) .045*	-.043 (.024) .078
Residency		-.029 (.037) .426	.018 (.037) .622	-.018 (.037) .624	-.020 (.037) .588	-.025 (.036) .477	-.014 (.035) .697
Extracurricular Activities		-.003 (.009) .737	-.002 (.009) .774	-.003 (.009) .767	-.005 (.009) .536	-.007 (.008) .377	-.012 (.008) .150
Institutional Integrity			.009 (.005) .074	.005 (.006) .397	.001 (.006) .869	.006 (.006) .373	-.006 (.006) .328
Institutional Commitment to the Welfare of its Students				.004 (.005) .345	.002 (.005) .629	.000 (.004) .964	.000 (.004) .939
Social Integration					.014 (.007) .028*	.014 (.006) .024*	
In Class Block						.024 (.006) .000**	.016 (.007) .021*
Out of Class Block							.014 (.006) .015*

Standard Errors in parentheses, p-values listed below standard errors.

*Statistical significance at the .05 level

**Statistical significance at the .01 level

***Statistical significance at the .001 level

Secondary Analysis

The regression analysis designed to address Project Question Two indicated social integration ($\beta = .008$; $p = .023$), student satisfaction with the out of class aspects of the block ($\beta = .014$; $p = .015$), and student satisfaction with the in class aspects of the block ($\beta = .016$; $p = .021$) were significant and positive predictors of student retention decisions. These variables were significant above and beyond demographic variables, student perceptions of institutional integrity, and institutional commitment to student welfare.

Given the significance of these variables in the prior regression analysis, the project team returned to the first sub-question articulated for Project Question Two:

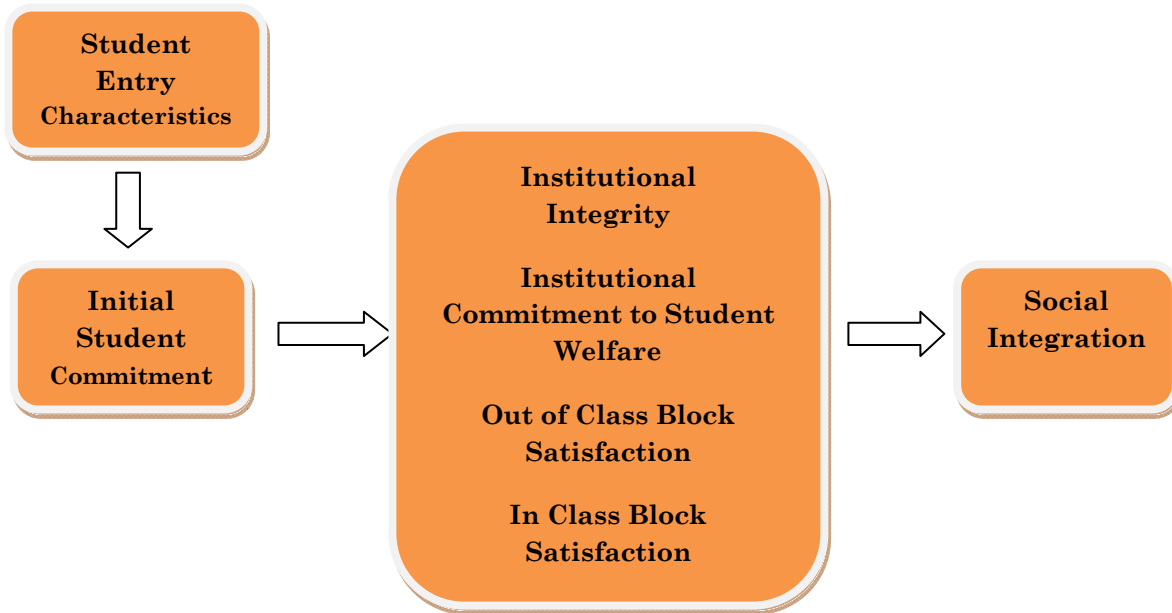
- What is the nature and extent of the impact of the block calendar system on student retention decisions at Tusculum College?

While social integration was not an extremely strong predictor of student retention decisions in the first regression analysis, its theoretical importance as a predictor of student retention decisions at residential colleges is well-established in the literature (Braxton, Hirschy, and McClendon, 2004). In order to provide Tusculum College administrators with a more complete analysis of the nature and extent of the impact of the block calendar system on student retention decisions, the project team wanted to further explore the relationship of the block calendar system to social integration.

Using the same data set as the prior analysis, the project team designed a multiple linear regression model to probe the predictors of social integration among first-year Tusculum College students. Student entry characteristics, institutional integrity, institutional commitment to student welfare, satisfaction with in class aspects of the block calendar system, and satisfaction with out of class aspects of the block calendar system were tested for inclusion in the model.

Figure 3 depicts the working theory that undergirds this analysis. We elected to test two of the six antecedents to social integration posited by Braxton, Hirschy, and McClendon (2004). We selected Institutional Integrity and Institutional Commitment to Student Welfare, as both of these constructs measures organizational factors, which the project team perceived as being most helpful to Tusculum administrators. While variables such as residency status and extracurricular participation capture aspects of the other antecedents posited by Braxton et al., the present study does not explicitly test those constructs. Then, we tested the impact of satisfaction with the in class and out of class dimensions of the block calendar system over and above Institutional Integrity and Institutional Commitment to Student Welfare.

Figure 3. Theoretical Antecedents of Social Integration.



Results

Table 11 displays the results of multiple regression analysis. Model 1 includes student entry characteristics. Model 2 adds the constructs of student perceptions of institutional integrity and institutional commitment to student welfare, and Model 3 includes satisfaction with in class and out of class aspects of the block calendar system.

Satisfaction with the out of class aspects of the block calendar system ($\beta = .289$; $p = .000$) emerges as the largest and most statistically significant predictor of social integration. Holding the other variables constant, a one-point increase in the OUT OF CLASS satisfaction scale score (range = 4 to 16 points) is predicted to account for a .289 point increase in the SOCIAL INTEGRATION scale score (range = 4 to 16 points).

Additionally, student perceptions of institutional integrity ($\beta = .216$; $p = .001$), institutional commitment to student welfare ($\beta = .113$, $p = .013$), and extracurricular participation ($\beta = .590$; $p = .044$) also emerge as statistically significant predictors of social integration. Residency status, high school grades, and satisfaction with the in class aspects of the block calendar system were not significant predictors of social integration.

Table 11. Multiple Linear Regression Analysis of Predictors of Social Integration Among First-Year Tusculum College Students.

	Model 1 R2=.010	Model 2 R2=.221	Model 3 R2=.333
Residency Status	-.504 (.459) .274	.053 (.422) .901	.140 (.397) .724
Extracurricular Participation (binary)	.556 (.336) .099	.657 (.305) .033*	.590 (.290) .044*
High School Grades	.274 (.215) .204	.159 (.194) .413	.314 (.184) .089
Institutional Integrity Scale		.275 (.067) .000***	.216 (.066) .001***
Institutional Commitment to Student Welfare Scale		.121 (.048) .013**	.113 (.045) .013**
In Class Block Scale			-.111 (.073) .129
Out of Class Block Scale			.289 (.055) .000***

Standard Errors in parentheses, p-values listed below standard errors.

*Statistical significance at the .05 level

**Statistical significance at the .01 level

***Statistical significance at the .001 level

Discussion – Project Question Two

The first regression analysis indicated satisfaction with both out of class and in class aspects of the block calendar system were significant, positive predictors of persistence over and above the impact of a variety of other variables that have been well established in the literature. Although statistically significant, the standardized coefficients of .221 and .200, respectively, indicated the strength of these relationships to be fairly weak.

The second regression analysis indicated student satisfaction with the out of class aspects of the block was a significant and positive predictor of social integration. The standardized coefficient of .365 indicates the strength of the relationship is moderate. Additionally, the standardized coefficients for institutional integrity (.255) and institutional commitment to student welfare (.182) reinforce prior studies indicating these constructs are also related to social integration. The present study found no evidence of a statistically significant relationship between satisfaction with the in class aspects of the block and social integration.

Taken together, these regression analyses indicate the block calendar does have a relatively small impact on student retention, with the out of class scale being slightly more related to student retention decisions than the in class scale. Given the relationship between satisfaction with the out of class aspects of the block and social integration, the present research indicates the impact of the block calendar on student retention may operate, in part, through social integration. Importantly, this research asserts social integration is fostered by student satisfaction with the out of class aspects of the block, student perceptions of institutional integrity, and student perceptions that the institution is committed to their welfare.

Project Limitations

The project team concedes several limitations inherent in this research. First, the team notes the possibility of measurement error. Conceptual measurement errors involve the creation of substitute or proxy variable to be used as an alternative. (Pehazur, 1982). The project team utilized a number of variable proxies in the study. For example, student's self reported intent to re-enroll was used as a proxy for actual re-enrollment. While this proxy has some grounding in the literature, there is some concern. In attempting to triangulate the results of our study with actual retention patterns, we were advised that the number of actual withdrawals actually exceeded the predicted attrition based on survey data by nearly 200 percent. Accordingly, the possibility of measurement error must be considered.

Additionally, the possibility for bias in the sample must be acknowledged. It is worthy of note that not all students completing the survey were "first-time Freshmen." Within the pool of students designated as Freshmen, there were 316 first-time freshmen and 42 returning freshmen. There is a likelihood that first-time freshmen and those students characterized as freshmen by virtue of not having earned 30 credit hours at the time of survey administration may differ on several relevant characteristics.

Another limitation on the project is the error of non-response. It is possible that significant differences exist between those students who declined to complete the survey and those who registered their responses. There were approximately 94 students who declined to participate in the study. This is

slightly more than 20% of the freshmen student population. An additional limitation is the existence of missing data. While the error associated with missing values is presumed to be randomly distributed, it is not known why students failed to complete some questions on the survey instrument.

Further, it is worthy of note that the Chronbach's alpha coefficient for the scale variable social integration was .67. Accordingly, the internal consistency reliability of the scale used to measure this important construct was less than desirable.

Finally, the low R-squared value (.191) obtained in the first regression model suggests that there is a significant amount of variance that remains unaccounted for in the model. Further, there may be unobservable characteristics that impacted student retention decisions that could not be detected by the statistical tests employed by the study.

CONCLUSIONS

Conclusion One – Project Question One

The study designed to address Project Question One failed to find evidence the difference in first-year retention rates between Tusculum College and its peer institutions is attributable to the block calendar system. The project team did, however, find evidence that Tusculum's first-year retention rate is lower than its peers. In considering this finding, it is important to note the theoretical model developed to address Project Question One accounted for slightly less than 70 percent of the variability in first-year retention rates among these institutions. While this is a relatively strong theoretical model, 30 percent of the variability remains unaccounted for by this model. In an effort to continue to solve the student departure puzzle, Tusculum administrators are encouraged to consider what characteristics (such as percentage of first-generation colleges students, percentage of student-athletes, or percentage of students working off-campus) not included in this model may contribute to the institution's lower than expected rates of first-year retention.

Conclusion Two — Project Question Two

Findings from the survey research did indicate that satisfaction with both the in class and the out of class aspects of the block schedule had small, though statistically significant, positive effects on student retention decisions. Unfortunately the entire model accounted for only 19 percent of the variability in student intent to re-enroll, illustrating the intensely personal and unique nature of this decision-making process. Additionally, satisfaction with the out of class aspects of the block calendar system was related to social integration, which is a predictor of student retention decisions at residential colleges. The project team recommends further study of the relationship between dissatisfaction with the out of class aspects of the block calendar system, social integration, and student attrition using qualitative methods. Qualitative research may highlight why and how the phenomenon occurs, and it could provide an excellent foundation for the development of support and intervention systems to assist at-risk students.

Conclusion Three – Project Questions One and Two

Despite the relationships detected in the survey research, the overall project offers little evidence this effect is large enough to be detected at the institutional level. The project team concludes that these two sets of findings do not provide compelling evidence the block calendar system is exerting a strong, negative impact on first-year retention rates. Thus, the team suggests the costs associated with the use of the block calendar schedule most likely do not include substantially lowered first-year retention rates. Thus, administrators are encouraged to look beyond the block calendar system for levers with which to increase first-year retention.

RECOMMENDATIONS

Project Question One Recommendations

The present research affirms prior studies that indicate selectivity, institutional control, and religious affiliation as key predictors of institutional retention rates. With respect to institutional control and religious affiliation, Tusculum College is already well-positioned for high first-year retention rates. Thus, the project team does not recommend institutional action related to either variable.

Institutional selectivity emerges as the only strong predictor of institutional retention rates that can be manipulated by Tusculum administrators. The project team cautions that a change in selectivity, particularly in the form of altered admissions requirements, could represent a substantial change in institutional mission. Such a change would impact both the profile of students served by the institution and the services provided by the institution to these students. It is beyond the scope of this analysis to determine whether this change is appropriate for Tusculum College, although we do recommend the following considerations:

1. First, Tusculum must wrestle with the question of if and how such a strategy fits with its institutional mission. This is a critical question, as the institutional mission is simultaneously a management tool, a communication tool, and a positioning tool (Dill, 1997). Administrators should acknowledge that any substantial change in selectivity level would be a significant strategic decision that should involve thoughtful input from faculty as well as administrators in student services, academic advising, and enrollment management. Furthermore, input from students and alumni may also be beneficial.
2. If Tusculum determines this strategic change to be in keeping with its institutional mission and identity, the institution must ascertain whether such a change represents a viable enrollment strategy. First, the institution should consider the characteristics of its current student market. A cursory examination of demographic trends indicates the local (Greeneville, Tennessee) high school graduation rate of 72.9 is 7.5 percentage points lower than the national average, the poverty rate of 16.5 percent is 7.3 percentage points higher than the national average, and median household income of \$25,999 is nearly \$16,000 beneath the national average (U.S. Census Bureau, 2000).

While some population trends may have shifted since the 2000 census, these data mirror statements made by Tusculum administrators with regards to the demographics of Greeneville and the surrounding area. Given these realities, the project team recommends preliminary market research to determine if a geographically broader market for a Tusculum education exists or can be cultivated. Table 15 depicts the geographic distribution of Cornell College, Colorado College, the University of Montana Western, and Tusculum College. The project team suggests focusing initial market research activities on the southeastern United States, as none of the other institutions utilizing the block calendar are located within this region.

3. Third, the institution must determine in what ways expanding selectivity (and potentially geographic diversity) would impact the needs of its student population. Focus groups conducted



with current Tusculum students could provide initial data with which to begin planning. In particular, focus group interviews could illuminate what particular challenges and opportunities students with strong academic backgrounds face at Tusculum. Likewise, interviews with current students from the potential target region (Southeastern United States) could provide similar information about the types of support and accommodations these students require.

Figure 4. Geographic Distribution of Block Institutions in the United States.



Project Question Two Recommendations

The survey research indicates the impact of the block calendar system on student retention may operate through social integration. Much literature exists on enhancing social integration, particularly among first-year students. While we draw upon this literature to advance the following recommendations, we remain cognizant of the distinctive characteristics of Tusculum's environment.

1. Enrollment Management recruiting strategies employed by admissions offices and financial aid play important roles in the enrollment management process (Braxton & McClendon, 2001). According to Braxton, Vesper and Hossler (1995), the fulfillment of student expectations about the college experience go a long way toward fostering the kind of social integration that positively impacts persistence. Therefore, it is essential that the information provided by enrollment management personnel regarding the block schedule be honest and realistic.

A review of Tusculum College's marketing material highlighting the block calendar system reveals a positive, though limited view of the block experience. Among the advantages of the

block schedule are the ability to participate in hands on learning experiences and practical application of the academic concepts presented in class. In short, this piece portrays the best things about the block calendar system and does so in an engaging and effective manner. It does not however, address the critical time management issues and rigorous standards imposed by the block. Clearly, these kinds of print materials are designed to market the “Tusculum difference” and therefore cannot be expected to paint an entirely balanced portrait of the student experience. However, admissions offices, financial aid and enrollment advisors have a very different responsibility.

Braxton & McClendon (2001) note that descriptions of the college should be communicated in both an accurate and consistent way. Accuracy and consistency should be the hallmarks of all presentations made to prospective students and parents. Students must be adequately informed of the unique opportunities afforded by a Tusculum College education and must be equally well advised about the academic challenges and social implications of the block schedule.

Accordingly, the project team recommends that enrollment and admissions protocols and scripts be reviewed and or developed with a critical eye toward accuracy. All personnel should be fully trained and conversant on all aspects of the block calendar system. Beyond training, Tusculum must ensure that all personnel are made aware that their first priority is to provide thorough and accurate information to potential students. Less emphasis should be placed on enrollment. Rather the emphasis should be placed on enrolling students who are able to successfully matriculate to degree. A number of schools have developed incentive programs to encourage this kind of enrollment management policy. It is strongly recommended that Tusculum institute such a practice.

Finally, and perhaps most important, the project team strongly recommends that the enrollment management team encourage visits to campus by prospective students. As indicated by Braxton & McClendon (2001), prospective students who visit the campus of a college or university, visit a class and talk with faculty and students, have a more realistic perception of the college experience and are less likely to be surprised and/or overwhelmed by the academic and/or social environment upon enrollment.

2. **Freshmen Orientation.** The basic goal of a student orientation program is to familiarize students with administrative and academic regulations, make students aware of student organizations and activities, bring student services to their attention, and design academic programs and select courses (Braxton & McClendon, citing Pascarella, Terenzini, & Wolfe, 1986). Simply stated, most orientation programs seek to provide students with information. Unfortunately, these programs often give an incomplete picture of the intellectual and social realities that exist on campuses like Tusculum’s.

Among the many critical components of a student orientation program is the provision of information on how to establish personal contacts with individuals who can provide assistance with course selection, tutoring and other academic issues that typically arise. Bringing in upperclassmen and faculty to meet new students is an essential component of a comprehensive orientation plan. Additionally, the freshman orientation program should provide significant

opportunities for new students to interact socially with their peers (Braxton & McClendon, 2001). As indicated in the findings from Project Question Two, these social relationships are critically important to the first year student's integration processes and weigh heavily on students' persistence decisions.

Further, there is some evidence in the extant literature to suggest a link between new student orientation programs and freshmen retention (Upcraft & Farnsworth, 1984, Pascarella et al., 1986). While Pascarella et al. did not find a significant direct effect on student persistence, his research did detect that freshmen orientation had a significant effect on social integration and institutional commitment. Inasmuch as social integration had a statistically significant relationship to student retention decisions at Tusculum College, freshmen orientation is one area that could potentially reduce student attrition if handled properly.

In an effort to assist Tusculum administrators with more practical recommendations, the project team reviewed the orientation programs of the two other private institutions in the country that use the block calendar system. Each of these institutions had a robust orientation process that extends over a period of days and includes many of the elements referred to above. Tusculum's current Freshmen Orientation agenda appears significantly less robust. Accordingly, the project team recommends a review and restructuring of the Freshmen Orientation Experience. See Table 12 for a summary comparison of orientation components at block institutions.

Extending the length of the program and providing meaningful opportunities for new students to engage with upperclassmen, faculty, student services personnel and their new academic peers is critical to student persistence and success. Mentoring programs that pair freshmen students with an upper class student may assist the student in navigating the transition from high school to college more successfully. These student mentors can be an invaluable resource to a student who might be hesitant to ask questions in class.

Additionally, a cursory review of the orientation schedules reveals an emphasis on preparing students to matriculate on a block schedule. Development of a mock course might be an invaluable component of a recruitment visit or an orientation process. This would provide the student with an opportunity to experience that uniqueness of the Tusculum academic experience prior to matriculation. Mock or "practice" classes, student forums and faculty panels help to ease students into the unique academic experience of the block may be helpful.

The project team strongly suggests review and revision of the freshmen orientation experience to include a greater focus on the realities of the block schedule. It is further suggested that the administration consider establishing a formalized mentor program for first-time freshmen to assist them with acclimating to the challenges of the block schedule. Finally, it is suggested that the time allotted for freshmen orientation be extended to permit more meaningful opportunities for social integration among first year freshmen students.

Table 12: Summary of Freshmen Orientation Experiences.

	Colorado College	Cornell College	Tusculum College
Length of Orientation	4 Days	6 Days	3 Days
Mentor Program	Adopt-A-Student - Mentor assignments - Mentor/Student Meetings (4) Small Group Discussions	Peer Group Assignments - Lunch with Peer Group - Service Project with Peer Group	Orientation Team Assignments - Team Meetings
Residence Life	Community Meetings in Residence Halls	Residence Hall Floor Meetings and Social	Rally in the Residence Halls
Social Activities	Concerts Parties	Variety Shows Socials	Movie Festival
Academics	Faculty Panel “Keys to Success” Student Panel “How to Succeed at CC” “Making the Most of a Liberal Arts Education” FYE Class Meeting IT/Library Orientation	Three Rs with Pas “What to Expect in Your First Class – Student Resource Fair” IT/Library First Block Class Meeting	Academic Program Orientation

3. **Integrated First Year Activities.** According to Pascarella and Chapman (1983), with background traits held constant, persisters were more likely to live on campus, and be more involved in social activities with their peers. While the project team did not detect significance for the RESIDENCY variable, the findings do support a critical look at ways to increase first year student social and academic integration.

The pattern of freshmen persisters being more involved in the social aspects of the institution than voluntary withdrawals is most pronounced at institutions like Tusculum College – residential, liberal arts colleges. Both Astin and Tinto (1975, 1993) agree that institutions that actively involve students both inside and outside the classroom and foster a sense of connection that is real and meaningful to students will create a campus environment more conducive to student retention than a less engaged institution.

According to Tinto (1993), when conditions that foster high levels of commitment and connection are created, the likelihood of student departure is decreased. Integrated first year activities that involve rituals and ceremonies unique to Tusculum College may be a way to reinforce and celebrate the Tusculum difference and more fully engage students in the life of the college, thereby enabling them to forge strong and significant ties to the institution that serve to reduce student departure.

Service programs and activities often provide a mechanism for students to come together as a college community in service to others. This can be particularly effective in religiously affiliated institutions and can become a powerful unifying tool. Tusculum College is very well suited for an organized student service program. Its core values including civic responsibility, integrity and a strong sense of college and community provide excellent unifying themes for such a program.

Finally, it is worthy of note that social activities scheduled during the weeks between blocks may serve to keep students engaged in the life of the college, particularly those students who might be tempted to withdraw at the end of a block period.

4. **Institutional Integrity.** The second regression analysis conducted for Project Question Two supports prior research indicating student perceptions of institutional integrity impact social integration (Braxton, Hirschy, and McClendon, 2004). Accuracy is institutional recruiting (Recommendation One) is one cornerstone of fostering perceptions of high integrity, and this is particularly important given the distinctiveness of Tusculum’s calendar system.

Another important tool with which to foster perceptions of high integrity among students is the institutional mission statement. In particular, Tusculum should be sure students are familiar with the institution’s mission and how it shapes the college’s policies and procedures. While Tusculum College’s mission statement is available on www.tusculum.edu/about/mission.html, the project team encourages administrators to both consider and communicate how this mission manifests in the daily lives of Tusculum policy makers, educators, and students. Simple actions, such as creating links on this webpage to related news stories (Dr. Moody’s recognition by the Corporation for National and Community Service or the work of the Bonner Leaders program), can be powerful tools for communicating how the Tusculum community is living out the various aspects of its mission. Perceptions of high institutional integrity impact social integration and, ultimately, retention.

5. **Commitment to Student Welfare.** It is clear to the project team the Tusculum community exhibits a strong commitment to the welfare of its students. Student perceptions of this level of commitment, however, are enhanced when the campus environment is characterized by fair treatment of students, clear communication, and opportunities through which students are allowed to participate in organizational decision making (Braxton, Hirschy, and McClendon, 2004, Berger and Braxton, 1998). Faculty use of active learning practices also foster perceptions that the institution is committed to student welfare (Braxton, Jones, Hirschy, and Hartley, 2008).

Tusculum already demonstrates commitment to student welfare through its Student Handbook and the Student Government program. Tusculum's well-written handbook contains sufficient information on policies and decision making processes, and it articulates the Student Government's role in these processes. While it is beyond the scope of this project to ascertain whether policies are adequately communicated or fairly administered, we advance one recommendation for increasing new students' awareness and understanding of college policies and processes. Administrators are encouraged to draw on the expertise of the Student Affairs staff to ascertain those policies most frequently misunderstood or violated by new students. A brief workshop held during Orientation could creatively present these policies to new students and enable them to complete formative, interactive assessments that demonstrate their understanding. The Understanding by Design process (Wiggins and McTighe, 2005) is an excellent tool for aligning learning goals, teaching plans, and assessment activities in order to maximize the effectiveness of this workshop.

Tusculum administrators have already indicated to the project team an awareness of and an interest in active learning. Indeed, individuals responsible for faculty development activities should consider learning activities designed to assist faculty in the development of active learning practices. Active learning practices include a variety of activities that encourage students to take an active and reflective role in the classroom. For example, fostering class discussion or debate of course ideas and concepts, invitations to point out fallacies in basic ideas, principles, or point of view presented in the course, arguing for or against a particular point of view, or proposing a plan for a research project or experiment are key active learning strategies (Braxton, Jones, Hirschy, and Hartley, 2008).

In short, small changes in organizational behaviors, both academic and co-curricular, contribute to building an environment where students feel valued and respected. Creating such an environment fosters the social integration critical to student retention.

Suggestions for Further Study

Pascarella and Terenzini (1991) have acknowledged, and the project team agrees, that the majority of student retention research focuses on first-time freshmen at residential four-year institutions. However, the present study was designed for a particular institution with a unique academic calendar – the block calendar system. This single defining feature changes that nature of the retention analysis and merits further study.

An alternative methodological approach might be to use Bean's student attrition model as a theoretical framework. Bean's model posits that retention is influenced by student background, integration, satisfaction with organization, attitudes, and environmental pull factors including financial need, significant other elsewhere, opportunity to transfer and family responsibilities (Bean, 1990; Titus,

2004). The inclusion of student financial need as a variable may improve the model fit and provide additional, relevant information about Tusculum student departure issues.

The project team also suggests supplementing the existing research with qualitative research methods that are related back to the results of the quantitative analysis. Specifically, the impact of the block calendar system both within and outside the classroom should be explored thoroughly. Utilization of qualitative inquiry methods to explore the nature and extent of the block schedule is indicated.

Finally, further study should be undertaken to determine whether satisfaction with the block calendar system and its impact on student retention persists beyond the freshman year. Specifically, a study which considers graduation rates rather than freshman retention would be informative on the question of the block schedule's impact.

A Final Word

The above project analysis is consistent with numerous studies of college student retention. At its most basic level, retention is the product of a complex set of interactions between personal and institutional factors and the intent to persist is largely the effect of a successful match between the student and the institution. To the extent that Tusculum can recruit and gain the commitment of students who are attracted to the uniqueness that is the “Tusculum College Experience,” the more secure the institution will become in terms of enrollment and revenue.

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APPENDIX – TUSCULUM STUDENT SURVEY

NOTE: Responses to this survey are entirely confidential and will be used solely for purposes of research. Additionally, please be advised that participation in the survey is entirely voluntary.

General Information (please check appropriate answer or fill in the blank)

Gender: Male Female
 Intended major: _____ Age: _____
 Class year: Freshman Sophomore Junior Senior
 Do you have a job? On Campus Off Campus Not during the academic year
 Hours of work per week: _____
 Where do you live? On Campus (Residence Hall: _____) Off Campus
 Please check all that you participate in:
 Intercollegiate athletics Student Government Intramurals Clubs or Organizations

Are you:
 ___ African American Native Hawaiian/Pacific Islander
 ___ American Indian/Alaska Native Puerto Rican
 ___ Asian American/Asian Other Latino
 ___ Caucasian/White Other _____
 ___ Mexican American/Chicano

What were your average grades in high school?
 ___ A or A+ A- B+
 ___ B B- C+
 ___ C C- D+
 ___ D or lower

Please circle your parents' highest level of education (F= Father; M= Mother):

Grammar school or less	F	M
Some high school	F	M
High school graduate	F	M
Postsecondary school other than college	F	M
Some college	F	M
College degree	F	M
Some graduate school	F	M
Graduate degree	F	M

Do you intend to re-enroll as a student at Tusculum College for Spring semester? ___ Yes ___ No



Please indicate your level of agreement or disagreement with each statement as it applies to your experience. Circle your response in the column to the right of each statement using the following categories.

Strongly Disagree=1 Disagree=2 Agree=3 Strongly Agree=4

Section 1

- | | | | | |
|---|---|---|---|---|
| 1. Most of the students I know would be willing to help me if I had a personal problem. | 1 | 2 | 3 | 4 |
| 2. Most of the faculty I have had contact with are interested in helping student grow in more than just academic areas. | 1 | 2 | 3 | 4 |
| 3. Academic advising is a strong component of the academic environment at this college | 1 | 2 | 3 | 4 |
| 4. I am satisfied with my academic experience here. | 1 | 2 | 3 | 4 |
| 5. I am satisfied with the extent of my intellectual development since enrolling here. | 1 | 2 | 3 | 4 |
| 6. My interest in ideas and intellectual matters has increased since coming to this institution. | 1 | 2 | 3 | 4 |
| 7. Most faculty members I have had contact with are genuinely interested in students. | 1 | 2 | 3 | 4 |

Section 2

- | | | | | |
|---|---|---|---|---|
| 8. Most student services staff (e.g., dean of students office, student activities, housing, etc.) with which I have had contact are genuinely interested in students. | 1 | 2 | 3 | 4 |
| 9. Most other college staff (e.g., registrar, student accounts, financial aid, etc.) with which I have had contact with are genuinely interested in students. | 1 | 2 | 3 | 4 |
| 10. I have experienced negative interactions with student services staff. | 1 | 2 | 3 | 4 |
| 11. I have experienced negative interactions with other college staff. | 1 | 2 | 3 | 4 |
| 12. In general, student services staff treat students with respect. | 1 | 2 | 3 | 4 |
| 13. In general, other college staff treat students with respect. | 1 | 2 | 3 | 4 |
| 14. In general, I know where to go if I need more information about a policy. | 1 | 2 | 3 | 4 |
| 15. It has been difficult for me to make friends with other students enrolled at this college. | 1 | 2 | 3 | 4 |
| 16. Most students at this college have values and attitudes which are similar to my own. | 1 | 2 | 3 | 4 |

Please indicate your level of agreement or disagreement with each statement as it applies to your experience. Circle your response in the column to the right of each statement using the following categories.

Strongly Disagree=1 Disagree=2 Agree=3 Strongly Agree=4

Section 3

- | | | | | |
|---|---|---|---|---|
| 17. The actions of the administration are consistent with the mission of this institution. | 1 | 2 | 3 | 4 |
| 18. My college almost always does the right thing. | 1 | 2 | 3 | 4 |
| 19. The values of this college are communicated clearly to the campus community. | 1 | 2 | 3 | 4 |
| 20. Since I have been a student here, the rules of this college appear in harmony with the values promoted by the college. | 1 | 2 | 3 | 4 |
| 21. Since I have been a student here, the decisions made at this college rarely conflict with the values endorsed by the college. | 1 | 2 | 3 | 4 |

Section 4

- | | | | | |
|---|---|---|---|---|
| 22. I am able to maintain my attention span during a 3 hour block. | 1 | 2 | 3 | 4 |
| 23. My faculty engage me in the academic instruction for the 3 hour block. | 1 | 2 | 3 | 4 |
| 24. The course material is covered adequately in a 3 hour block. | 1 | 2 | 3 | 4 |
| 25. I am able to retain the material covered in a 3 hour block. | 1 | 2 | 3 | 4 |
| 26. I developed friendships with other students in my first 2 blocks. | 1 | 2 | 3 | 4 |
| 27. I have time to spend with my family and friends. | 1 | 2 | 3 | 4 |
| 28. I have time to study and complete homework. | 1 | 2 | 3 | 4 |
| 29. I have time to participate in sports or other extracurricular activities. | 1 | 2 | 3 | 4 |
| 30. I have time for a job, if I want one. | 1 | 2 | 3 | 4 |

Thank You for Completing This Survey

