

VANDERBILT



Peabody College

Colin M. Coyne  
Alexis J. Stokes  
April 2017

**An Explanatory Model of First Year Retention:**  
*Application and Adaptation of Braxton, Doyle, Hartley, Hirschy, Jones & McLendon's  
Rethinking College Student Retention*



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In fulfillment of the requirements for the degree of  
Doctor of Education in Higher Education Leadership and Policy

Dr. John M. Braxton, Capstone Director

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## Table of Contents

<b>I. Executive Summary</b> .....	<b>5</b>
<b>II. Context and Problem</b> .....	<b>7</b>
A. Institutional Context .....	7
B. Definition of Problem .....	8
<b>III. Study Questions</b> .....	<b>11</b>
<b>IV. Conceptual Framework for Study Questions 1 and 2</b> .....	<b>13</b>
<b>V. Study Design</b> .....	<b>17</b>
A. Qualitative Methodology .....	18
B. Quantitative Methodology .....	19
<b>VI. Study Question One Analysis and Findings</b> .....	<b>23</b>
A. Data Analysis .....	24
1. Qualitative Methodology.....	24
2. Quantitative Methodology.....	24
B. Findings for Study Question 1 .....	30
Detailed Qualitative Findings: Study Question 1 .....	30
Detailed Quantitative Findings: Study Question 1 .....	33
<b>VII. Study Question Two Analysis and Findings</b> .....	<b>41</b>
A. Data Analysis .....	41
1. Qualitative Methodology.....	41
2. Quantitative Methodology.....	41
B. Findings for Study Question 2 .....	43
Detailed Qualitative Findings: Research Question 2 .....	43
Detailed Quantitative Findings: Research Question 2 .....	46
<b>VIII. Consolidated Discussion of Findings</b> .....	<b>61</b>
<b>IX. Recommendations of Institutional Policy and Practice</b> .....	<b>67</b>
<b>X. Study Limitations</b> .....	<b>75</b>
Recommendations to CMU for Future Research .....	77
<b>XI. Conclusion</b> .....	<b>79</b>
<b>Appendices</b> .....	<b>A-1</b>
<b>References</b> .....	<b>R-1</b>



## I. Executive Summary

On average, more than a quarter of all entering first-time, full-time students do not return to their institution for a second year. One in five fail to persist at all. Yet, “of the 45 percent of students who start college and fail to complete their degree, less than one-quarter are dismissed for poor academic performance. Most leave for other reasons” (Kuh, et al., 2006). Central Methodist University’s College of Liberal Arts and Sciences, with its residential undergraduate enrollment of 1,900 students and a first-year retention rate of 66%, is emblematic of hundreds of small to mid-sized liberal arts colleges and bachelor-degree granting universities dotting the landscape of higher education. Based heavily but not exclusively on Braxton, et al.’s *Rethinking College Student Retention* (2014), this study focuses on Central Methodist University against which established theory is applied in search of pragmatic, actionable strategies supportive of student retention. In doing so, we pose the following study questions:

- 1) ***What is the nature of the relationship between campus involvement and student persistence?***
  - a) *Specifically, what is the relationship between athletic participation and student persistence?*
  - b) *Specifically, what is the relationship between non-athletic co-curricular activities and student persistence?*
  - c) *Specifically, how do the components of social integration as an antecedent of persistence differ between athletics and non-athletes; and, co-curricular participants and non-participants?*
  
- 2) ***After removing co-curricular activities of any type, what factors most influence and/are most predictive of first year to second year persistence?***
  - a) *Specifically, what factors most influence social integration at CMU?*
  - b) *Specifically, what differences (if any) exist between CMU and a High Retention Institution?*

The Braxton, et al. (2014) model is both applicable and adaptable to individual residential colleges and universities while maintaining structural integrity and generating logically consistent results. As applied in this study, student perceptions of the potential for community among peers on campus consistently dominates as the most important element of a student’s integration into the campus social system. Tinto, Braxton and others successfully have demonstrated that social integration stands as the dominant predictor of student *persistence*. This study takes this analysis a step further arguing that the gap between persistence and retention (i.e.: students who actually return to campus for their second year) also can be explained by the variables of the Braxton, et al. model (2014), most specifically through student perceptions of institutional integrity. Introducing a new variable to the equation, we find student-faculty engagement especially demonstrates institutional commitment to the well being of students, a critical component to maintaining trust.

Following the connections of social integration to persistence and institutional integrity to retention, we provide recommendations of policy and practice to promote first-year retention at CMU. Our recommended policies of practice include:

- Create an Office of Independent Life while Expanding Access to the Greek System;
- Leverage the Role of Faculty as Essential to Persistence;
- Reframe Academic Messaging within Athletics;
- Enhance Institutional Integrity as a Critical Objective;
- Establish Academic Celebrations as a Key Component of the CMU Culture;
- Restructure CMU Recruitment Initiatives;
- Evaluate and Revamp CMU 101 Curriculum to Better Support Persistence;
- Extend the EagleConnect Program to all Students; and,
- Enact a Strategic Retention Initiative.

Ultimately, this study supports a particularly significant and generalizable finding: within institutions and across institutions, addressing persistence across a homogenous student body is inappropriate. Blanket policies addressing persistence therefore may be less effective than targeting high-risk groups with messages narrowly tailored to their unique needs.



## II. Context and Problem

### A. Institutional Context

Located in Fayette, Missouri, Central Methodist University (“CMU”) is a private, coeducational university with a total enrollment of 5,587 students, 1,094 of which attend the College of Liberal Arts and Sciences (“CLAS”) on the university’s main campus in Fayette (CMU 2016a, 2016b). CMU’s College of Graduate and Extended Studies (“CGES”) enrolls the balance of the student body in sites across the State of Missouri. While beyond the scope of this engagement, CGES is germane in one essential respect: of CMU’s 2016 projected operating income of \$2,811,553, CGES is expected to generate \$6,946,000. (CMU 2016c). Phrased differently, CLAS is expected to generate a net loss of \$4,134,447 for the 2015-2016 fiscal year. This project will focus on the university’s main campus (CLAS) in Fayette.

The University was founded in 1854, is accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools and is guided by its vision: “Central Methodist University will be recognized and valued as an institution delivering distinctive academic programs of excellence, nested within a robust and supportive campus environment, preparing students for making a living and living a life” (CMU, 2016a, 2016b). CLAS offers programs in accounting; business and economics; education; fine and performing arts; health professions; humanities; science; and social sciences. In 2014-15, 38 majors and programs generated 32,971 credit hours of instruction (CMU 2016b). CLAS employed 104 faculty members in 2014, of which 25 were full-time tenured; 12 were full-time tenure track; and, 32 were full time non-tenure track. The balance of faculty (35) were part-time non-tenure track yielding a student/faculty ratio of 16.5 to 1 and an average class size of 17 (CMU 2016a, CMU 2016b).

The CLAS first-time entering freshman class of 2015 numbered 281 fulltime and 6 part-time students, 84.3% of which were residents of Missouri with an average family income of \$82,915; approximately 40% of entering freshmen qualified for federal financial aid; and approximately 30% of the class were first generation college-going students (CMU, 2016e). The class’ average high school GPA was 3.43 and the average ACT of entering freshmen was 22.3 (CMU, 2016b). The racial makeup of the entering students was 74.2% of White, non-Hispanic origin; 7.0% African-American; 4.9% of mixed race, and 3.1% Hispanic. As a whole, the CLAS student body is 78.3% White, non-Hispanic (CMU 2016b). 47.9% of students are male; 52.1% female. (CMU 2016b).

Appendix A compares CLAS to peer and aspirant institutions across 104 measures including enrollment, graduation rates, incoming class characteristics, tuition, student finance, endowment, and post graduation earnings. Peer institutions identified by CMU are: Missouri Baptist University, Southwest Baptist University, Evangel University, Missouri Valley College, William Woods University, Hannibal-LaGrange University, Culver-Stockton College, and Stephens College. Aspirant institutions include: Columbia College, McKendree University, Baker University, Buena Vista University, Nebraska Wesleyan University, Simpson College,

William Jewell College, and Westminster College (CMU, 2016d). This comparison provides further insight into the overall framework of an institution such as CLAS, as well as, those institutions CMU and CLAS seek to model.

Missouri is ranked 37 out of 50 among the states in terms of college affordability: 23% of the state's families earn \$30,000 or less per year which means that 92% of family income would be required to attend the average state four-year non-doctoral institution (Institute for Research on Higher Education, 2016). CLAS's annual tuition is \$21,630 per year against which the school averages \$12,282 (56.8%) in institutional aid (CMU 2016b). Total average annual direct costs of attendance before institutional aid is estimated to be \$30,560 for the 2016-17 school year (CMU, 2016g).

Athletics and co-curricular activities are a prominent part of CLAS's student life and admissions strategies: 73.5% of the entering freshman class participated in athletics with an additional 10.1% in music. A member of the National Association of Intercollegiate Athletics ("NAIA"), CMU fields teams in the following sports (students participating in 2014-15): Baseball (86), Women's Basketball (32), Men's Basketball (43), Cheerleading (42), Women's Cross Country (12); Men's Cross Country (12); Football (166), Women's Golf (16); Men's Golf (25), Women's Soccer (39), Men's Soccer (41), Softball (63), Women's Track (39), Men's Track (44), and Women's Volleyball (50).

## B. Definition of Problem

Since Roger Drake's arrival as president of CMU in July, 2013, CLAS's freshman retention rate has risen from 57.3% in 2012 to 66.4% in 2016 (CMU 2016b, 2016f). The president feels strongly that social integration will play heavily into CMU's future retention success (CMU 2016e). Historically, the institution directed significant financial resources toward academics with social integration investments lagging. Under President Drake the institution implemented a diagnostic tool applying predictive modeling to identify at-risk students. Administration sought an early alert system that allowed CMU to provide interventions where needed. However, Drake perceives the system to be heavy on financial variables and non-existent on social variables. CMU has renewed its contract with Jenzabar, a student information systems consulting firm, to redevelop the model and streamline the system. Dr. Drake has characterized the current system as "good work but bad science" (CMU 2016e). As both a matter of mission and financial sustainability, CMU seeks to further improve persistence through "an explanatory model, based on the literature, informing future practices as well as refining and retuning [CMU's] predictive model" (CMU, 2016f).

CLAS's demographic composition places a number of students at high risk of attrition. (CMU, 2016f). In addition to the high percentage of students that qualify for federal need based aid and/or are first generation college-going students, CLAS's persistence objectives are exacerbated by its reliance on athletics as a primary recruiting tool; the university's rural setting; inconsistent student interest in and/or delivery of academic programing; and, the potentially reduced level of academic preparedness in a student body with an average ACT of 22 (CMU 2016b, CMU 2016e).

With 30% of CLAS's 2015 incoming class comprised of first generation college goers, population specific challenges require unique support and programming to promote student success. This population is twice as likely to leave college without completing a degree (Davis, 2010). First generation students experience an inordinate number of challenges during their first year of college (Ward, Siegel, Davenport, 2012). Therefore, designing programming and services to address their needs during this transitional time is critical. Similarly, given cultural capital deficits, institutional communication plays a greater hand in shaping the expectations of first generation students. It is therefore essential that the gap between student expectations and institutional reality is managed closely as the degree of alignment impacts performance, satisfaction, and persistence (Ward et al., 2012).

*From this point forward, the term "Central Methodist University" or "CMU" will be used to refer to the College of Liberal Arts and Sciences specifically. The College of Graduate and Extended Studies is not a part of the study or, unless specifically cited, part of any findings or recommendations.*



### III. Study Questions

Balancing the broader objective of generalizable findings and CMU's unique needs, the following study questions were identified and supported by CMU administration:

- 1) *What is the nature of the relationship between campus involvement and student persistence?*
  - a) *Specifically, what is the relationship between athletic participation and student persistence?*
  - b) *Specifically, what is the relationship between non-athletic co-curricular activities and student persistence?*
  - c) *Specifically, how do the components of social integration as an antecedent of persistence differ between athletics and non-athletes; and, co-curricular participants and non-participants?*
  
- 2) *After removing co-curricular activities of any type, what factors most influence and/are most predictive of first year to second year persistence?*
  - a) *Specifically, what factors most influence social integration at CMU?*
  - b) *Specifically, what differences (if any) exist between CMU and a High Retention Institution?*

Project findings will provide the foundation to develop an explanatory model that clarifies the factors influencing social integration and persistence on CMU's residential campus. This model will inform strategies employed to promote student involvement, faculty engagement, and the retention of students. In particular, first year intervention strategies that address the unique needs and concerns of CMU students can be identified and recommended as being critical to successful transition into the institution and subsequent retention. This study will inform CMU's recruiting and retention practices while strengthening current initiatives such as EagleConnect and the school's predictive model that identifies at-risk candidates for early, intrusive intervention.

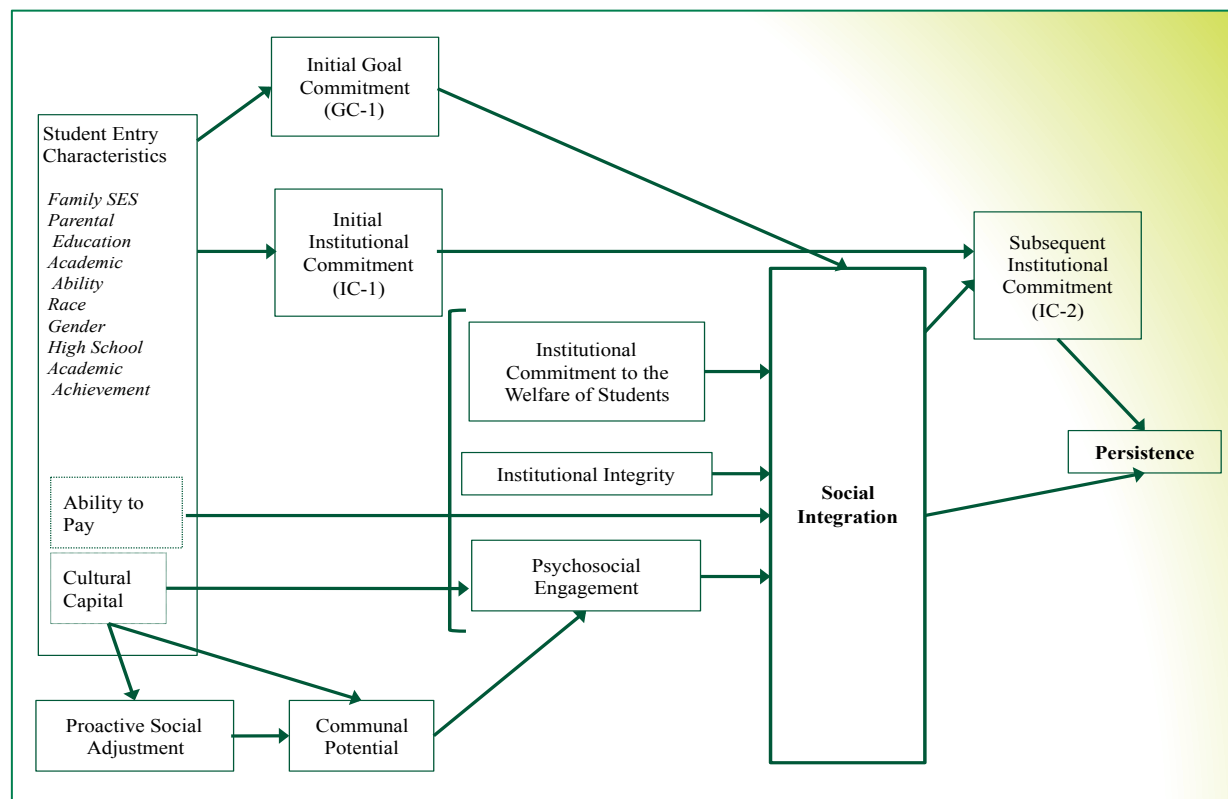


## IV. Conceptual Framework for Study Questions 1 and 2

Practitioners seeking to address student persistence face three foundational challenges. First, the nature of loosely coupled systems like those of colleges and universities (Weick, 1976) does not lend itself easily to the task. Second, “The problem of student persistence defies a single solution because most forces of influence wield an indirect rather than a direct influence on student persistence” (Braxton, et al., 2014). Third, in a desire to “do something”, empirical evidence may give way to a presupposition of validity *prima facie* if a theory “makes sense” to the practitioner (Braxton, 2016).

Persistence and retention are related but independent concepts. Hagedorn (2005) draws this distinction in a slightly different light defining persistence as a student measure and retention as an institutional measure.

Retention necessitates a multi-dimensional approach that embraces administration and governance; enrollment management; faculty teaching; institutional research; residence life; student affairs programming; student orientation; and, academic advising (Braxton, et al. (2014); Braxton & McClendon, 2001-2002). “Intentional and coordinated enactment of policies and practices” (Braxton, et al., 2014) should be based in a sound conceptual framework (Tinto, 1986, 1993) and empirically supported (Braxton, et al., 2014; Braxton, Hirschy & McClendon, 2004).



**Figure 1: Toward a revision of the theory of student persistence in residential colleges and universities.**  
From Braxton, et al. (2014). Rethinking College Student Retention. San Francisco: Jossey-Bass.

In support of such a methodology, Braxton, Doyle, Hartley, Hirschy, Jones and McClendon (2014) pursued an empirically based approach to retention. The theory of student persistence at residential colleges and universities presented by Braxton, et al. (2014) provides a logical foundation to inform this study at CMU and appears above as Figure 1.

Braxton, et al. (2014) offer eight propositions derived from and against which Tinto's Revised Theory for Residential Colleges and Universities (1975, 1993) can be tested (pp. 94-95). From this research, Braxton et al. (2014) developed Figure 1 depicting a revision of the theory of student persistence at residential colleges and universities. In particular, Braxton, et al. (2014) highlighted social integration as maintaining a direct empirical relationship with subsequent institutional commitment thereby serving as a positive influencer on student persistence. They found commitment of the institution to student welfare, institutional integrity, and psychosocial engagement to be direct antecedents to social integration<sup>1</sup> specific to residential colleges and universities. Therefore, if students perceive institutional commitment to fairness in the administration of rules and regulations; and, the faculty and staff have a genuine interest in students, then the student's level of social integration is likely to be greater. With regard to institutional integrity, student perceptions of the alignment of institutional action with the espoused mission of the college influences social integration. Psychosocial engagement reflects the amount of energy students exert in interacting with fellow students and actively participating in activities on campus. Higher levels of psychosocial engagement are predictive of greater social integration and thereby, can indirectly lead to improved persistence. Therefore, advancing policies and practices supportive of student social integration at CMU should promote greater subsequent institutional commitment and persistence.

Policy decisions relating to student athletes should be of great concern at CMU as they represent a significant majority of the incoming class each year. There are potentially positive and negative influences stemming from athletic participation that relate to institutional integrity, psychosocial engagement, and commitment of the institution to student welfare, and thereby to social integration. Hyatt (2003) found that student athletes are often introduced to the university through athletics thereby forging institutional integration that is rooted in athletics and not academics or other aspects of campus life. As a result, student athletes may not develop a commitment to the institution or degree completion, maintaining instead a primary commitment to their respective sport and – secondarily -- to their team. In addition, student expectations are formed during the athletic recruitment phase via interactions with the athletic coaches and staff. If these expectations are not met during the first year, it may have a negative impact on the student's perception of institutional integrity. Extraordinary time commitments associated with athletic participation likewise inhibit student athletes from becoming socially integrated with the general student body, further hindering college adjustment (Cogan & Petrie, 1996). In short, time and focus is consumed by athletics and student athletes may not invest energy toward interacting with peers outside of athletics or participating in non-athletic extracurricular activities. The students identity forms around the role of athlete rather than student. Positive outcomes of such an

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<sup>1</sup> Race and on-campus residency were also found to be significant in regressions holding out social integration as the dependent variable.



association may include increased motivation, time management skills, and building a network with teammates.

However, reduced playing time is a possibility within athletics. Negative consequences are associated with difficulty in adjusting to decrease athletic participation (i.e.: playing time) or the termination of the student's athletic career (Brewer, Van Raalte, Linder, 1993). Relative to NCAA Division I schools and many Division II and III institutions, CMU's team rosters appear inflated in support of institutional enrollment goals.

**Table 1: CMU Team Roster Size by Sport**

CMU as compared to an NCAA Division I and III School

	<i>CMU - CLAS</i>	<i>Comp 1</i>	<i>Comp 2</i>
Division	NAIA	I	III
UG Enrollment	1,094	3,168	1,185
<i>% CMU Population</i>		<i>289.6%</i>	<i>108%</i>
<b>Men's Sports</b>			
Baseball	86	33	33
Basketball	32	14	22
Football	114	118	102
Golf	18	12	14
Soccer (substitute)	39	29	26
Track and Field Indoor	32	30	35
Track and Field Outdoor	33	30	35
Cross Country	13	8	8
	367	274	275
Unduplicated	363	244	240
<i>% CMU Roster Size</i>		<i>67.2%</i>	<i>66.1%</i>
<b>Women's Sports</b>			
Basketball	26	11	15
Golf	12	7	5
Soccer	33	23	24
Softball	49	20	17
Track and Field Indoor	33	30	29
Track and Field Outdoor	33	30	29
Cross Country	13	5	8
Volleyball	41	13	17
	240	139	144
Unduplicated	238	109	115
<i>% CMU Roster Size</i>		<i>45.8%</i>	<i>48.3%</i>

If rosters are oversized, recruited athletes are vulnerable to reduced or no playing time. A strong athletic identity paired with disengagement in athletics can negatively impact social and psychological adjustment (Brewer et al, 1993). Lubker (2007) found that students who disengaged in athletics by force rather than choice had greater difficulty adjusting during the first year of college and by extension becoming socially integrated. In consideration of these

implications, this project addresses additional factors among students that influence retention, specifically the role of athletic participation.

Non-athletic co-curricular participation is also addressed by this study due to recent efforts by CMU to increase participation and the extant literature that states student involvement can positively affect social integration and persistence. Astin (1993) found a relationship between participation in co-curricular activities, campus orientation and developing relationships with faculty members. In addition, frequent engagement in academic and social activities can lead to higher grades and satisfaction with the college experience (Webber, Krylow, & Zhang, 2013). Living on campus provides multiple opportunities to interact with peers and supports intellectual development while having a positive effect on student involvement and satisfaction (Pascarella & Terenzini, 2005). Recognizing this, CMU currently requires students to live on campus until the age of 21. CMU also has invested resources in EagleConnect, a student involvement system to encourage participation in on-campus activities. Other examples by which students interact with the campus and one another in non-athletic co-curricular activities include fraternities and sororities, student government, and faith based organizations. Assessing the impact of non-athletic co-curricular participation on social integration can inform policies and practices regarding these initiatives going forward.

Last, the role of faculty in promoting student persistence deserves emphasis, especially in light of CMU's intimate campus atmosphere. Faculty roles are identified by Braxton, et al. (2014) as especially supportive of Commitment of the Institution to Student Welfare, and Institutional Integrity. Consistent with these findings and the ethos of the University, the role of faculty engagement is highlighted in our analysis.

## V. Study Design

This study employs a mixed methods approach that combines qualitative and quantitative methodologies to address both study questions one and two. “A mixed methods way of thinking involves an openness to multiple ways of seeing and hearing, multiple ways of making sense of the social world, and multiple standpoints on what is important and to be valued...” (Patton, 2015; p. 317). The blending of qualitative and quantitative analysis lends itself well to the study of first year retention at a residential college as a nuanced, interpretive perspective is required. As Patton (2015; p. 321) cautions, “qualitative research can be converted into quantitative scales for the purposes of statistical analysis, but is not possible to work the other way around and convert purely quantitative measures into detailed, qualitative descriptions.”. On the other hand, objective characteristics provide measures by which CMU can be compared to like institutions; student demographics allow segmentation to identify at-risk populations; and, qualitative measures of student interactions with peers and faculty can be quantified for analysis.

The study design seeks to support all four of Denzin’s (1978) types of triangulation: data, investigator, theory and methodological. Data and findings were reviewed independently among the research team, discussed as a unit, and then presented to CMU’s project team, all of whom are well versed in research methodology. Collective consideration of findings, implications, and hypothesis development at each stage of the study maximized investigator and theory triangulation. As described above, we have employed a mixed methods approach to promote methodological triangulation.

Data triangulation is pursued through dependent and independent sources, by varied collection methods, and from divergent populations. From a pragmatic standpoint, buy-in from campus faculty, staff, and senior leadership is key to the success of any recommended initiatives (Habley, Bloom, Robbins, 2012). Therefore, the study methodology includes broad stakeholder participation and feedback.

Contextual data was generated from internal and external sources. Appendix B provides detail as to internal documents requested and provided by CMU. Concurrently, distinguishing institutionally specific challenges from larger categorical influences is an important part of the research design. Confined to the scope of this project, the project team sought to maximize opportunities directly within CMU’s control or direct influence. Therefore, understanding CMU’s relative position to its peer and aspirational institutions provides valuable insight. The team conducted a detailed review of 17 Peer and Aspirant Institutions across 104 measures based primarily on 2014 IPEDS data, the most recent year for which complete data was available. This analysis is included as Appendix A. Appendix C illustrates findings derived from an analysis of the ratio of predicted SAT/ACT scores to average high school GPA considering 1,759 non-profit institutions in the United States. Findings suggest a conflict between the academic mindset of CMU students and the demands placed on athletes.

## A. Qualitative Methodology

Qualitative interviews were conducted with students, faculty, staff, and administration to address both study questions. Extant literature, in addition to Figure 1 informed the protocols employed during interviews at CMU. Copies of the Student Interview Instrument and the Staff and Faculty Interview Instrument are included as F. The Braxton, et al. (2014) variables of initial institutional commitment, commitment of the institution to student welfare, psychosocial engagement, communal potential, social integration, subsequent institutional commitment, and persistence shown in Figure 1 guided the development of the interview questions. The protocols also included questions addressing an added variable related to athletic participation. The interviews were semi-structured with open- and close-ended questions.

To recruit participants for the interviews, the project team asked the Vice-President of Information Services to solicit interviews during two separate visits to CMU's campus. Purposeful sampling was used to identify relevant cases that were rich in information. The VP of Information Services arranged the schedule of interviews with faculty, staff and administrators based on the scope of the project and specific requests by the project team and arranged meeting times and locations. Non-probability volunteer sampling was used to recruit student interviewees. An email was sent to the on-campus student body asking for volunteers and offering a \$10 gift card to a local store for the student's participation. The Vice President of Institutional Growth and Student Engagement also helped recruit students for the October on campus interviews by sending an email to resident assistants<sup>2</sup>. The October 2016 visit yielded 9 student interviews, 10 faculty and staff interviews, 5 administrator interviews, and 1 student focus group which included 5 students. The November 2016 visit yielded 31 student interviews and 1 administrator interview. This brought the total sample to 45 students, 10 faculty and staff, and 6 members of the administration.

Among the students interviewed were 12 current student athletes and 9 former athletes; 11 first year students, 6 second year students, 22 third year students, and 6 fourth year students. All participants, -- including faculty, staff and administrators -- consented to the recording of the interviews and executed a Consent for Participation in Interview Research form, a copy of which is included in Appendix D. Most interviews lasted between forty-five minutes to an hour (the longest interview lasting 2<sup>1</sup>/<sub>2</sub> hours) and all participants were assigned a pseudonym to ensure anonymity and maintain confidentiality. When the schedule allowed, interviews were conducted with one interviewer and one interviewee. However, due to scheduling design, some interviews consisted of more than one student or staff member. In addition, five interviews were conducted with both interviewers in the room with one serving as the primary interviewer and the other asking supplemental questions when needed.

Based on Patton's typology (2015), data analysis employed a combination of methodologies. To analyze and synthesize results from the interviews, audio files and notes from each interview were reviewed three times by the project team to gain familiarity with the content, discern patterns in the responses, and identify quotes that highlight essential themes. After parsing concepts reflected in the interviews, the project team organized concept-clustered matrices to

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<sup>2</sup> This presents a limitation in the sampling procedure that is addressed later in this report.

reflect conceptual framework components and associated themes. A matrix was created for student, university administration, faculty, and staff interviews.

After documenting ideas within the conceptual framework and highlighting the elements and themes of each interview, the project team identified response patterns. These patterns were recorded on consolidated student, administrative, and student services matrices. Team members collaborated in the interpretation and sense-making process to understand collectively the significance of themes and ideas presented in the interviews and to identify relationships and systems within the phenomena described. Response patterns are described in the Findings section of this report.

## B. Quantitative Methodology

To address the study questions posed, the quantitative methodology of this study is based heavily but not exclusively on the modeling of Braxton, et al. (2014) in *Rethinking College Student Retention*. The Braxton, et al. (2014) variables encompassing student entry characteristics, initial institutional commitment, commitment of the institution to student welfare, psychosocial engagement, communal potential, social integration, subsequent institutional commitment, and persistence shown in Figure 1 are tested. A notable difference between this study and the original Braxton et al. (2014) research is this study's incorporation of all undergraduate students whereas Braxton et al. focused only on first-year students.

### Survey Development

The primary survey instrument for this study was administered in Fall 2016 with a subsequent survey administered in Spring 2017. This study's fall survey instrument (Appendix E) substantially was developed from the Fall Collegiate Experience Survey and the Spring Collegiate Experience Survey created for Braxton, et al.'s original research (2014). The project team reviewed the original surveys and selected those questions relevant to the scope of this project. The survey consisted of 148-158<sup>3</sup> questions and focused primarily on the dimension of social integration, "the extent of congruency between the individual student and the social system of a college or university" (Braxton, et al., 2014, p. 74), as a primary antecedent to student persistence.

General demographic and background variables included items such as gender; race/ethnicity; parental education level; personal income; average grades in high school; ability to pay; or, on-campus residence. Subsequent to data collection, certain response variables were combined to create scale variables mimicking Braxton, et al.'s original work: initial institutional commitment; psychosocial engagement; communal potential; institutional integrity; commitment of the institution to student welfare; and social integration<sup>4</sup>. Likewise, original scale and dummy

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<sup>3</sup> Students indicating they were intercollegiate athletes seamlessly were redirected to a separate set of ten questions exploring their experience before continuing the survey.

<sup>4</sup> Questions relating to a variable included in Braxton, et al.'s original work, proactive social engagement, were not included in this research for two reasons. First, even without these questions, the time required to complete the fall

variables were added to the model to reflect unique questions of this study or in response to themes identified during the qualitative research phase. New variables included: athletic participation; co-curricular participation; faith engagement; diversity climate; and faculty engagement.

Survey design and coding was reviewed with CMU prior to administration, with particular attention to question alignment and grouping, consistent directionality in scoring, and duration. The survey instruments and related study materials were submitted to CMU and Vanderbilt University's Institutional Review Boards ("IRB") and approval was granted prior to any data collection or interviews. (Appendix F).

Surveys were administered by email to the 1,094 undergraduate students enrolled at the Fayette campus in November 2016. Each email included an embedded link to an online survey template hosted on the Qualtrics survey platform. The surveys featured customized graphics of the Peabody College of Education to enhance perceived legitimacy and confidentiality. Prior to beginning each survey, respondents were asked to affirm their consent to taking the survey after reading a statement that addressed the confidentiality of their responses and reinforcing the voluntary nature of the study. Students were informed that at the close of the study they could participate in a drawing for an American Express gift card<sup>5</sup>.

Additional efforts to encourage responses included: CMU 101 instructors were instructed to remind students about the survey; during qualitative interviews conducted prior to launch, students were informed that a survey would be emailed to the student body and were encouraged both to complete the survey and to encourage others to do so; and, an email reminder was sent to students one week after the initial distribution. To minimize opportunities for multiple responses from the same recipient, Qualtrics' "ballot stuffing" feature was active and reminder emails were directed only to those students that failed to respond to the first email. This email link distribution was independent of the survey collector to ensure confidentiality was not compromised by this process. In addition, at no time were resulting datasets shared with CMU. Both surveys remained open to students for 14 days at the end of which collected responses were exported to files compatible with IBM's SPSS statistical software and Microsoft Excel for data interpretation and analysis. SPSS again was used for regression modeling and analysis.

The fall survey had a response rate of 30.07% with 329 responses. Analysis was conducted to ensure the respondent sets were representative of CMU's total student population by comparing -sample means across the variables of race, gender, class representation, campus residency, and enrollment status. Samples were found to be representative of the institution's larger population.

Most specifically to address the second component of study question two ("what differences (if any) exist between CMU and a high retention institution"), surveys also were administered to the 3,168 undergraduate students enrolled at a High Retention Institution (HRI) as

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survey risked reducing the response rate. Second, as a tertiary antecedent to social integration, the team sought to limit the scope of analysis, choosing instead to allow breadth across three research questions and two institutions.

<sup>5</sup> \$100 for the fall survey; \$50 for the spring.

of November 2016. Approval from the HRI's institutional review board also is included in Appendix F. The HRI selected was chosen by convenience. This limits overly narrow comparisons. While both institutions include faith as part of the institutional mission, findings are compromised by confounding effects such as differences in the number of residential students, income levels, proximity to an urban location, athletic representation among the student body, student demand, and academic programming. See Table 2 for a Comparison of Institutions. Despite these limitations, the survey instrument accurately captures student perceptions and persistence at each institution, many characteristics of which offer valid insight between institutions supportive of policy and practice recommendations.

Survey administration at the HRI mirrored that at CMU, including: IRB approval; use of the Qualtrics administration platform (although the HRI's colors and logo replaced the Peabody College formatting); a collection period of equal duration and a similar schedule of reminders; the requirement to provide affirmative consent; and the option to participate in American Express gift card drawings.) 1,041 responses were received from the HRI survey representing a 32.86% response rate.

In Spring 2017, the second survey (Appendix G) was administered at CMU using an identical protocol. However, a longitudinal panel design was not attainable as the project team was unable to determine if the same students who completed the fall administration of the survey also completed the Spring 2017 administration. Instead, a cohort longitudinal design was employed as students completing the Spring 2017 survey were drawn from the same population of students as the fall survey (Babbie, 2001). Although the second survey also was administered at the HRI, again using identical protocols, results are not included in this analysis due to institutional delays in the survey launch date. The second survey administered at CMU included seven questions seeking to understand the role of subsequent institutional commitment as a primary antecedent of persistence plus an additional question speaking directly to the student's intent to reenroll in the fall. To validate similarity between the fall and spring student samples, respondents also completed a series of demographic questions.

Fall to spring samples are judged to be sufficiently comparable. Of the eleven variables assessed, four were found to have dissimilar means: race, age, enrollment status, and residency status. Controlling for the intervening variable of time -- three months passed between surveys -- removes any significant variation in age. Fewer students of color responded to the survey which is attributed to different solicitation approaches: athletes, a number of whom are students of color -- were not encouraged by coaches to complete the spring survey as was the case in the fall. This is particularly impactful when ten percent of the student body plays football, a fall sport. Enrollment status is skewed by the addition of six students who were not taking classes in the spring as opposed to zero in the fall sample. After removing these six students (ie: leaving only full and part-time students), there is no statistical difference in the samples. Finally, the spring sample captures a higher proportion of off-campus students than the fall. However, if graduating seniors are removed from the sample, a group that would represent a higher proportion of off campus housing and one which is not germane to the question of returning the following fall, the means between the fall and spring samples are identical (.672).

Subsequent to data collection, two scale variables were created to construct a consolidated picture of subsequent institutional commitment, the first using Braxton, et al.'s (2014) original two questions and the second using an expanded set of seven questions. A final question asked students of their reenrollment intent for the fall semester. After removing graduating seniors from the sample, answers were converted into the student persistence variable.

**Table 2: Summary Comparison of Institutions**

Central Methodist University vs. High Retention Institution Selected for this Study (2014)

	<i>Central Methodist University- College of Liberal Arts and Sciences</i>	<i>High Retention Institution</i>	<i>Difference</i>
Geographic Region	Midwest	South	
Locale	Town: Distant	Suburb: Large	
Sector	Private not-for-profit	Private not-for-profit	
Carnegie Class	Bac/Diverse	Masters Medium	
Faith Affiliation	United Methodist	Baptist	
Minority-Serving Institution	Not Applicable	Not Applicable	
NCAA Division/Athletic Association	NAIA	I	
Size (Undergrad FTE)	1,052	2,904	1,052
% Women	50.5%	65.1%	-14.60%
% Men	49.5%	34.9%	14.60%
% Part-Time	7.5%	5.4%	2.10%
% Age 25+	4.8%	4.0%	0.80%
% Pell Recipients Among Freshmen	45.0%	13.8%	31.20%
% Underrepresented Minority	3.7%	13.2%	-9.50%
Average High School GPA Among College Freshmen	3.47	3.68	-0.21
Estimated Median SAT / ACT	1,006	1,153	-147
Total Price for In-State, On-Campus Students	\$32,970	\$40,900	(\$7,930)
Average Net Price After Grants	\$17,785	\$27,306	(\$9,521)
Federal Loan 3-Year Default Rate	8.4%	0.7%	7.7%
Endowment Assets, FY2014	\$37,020,000	\$323,843,012	(\$286,823,012)
Instructional Expenditures / Total FTE	\$9,329	\$13,670	(\$4,341)
Student Related Expenditures / Total FTE	\$13,095	\$19,283	(\$6,188)
Educational & General Expenditures / Total FTE	\$18,126	\$25,780	(\$7,654)
Endowment Assets / Total FTE	\$26,401	\$71,673	(\$45,272)
Percent Full-Time Faculty	58.6%	63.7%	-5.10%
Full-Time Undergrad Student to Faculty Ratio	16	10	6
% Part-Time	7.5%	5.4%	2.10%
% Age 25+	4.8%	4.0%	0.80%

Source: The Education Trust

<http://www.collegeresults.org/search1ba.aspx?institutionid=102049,176947>



## VI. Study Question One Analysis and Findings

*What is the nature of the relationship between campus involvement and student persistence?*

- a) *Specifically, what is the relationship between athletic participation and student persistence?*
- b) *Specifically, what is the relationship between non-athletic co-curricular activities and student persistence?*
- c) *Specifically, how do the components of social integration as an antecedent of persistence differ between athletics and non-athletes; and, co-curricular participants and non-participants?*

Study question one is addressed through qualitative and quantitative methods which are described below in detail. The high level of athletic participation at CMU combined with the use of athletics as a recruitment tool provides a basis for questions specifically focusing on athletic participation. In addition, research supports athletic participation as affecting educational attainment and these results exist across all levels of sports (Pascarella & Terenzini, 2005). Persistence data by sport at CMU shows variances across type of sport, sport level and by gender. In particular, female athletes demonstrate a significantly higher six-year graduation rate than male athletes. Female athletes also graduate at a rate higher than the average for all female students (58.13%) while male athletes have a lower graduation rate than the male student average (41.07).

**Table 3: CMU 6-Year Graduation Rates Among Athletes**

3 year average

	2013-2015
Average Male Sports	36.39%
Average Female Sports	66.87%
Band	67.27%
Choir	59.27%
Baseball	51.53%
Basketball (Men's)	20.23%
Cross Country (Men's)	43.33%
Football	35.53%
Soccer (Men's)	40.77%
Track (Men's)	26.93%
Basketball (Women's)	65.27%
Cheer	58.50%
Cross Country (Women's)	88.90%
Soccer (Women's)	60.97%
Softball	79.40%
Track (Women's)	63.57%
Volleyball	51.47%

Based on the extent of disparity, understanding the relationship between athletic participation and those factors proven to influence persistence is an important avenue for CMU to explore.

Conversely, CMU has invested significant resources to develop co-curricular activities beyond athletics to increase student involvement. As a result, a high percentage of students have become involved in non-athletic activities such as Greek life, center for faith and services, student government, music, and various other on campus organizations. Therefore, it also is beneficial to examine the role these activities play in retention at CMU as this information can influence the allocation of future resources regarding non-athletic co-curricular activities.

#### A. Data Analysis

##### 1. Qualitative Methodology.

Students, faculty, staff, and administration were interviewed using a standardized interview protocol to gain a greater understanding of the CMU student experience and the factors related to campus involvement and persistence. Interviewers asked open-ended questions about their participation in campus activities and organizations, their level of satisfaction with these activities, and what students gained from their experiences. The interviews helped inform quantitative components of the study prior to survey administration and as a standard against which to compare results. The project team analyzed the results of the interviews and used an interview matrix to outline themes and suitable quotations from each interview. Connections between campus involvement (athletic and non-athletic) and variables related to persistence were noted. The project team further narrowed quotes from interviewees that accurately depicted the themes and provided supporting evidence. To protect anonymity, position titles are not provided when referencing comments from faculty, staff, and administration.

##### 2. Quantitative Methodology.

Table 4 describes each of the variables incorporated from Braxton, et al. (2014), plus the addition of new variables introduced by this study. Where composite variables have been employed, internal validity was assessed with corresponding Cronbach's Alpha calculations included in Table 5.

**Table 4: Description of Variables Used to Test the Revised Theory of Student Persistence in Residential Colleges and Universities** as revised by Coyne & Stokes

#### **School**

Central Methodist University or High Retention Institution with CMU = 0 and the HRI = 1

#### **Gender**

Student gender: male = 0; female = 1

#### **Race/Ethnicity**

White Caucasian Students = 1, other racial/ethnic groups = 0

#### **Parental Education Level**

Level of parental education attainment (grammar school or less for both parents = 2 to graduate work for both parents = 16). Composite variable is sum of two items: father's level of educational attainment and mother's level. Scale adjusted from survey instrument to parallel Braxton, et al.

### **Parental Income**

Student's best estimate of parent's total income in the prior year (less than \$6,000 = 1 to \$200,000 or more = 14).

### **Average grades in high school**

Self-reported high school cumulative grade average (D or lower = 1 to A or A+ = 10). Scale adjusted from survey instrument to parallel Braxton, et al.

### **On-campus residence**

Living on campus in a residence hall or a fraternity or sorority house = 1; off campus with family or without family = 0. Scale adjusted from survey instrument to parallel Braxton, et al.

### **Initial institutional Commitment**

Ranking of student's college choice (fourth choice or more = 1 to first choice = 4). Scale adjusted from survey instrument to parallel Braxton, et al.

### **Ability to pay**

Student rated confidence in ability to finance college education (1= No concern to 3 = Major concern).

### **Athletic Status**

Does the student participate in intercollegiate athletics (0 = No; 1 = Yes)

### **Co-curricular Status**

Does the student participate in Co-Curricular activities (0 = No; 1 = Yes)

### **Proactive social engagement**

Not part of this study.

### **Psychosocial engagement**

Self-reported estimates of how frequently during the course of the last

school year the student talked with or discussed course content with other students outside of class; studied or socialized with friends; attended campus movies, plays concerts, and/or recitals; participated in social activities with members of the Greek system; gone out on a date with another student; drank beer, wine, or liquor. 1 = Very Often; 4 = Never

### **Communal potential**

Composite of eight items measuring student perceptions of the potential for community among peers on campus: can see several ways to make connections with peers on campus; recognize many students seen on campus; confident that there are peers on campus with whom student shares important values; peers seem to deal with conflicts constructively; peers encourage academic success; it has not been difficult for me to meet and make friends with other students; the student friendships I have developed have been personally satisfying; few students here have values and attitudes which are different from my own. (Strongly agree = 1 to strongly disagree = 4.) Scale variable created is a composite of questions that emulate but may not duplicate Braxton, et al.'s original work.

### **Institutional integrity**

Composite of five items measuring student perceptions that the institution exhibits integrity: the actions of the administration are consistent with the stated mission of this institutions; my institution almost always does the right thing; the values of my institution are communicated clearly to the campus community; the rules of this institution

appear in harmony with the values the institution espouses; and, the decisions made at this institution rarely conflict with the values it espouses. (Strongly agree = 1 to strongly disagree = 4).

### **Commitment of the institution to student welfare**

Composite of 10 items measuring student perceptions that the institution is committed to the welfare of students: most student services staff (e.g. dean of students office, student activities, housing, etc.) are genuinely interested in students; most other college/university staff (e.g., registrar, student accounts, financial aid, etc.) are genuinely interested in students; most of the campus religious leaders (e.g. chaplain, priest, rabbi, etc.) are genuinely interested in students; have not experienced negative interactions with faculty members; have not had negative interactions with student services staff; have not experienced negative interactions with other college / university staff; faculty members treat students with respect; student services staff treat students with respect; other college / university staff treat students with respect; know where to go if need more information about a policy. (Strongly agree = 1 to strongly disagree = 4).

### **Social integration**

Composite of seven items measuring the degree of student's integration into the campus social system: interpersonal relationships with other students have had a positive influence on my intellectual growth and interest in ideas; developed close personal relationships with other students; interpersonal relationships with other

students have had a positive influence on my growth, values and attitudes; it has not been difficult to meet and make friends with other students; friendships developed have been personally satisfying; many peers would listen to personal problems; student's attitudes and values are similar to peers. (Strongly agree = 1 to strongly disagree = 4).

### **Subsequent institutional commitment (later Revised Subsequent Institutional Commitment)**

Originally a composite of two items measuring degree of subsequent commitment to college enrollment: important to graduate from this university; and, made the right decision in choosing to attend this university. The following were subsequently added: importance of earning a college degree; likelihood that student will register at this institution next fall; family approval of attending this institution; family encouragement to attend this institution; and family encouragement to attain a college degree. (Strongly agree = 1 to strongly disagree = 4).  
*Administered in Spring 2017.*

### **Student persistence**

The research timeframe did not allow longitudinal analysis (ie: from one school year to the next) as provided in the Braxton, et al. (2014) research. As a proxy, a new question was included in the Spring survey asking non-graduating students to identify their intended plan for following fall semester. 1 = attending CMU; 0 = not attending CMU. *Administered in Spring 2017.*

### Faith Engagement

A new variable not included in the Braxton, et al. (2014) research. Composite of six items included in the Braxton, et al. survey instrument reflecting the influence of faith on the student's college experience: discussed religion / spirituality with another student; participated in an on-campus student religious club/group; participated in an off-campus student religious club/group; spend time in prayer or meditation; attended a religious service; read or meditated on sacred or religious writings. (Strongly agree = 1 to strongly disagree = 4). Dataset used an inverse scale to Braxton, et al.

### Athletics Engagement

A new variable not included in the Braxton, et al. (2014) research. Composite of seven original items unique to intercollegiate athletes reflecting the quality of athletic experience: participating in intercollegiate athletics has been a rewarding experience; satisfaction with playing time taking into account teammate's skills and abilities; satisfaction with playing time relative to expectations when matriculation decision was made; appropriateness of roster size; satisfaction with coaching level and expertise; satisfaction with level of academic support from coaches and/or athletics department; and, the degree to which potential playing time was accurately conveyed as a recruit. (Strongly agree = 1 to strongly disagree = 4). Dataset used an inverse scale to Braxton, et al. (2014).

### Diversity Climate

A new scale variable not included in the Braxton, et al. (2014) research but drawn from eight questions in the original survey instrument: I have observed discriminatory words, behaviors or gestures directed at minority students here; I have observed discriminatory words, behaviors or gestures directed at majority students here; I feel there is a general atmosphere of prejudice among students; I have encountered racism while attending this institution; I have heard negative words about people of my own race or ethnicity while attending classes; I feel there is a general atmosphere of prejudice among academic staff here; I feel there is a general atmosphere of prejudice among nonacademic staff here; I have been singled out in class and treated differently than other students because of my race. (Strongly agree = 1 to strongly disagree = 4). Dataset used an inverse scale to Braxton, et al. *NOTE: For this variable only, a low score is LESS desirable.*

### Faculty Engagement

A new scale variable not included in the Braxton, et al. (2014) research but drawn from thirteen questions in the original survey instrument. Been a guest in a professor's home; met with faculty during their office hours; discussed religion / spirituality with a professor; had lunch or dinner with faculty member; talked with faculty outside of class; socialized with faculty; most faculty are genuinely

outstanding or superior teachers; most faculty are genuinely interested in teaching; most faculty are genuinely interested in students; most faculty are interested in helping students grow in more than just academic areas; extent of negative interactions with faculty members; faculty treat students with respect; faculty quality relative to expectations. (Strongly agree = 1 to strongly disagree = 4).

**Table 5: Cronbach's Alpha for Fall Survey Scale Variables**

*Based on Full Dataset (ie: Combined CMU / HRI)*

<i>Variable Name</i>	<i>Braxton, et al. Cronbach's Alpha</i>	<i>Study Cronbach's Alpha</i>
Psychosocial engagement	0.64	0.69
Communal potential	0.78	0.83
Institutional integrity	0.87	0.91
Commitment of the institution to student welfare	0.86	0.89
Social integration	0.79	0.86
Subsequent institutional commitment	0.36	NA
Faith Engagement	NA	0.90
Athletics Engagement	NA	0.85
Diversity Climate	NA	0.90
Faculty Engagement	NA	0.82

**Data Analysis Design for Study Questions 1(a) and 1(b).** Mean averages and standard deviations were recorded for all variables across the aggregate sample and within sub-populations addressed by the study. Results are recorded in Appendix H. To highlight possible demographic and perceptual differences between groups, independent samples t-test analyses of mean differences were performed with variables exhibiting significant differences ( $p < .05$ ) identified in Appendix I. Specific to Study Questions 1(a) and 1(b), attention focused on the perceptual variables of social integration, subsequent institutional commitment, and student persistence to

highlight possible differences between CMU Athletes, CMU Non-Athletes, CMU Co-Curricular Participants, and CMU Co-Curricular Non-Participants. See Tables 6 and 7.

**Data Analysis Design for Study Question 1(c).** To address Study Question 1(c), each set of means within a variable were compared across sub-populations to identify significant differences at the  $<.001$ ,  $.01$  and  $.05$  levels by conducting an independent samples t-test analysis (Athletes vs. Non-Athletes, Co-Curricular Participants vs. Non-Participants, and First Year Students vs. Non-First Year Students). Full findings of this analysis can be found in Appendices H, I, N and O.

For both Study Questions 1 and 2, narrowing the variable set was required to establish a regression model suitable for sub-population comparisons. Comparisons of sub-populations use a trimmed regression to maintain appropriate subject-to-variable ratios. As demonstrated in Table 9, *in one or more of the models tested*, the five variables of psychosocial engagement, communal potential, institutional integrity, commitment to student welfare, and faculty engagement exhibit significance ( $p<.05$ ) consistently when controlling for high school GPA, on-campus residency, initial institutional commitment, and ability to pay (Model 1). These entry characteristics were included as control variables after identifying significant correlations with the scale variable for social integration (Pearson coefficient) using the full CMU population. Further controls were added as different groups were studied: Model 2 adds athletic status; Model 3 includes athletic status and adds co-curricular participation; and, Model 4 adds only first-year class status. Variables not included in any of the models are gender, race, parental education, parental income, faith engagement and diversity climate because they did not yield significant correlations with social integration.

Using the five perceptual variable identified, sequential ordinary least squares (“OLS”) regressions were conducted on each tested sub-population with Social Integration as the dependent variable and recording the standardized coefficients of each variable, the unstandardized coefficients of each variable, the adjusted R square for each model, and the N value. Significance was noted at the  $<.001$ ,  $.01$  and  $.05$  levels. Those variables with significant standardized coefficients were identified as primary antecedents of social integration. To gain deeper understanding of any cascading effects, subsequent OLS regression was performed on the variable exhibiting the highest standardized coefficient in each subgroup. Variables supportive of the dominant variable *that were not also a primary antecedent* of social integration were identified as secondary antecedents.

The spring survey was tailored narrowly to address the question of subsequent institutional commitment as a second, parallel antecedent of student persistence. Results were analyzed for statistical similarity to the fall sample by a comparison of means across gender, race, age, citizenship, enrollment status, housing, initial institutional commitment, and athletic status (again using independent samples t-tests). In this instance,  $p>.05$  is desirable. Results of the means comparisons between the fall and spring surveys are provided in Appendix J.

As identified in Appendix K, Braxton, et al.’s (2014) original scale variable subsequent institutional commitment was comprised of two variables and attained a relatively low Cronbach Alpha of  $.36$ . When constructed using the same two survey questions, the spring dataset yielded

an unreliable Cronbach's Alpha of .14. The variable was reconstructed using all seven questions from the survey to generate an scale variable, "Revised Subsequent Institutional Commitment" with significantly greater internal consistency achieving a Cronbach's Alpha of .75. The comparatively small number of questions in the spring survey, all of which were used to create the scale variable Revised Subsequent Institutional Commitment, allow for greater granularity of analysis. Appendix L provides a means analysis of individual questions, identifying significant differences in the means between athletes and non-athletes as well as co-curricular participants and non-participants. Significance is noted at the .001, .01 and .05 levels.

As a proxy for student persistence, students were asked to state their intended plans for the coming fall semester with results including only those students not lost to graduation. Research supports the use of intended plans for re-enrollment as a proxy measure for student persistence (Bean, 1980; Pascarella, Duby & Iverson, 1983; Voorhes, 1987; and Cabrera, Castenada, Nora & Hengstler, 1992). This body of research demonstrates a strong relationship between intent to re-enroll with actual student persistence.

## B. Findings for Study Question 1

### *Detailed Qualitative Findings: Study Question 1*

Student and administrative (staff, faculty, and administration) interviews revealed two themes related to project question one: the importance of campus involvement, and the positive and negative role athletics plays in persistence. These themes showed a relationship between campus involvement and 4 variables from the Braxton, et al, (2014) model: social integration, communal potential, institutional integrity, subsequent institutional commitment, and student persistence.

#### 1. Campus Involvement: *"That is the only reason you will stay"*

A majority of students interviewed referenced campus involvement as a major reason they have and will remain at CMU. They participate in a number of activities from Greek life to bingo night on campus. The frequency of participation seems to be high as students credited daily emails communicating on campus events and the EagleConnect program as positive efforts by the university to promote and ease involvement. Those students that have not participated in campus activities still responded positively to the question "Would you recommend others get involved in student clubs and activities?". They referenced being shy or being a commuter as their reasons for not participating. Beyonce<sup>6</sup>, a junior athletics training major and former varsity athlete, stated "If you are going to go to this school you have to [get involved in student clubs and activities] or you will hate it. It's how you make friends". Other students echoed this sentiment stating that campus involvement allows students to meet people, grow as a person, and generally makes the CMU experience better. This theme also arose within administrative interviews with most describing student involvement as "high".

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<sup>6</sup> A pseudonym, as is the case throughout this report when referencing students.



Based on student responses, involvement in co-curricular activities leads to an increase in social integration. Students spoke about growing as a person in various ways such as learning how to overcome challenges, becoming a stronger person, learning how to interact with diverse cultures, gaining self-confidence, and becoming more outgoing. Bill, a junior history and political science major, stated he “learned about himself and learned to be an authority figure” as a result of his experiences in a fraternity and other activities. In addition, involvement makes it easy to develop close relationships with peers on campus. Greek life is a large part of the student experience at CMU and appears to have a positive influence on student persistence. James, a third year student reflected back to his decision to remain at CMU:

*“For me yes, definitely Greek life, my fraternity. I already had transfer papers in the works filled out ready to go for second semester of my freshman year. So for that spring I was going to be transferring to MSU in Springfield because it’s about a 40-minute drive to my house so I was just going to commute. I had the papers and all that. That fall I decided I was going to pledge just to see how it was and sure enough it fit me, made me definitely happy, and made the decision for me to stay and I’m here now.”*

A relationship between campus involvement and communal potential also was referenced frequently during interviews. Students stated that because of campus involvement there are many opportunities to make connections with other students. The various groups on campus serve as affinity groups for students. Kim, a junior transfer student, said “they do a really good job of making the school have options for everyone no matter what their background may be or where they come from”. In addition, athletics requires study hall which potentially results in students encouraging academic success among their peers. It should be noted that the quality of the study hall experience was questioned in a number of interviews.

## 2. The Role of Athletics: *“Athletics gets you here.”*

Athletic participation was a constant theme in all interviews. However, the nature of its relationship with persistence was both positive and negative. Athletics was referenced as a major influence in students choosing CMU and being involved on campus. It helps create community and provides a built-in affinity group for athletes. However, a number of students stated they no longer play athletics due to feeling they were misled during recruitment with regard to playing time, ability to move from junior varsity to varsity, and the level of interaction with coaching staff. Beyonce stated she came to CMU “under false pretenses”. Other students stated that CMU will “tell you anything to get you here” when recruiting athletes and trying to fill seats. When asked why some of their friends left CMU, students said unhappiness with their athletic experience was a significant negative factor. Faculty and administrators likewise identified athletics as a contributor to student departure at CMU. Adam, a coach and faculty member, stated he hears students say they are leaving because “I’m gonna go somewhere else and play because I didn’t know there was going to be 50 kids on the team...they feel like they didn’t get a fair opportunity”.

Faculty, staff and students also expressed a belief that some actions of the university do not align with the mission and values of the institution. Specifically, athletics seems to come before academics. They agree that CMU projects a clear message that athletics is valued more highly. Both faculty and students referenced students being allowed to miss excessive class time for athletics and non-athletic students having inadequate access to athletic facilities such as the weight room. Interactions between students and some staff also reflect this messaging. Lucille, a former softball player, recalls a conversation she had with a coach that echoed this theme:

*“When you go to a NAIA school in the middle of Missouri you expect your degree to come first. They say that that’s the priority but I have had conversations with coaches saying that ‘this is my season, you are to be here...It doesn’t matter that you have to get 100 clinical hours this semester, you figure it out’ in front of the whole team. So it’s one of those like yea your academics are important but we’re on the same level, they’re not more important.”*

CMU students expressed they want to be viewed as students first and then athletes. This is opposite the sentiment expressed by many faculty and administrators. When asked about the non-athletic students at CMU, one administrator replied “What non-athletes?”. Faculty and administrators believe athletics is not only the reason students choose CMU but it is where their loyalty and interests lie first. Sophia, a staff member, said “most of the athletes — which are most of the students — are committed to their sport, their team and then their school. Our goal should be to change that”. There is a disconnect between how students view themselves and their priorities and the views of faculty and administrators.

Another element of institutional integrity that arose regarding athletics was the unequal treatment of junior varsity and varsity players. Junior varsity players receive less attention from the coaching staff and the teams are assigned graduate assistants to serve as coaches. Topanga, a member of the track team, said “If you are on a JV team you are less of a person”. Junior varsity players, current and former, expressed frustration with the inconsistent treatment and application of school policies depending on the level of the player. They do not feel respected by coaches, something that speaks directly to how these students perceive the institution’s commitment to the welfare of students. Thomas, a senior level administrator, said “our varsity athletes, on average, only go to class to stay eligible. Our JV athletes want a good education and to enjoy their experience on the athletics side. We aren’t delivering [for JV] on the athletics side”. Another administrator stated “coaches don’t have as much time to dedicate [to JV] so it’s a let down”.

### 3. Campus Involvement. *“Playtime is over at 1 A.M.”*

A few students noted the opportunity to improve non-athletic campus involvement including more activities for commuter and international students. Suggestions that the university vary events from year to year (as opposed to repeating the same activities) sought to increase upperclassmen involvement and attendance. Other areas of discontent include: CMU’s mandate that students remain on campus until the age of 21; blocking access to student housing after 1A.M.; and, a prohibition against opposite gender visitation in the dormitories. These policies are perceived to demonstrate a lack of respect toward students as young adults. Similarly, students

resist limitations placed on their ability to interact with others beyond their dormitory and seek greater freedom when with returning to campus late after spending time with peers off campus.

A number of suggestions referenced recruitment and students feeling that if CMU recruited differently, increased student involvement and persistence would result. Carl, a junior baseball player, suggested that CMU “quit recruiting athletes and start recruiting students”. He also suggested that the university should promote Greek organizations and others more. Many faculty and administrators echoed this suggestion and stressed that CMU should focus its efforts on changing recruitment methods. It is important to note that the areas for improvement mentioned by the students had little impact on student’s subsequent institutional commitment. Campus involvement experiences, specifically non-athletic co-curricular activities, led students to say they are very committed to graduating from CMU. When asked “How committed are you to CMU?”, first year student Danielle stated “No question 100%” and referenced her involvement in the Navigators program a huge influence. Sophomore Linda said, “If I wasn’t involved, I would leave”.

### *Detailed Quantitative Findings: Study Question 1*

#### Study Question 1(a): Athletic Participation and Persistence.

An independent-samples t-test was conducted to compare the difference in means between CMU athletes and non-athletes across the variables of initial institutional commitment, student persistence (intent to re-enroll), subsequent institutional commitment, revised subsequent institutional commitment, and social integration. Table 6 below exhibits the results of these t-tests. Significant difference in the means were noted for initial institutional commitment and social integration: Initial Institutional Commitment  $t(170)=2.977$ ,  $p=.003$ ; Social Integration  $t(262)=3.044$ ,  $p=.018$ . These results suggest non-athletes ( $M=3.718$ ) exhibit greater initial institutional commitment than athletes ( $M=3.406$ ) as a score of 4 indicates CMU as the student’s first choice. In addition, findings suggests that athletes ( $M=1.516$ ) are more socially connected than non-athletes ( $M=1.723$ ) at CMU as a score of 1 indicates that students strongly agree with statements comprising the scale variable of social integration (see Table 6). This is logically consistent for a campus where 70% of students are engaged in athletics: participation is a form of campus involvement and creates a built-in affinity group for students. This begs the question as to what factors influence social integration for athletes versus non-athletes and will be addressed by the findings of Study Question 1(c). No significant difference was found between athletes and non-athletes relating to the intent to re-enroll and subsequent institutional commitment.

**Table 6: Results of Independent-Samples T-test Comparing Mean Differences across Variables Related to Persistence – Athletes vs. Non-Athletes**

	<i>Mean</i>		<i>t statistic</i>	<i>df</i>	<i>Sig.</i>	<i>Difference</i>	<i>Std. Error</i>
	<i>Athlete</i>	<i>Non-Athlete</i>					
Initial Institutional Commitment	3.4058	3.7184	2.977	170	0.0033 **	0.313	0.105
Intent to Re-Enroll (Persistence)	0.8929	0.8953	0.045	140	0.9641	0.002	0.053
Subsequent Institutional Commitment	1.2464	1.2476	0.021	170	0.9836	0.001	0.058
Revised Subsequent Institutional Commitment	1.3058	1.3086	0.041	162	0.9671	0.003	0.068
Social Integration	1.516	1.723	3.044	262	0.0026 **	0.207	0.068

\* $p < 0.05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Study Question 1(b): Co-Curricular Participation and Persistence.

An independent-samples t-test was conducted to compare the difference in means between CMU co-curricular participants and non-participants across the variables of initial institutional commitment, student persistence (intent to re-enroll), subsequent institutional commitment, revised subsequent institutional commitment, and social integration. Table 7 below displays the results of these t-tests. Significant difference in the means were noted for all variables except initial institutional commitment: Intent to Re-Enroll (Persistence)  $t(138) = -2.358$ ,  $p = .0198$ ; Subsequent Institutional Commitment  $t(168) = 3.082$ ,  $p = .0024$ ; Revised Subsequent Institutional Commitment  $t(161) = 3.854$ ,  $p = .0002$ ; Social Integration  $t(262) = 3.273$ ,  $p = .0012$ . These results suggest that co-curricular participants ( $M = 1.552$ ) are more socially integrated at CMU than non-participants ( $M = 1.788$ ). In addition, co-curricular participants have greater subsequent institutional commitment and are more likely to re-enroll at CMU (see Table 7). This is consistent with literature that states greater involvement on campus assists with better transitions to college and a higher likelihood of persisting. This conclusion is supported by the lack of significant difference between groups on the variable of initial institutional commitment. Neither group was necessarily predisposed to persisting which suggests post-matriculation factors such as those contemplated by this study play a dominant role in subsequent decisions to return.

**Table 7: Results of Independent-Samples T-test Comparing Mean Differences across Variables Related to Persistence – Co-Curricular Participants vs. Non-Participants**

	<i>Mean</i>		<i>t statistic</i>	<i>df</i>	<i>Sig.</i>	<i>Difference</i>	<i>Std. Error</i>
	<i>Participants</i>	<i>Non-Participants</i>					
Initial Institutional Commitment	3.6063	3.5581	-0.394	168	0.6944	-0.048	0.122
Intent to Re-Enroll (Persistence)	0.9307	0.7949	-2.358	138	0.0198 *	-0.136	0.058
Subsequent Institutional Commitment	1.1969	1.3953	3.082	168	0.0024 **	0.198	0.064
Revised Subsequent Institutional Commitment	1.2349	1.517	3.854	161	0.0002 ***	0.282	0.073
Social Integration	1.552	1.788	3.273	262	0.0012 **	0.237	0.072

\* $p < 0.05$ , \*\* $p < .01$ , \*\*\* $p < .001$

### Study Question 1(c): Campus Involvement and Social Integration

Athletes and non-athletes at CMU are demographically homogenous. CMU athletes exhibit lower initial institutional commitment when compared to non-athletes<sup>7</sup>. Athletes' mean score equals 3.37 versus 3.62 for non-athletes, where 4 = the first choice school and 3 = the second choice school. While athletes display a greater degree of communal potential (M=1.69 vs. M=1.90 with a lower score being more desirable) and higher levels of social integration (M=1.52 vs. M=1.72), they collectively report a less favorable diversity climate than non-athletes (M=3.32 vs. M=3.50 where diversity climate has a reverse scale and therefore lower is less desirable). While one might assume students of color comprise a higher proportion of athletes and therefore a greater sensitivity to diversity issues, when diversity climate is segmented by race / ethnicity across all students, we find that students of color do not perceive a less favorable climate, a fact that may be distorted by a skew in racial composition of the campus.

Variables for class standing (i.e.: first year representation), gender, citizenship, prior college experience, initial institutional commitment, co-curricular participation, and athletic participation did not show significant differences in mean values between athletes and non-athletes.

**Table 8: Summary of Significant Mean Differences Between Sub-Groups – CMU Athletes vs. Non-Athletes**

<i>Favors Athletes</i>	<i>Favors Non-Athletes</i>
Initial Institutional Commitment Communal Potential Social Integration	Diversity Climate

<sup>7</sup>Unless otherwise noted, all differences cited in this section are below the .05 level. Mean differences with significance above .05 are not addressed.

In arriving at the trimmed regression model used throughout this study, the impact of athletics was tested against the base model by inserting a dummy variable for athletic participation. This is shown as Model 2 in Table 9. Adding this variable did not impact the base model at a significant level with minimal influence on the standardized coefficients of other variables.

**Table 9: Tested Variables against Social Integration as the Dependent Variable**  
Central Methodist University

Variables	Model 1		Model 2		Model 3		Model 4	
	Standardized Coefficients	Un-Standardized	Standardized Coefficients	Un-Standardized	Standardized Coefficients	Un-Standardized	Standardized Coefficients	Un-Standardized
(Constant)		0.179		0.155		0.146		0.184
High School GPA+	-0.032	-0.01	-0.03	-0.01	-0.024	-0.007	-0.032	-0.01
On-Campus Residence++	0.015	0.019	0.014	0.018	0.009	0.011	0.003	0.004
Institutional Commitment++	-0.058	-0.039	-0.054	-0.036	-0.031	-0.021	-0.06	-0.04
Ability to Pay++	-0.015	-0.012	-0.017	-0.013	-0.014	-0.01	-0.016	-0.012
Psychosocial Engagement	0.184**	0.166	0.185**	0.168	0.169**	0.151	0.172**	0.156
Communal Potential	0.521***	0.507	0.525***	0.512	0.535***	0.51	0.531***	0.517
Institutional Integrity	0.056	0.044	0.054	0.042	0.057	0.044	0.061	0.048
Commitment to Student Welfare	0.201*	0.18	0.207*	0.187	0.213*	0.187	0.226**	0.203
Faculty Engagement	-0.007	-0.007	-0.013	-0.013	-0.019	-0.018	-0.029	-0.029
Athletic Status			0.016	0.016	0.013	0.013		
Co-Curricular Participation					-0.022	-0.023		
First Year Class Status							0.062	0.065
Adjusted R-Squared	0.636***		0.634***		0.619***		0.637***	
N	183		182		181		183	

\* $p < 0.05$ , \*\* $p < .01$ , \*\*\* $p < .001$

++ Bivariate analysis on numeric variable indicates significant correlation with Social Integration at the .01 Level

+ Bivariate analysis on numeric variable indicates significant correlation with Social Integration at the .05 Level

Results of ordinary least squares regressions using social integration as the dependent variable reveal communal potential as the primary antecedent for both CMU athletes and non-athletes, but less so among non-athletes ( $\beta = .464$  vs.  $\beta = .543$  for athletes). See Table 10. Standardized coefficients for psychosocial engagement likewise contribute to both groups' social integration with marginally stronger power among non-athletes. ( $\beta = .193$  vs.  $\beta = .186$  for athletes).

**Table 10: Results of Ordinary Least Squares Regression with Social Integration as the Dependent Variable – CMU Athletes vs. Non-Athletes**

Variables	CMU Athletes		Non Athletes	
	Standardized Coefficients	Un-Standardized	Standardized Coefficients	Un-Standardized
(Constant)		-0.248		-0.026
Psychosocial Engagement	0.186*	0.196	0.193*	0.154
Communal Potential	0.543**	0.601	0.464**	0.423
Institutional Integrity	0.120	0.099	0.078	0.059
Commitment to Student Welfare	0.182	0.168	0.172	0.149
Faculty Engagement	-0.097	-0.095	0.078	0.077
Athletic Experience	0.092	0.061		
Adjusted R-Squared	0.621***		0.634***	
N	82		93	

\* $p < 0.05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Subsequent OLS regression ( $\beta = .488$  and  $\beta = .527$ ) identified no additional antecedents. Full results are presented in Appendix M.

In arriving at the trimmed regression model used throughout this study, the impact of co-curricular activity was tested against the base model by inserting a dummy variable for participation. This is shown as Model 3 in Table 9 above. The new variable did not impact the base model at a significant level with minimal influence on the standardized coefficients of other variables.

Results of ordinary least squares regressions using social integration as the dependent variable reveal communal potential as the primary antecedent for both CMU co-curricular participants and non-participants, although less influential among non-participants ( $\beta = .520$  for participants;  $\beta = .487$  for non-participants). See Table 11. Psychosocial engagement also serves as an antecedent of social integration among co-curricular participants ( $\beta = .230$ ).

**Table 11: Results of Ordinary Least Squares Regression with Social Integration as the Dependent Variable – Co-Curricular Participants vs. Non-Participants**

Variables	Participants		Non Participants	
	Standardized Coefficients	Un-Standardized	Standardized Coefficients	Un-Standardized
(Constant)		-0.021		-0.253
Psychosocial Engagement	0.230**	0.203	0.124	0.127
Communal Potential	0.520***	0.497	0.487***	0.485
Institutional Integrity	0.061	0.044	0.104	0.092
Commitment to Student Welfare	0.175	0.144	0.240	0.247
Faculty Engagement	-0.027	-0.024	0.059	0.071
Athletic Experience				
Adjusted R-Squared	0.625***		0.642***	
N	127		56	

\* $p < 0.05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Subsequent OLS regressions ( $\beta = .487$  and  $\beta = .541$  for participants and non-participants respectively) identify institutional commitment to the welfare of students as a secondary antecedent of social integration among co-curricular participants. Among non-participants, psychosocial engagement and institutional integrity are secondary antecedents. Full results are presented in Appendix M.

Table 12 summarizes essential qualitative and quantitative findings for Study Question 1.

**Table 12: Summary Findings for Study Question 1**

Study Question	Quantitative Analysis	Qualitative Analysis
<b>I. What is the nature of the relationship between campus involvement and student persistence?</b>	<ol style="list-style-type: none"> <li>1. Campus involvement and persistence are positively related.</li> <li>2. Faculty can play an important mitigating role in persistence among less involved students.</li> <li>3. Institutional integrity is absent as a predictive variable of social integration.</li> <li>4. Communal potential is the strongest predictor of social integration.</li> </ol>	<ol style="list-style-type: none"> <li>1. Campus Involvement is a major contributor to students remaining at CMU.</li> <li>2. CMU provides ample opportunities for involvement although a desire for greater variety from year-to-year was expressed.</li> </ol>



<i>Study Question</i>	<i>Quantitative Analysis</i>	<i>Qualitative Analysis</i>
Specifically, what is the relationship between athletic participation and student persistence?	<ol style="list-style-type: none"> <li>1. Demographic differences do not separate athletes and non-athletes.</li> <li>2. Non-athletes exhibit greater initial institutional commitment.</li> <li>3. Athletes and non-athletes intend to return to CMU at a like rate.</li> </ol>	<ol style="list-style-type: none"> <li>1. The relationship is both positive and negative.</li> <li>2. Athletics influences student decisions to choose CMU.</li> <li>3. CMU is not perceived to be honest in athletic recruitment.</li> <li>4. Some students depart due to unhappiness with athletics and unmet expectations.</li> </ol>
Specifically, what is the relationship between non-athletic co-curricular activities and student persistence?	<ol style="list-style-type: none"> <li>1. Co-curricular participants are more socially integrated than non-participants.</li> <li>2. Co-curricular participants have greater subsequent institutional commitment.</li> <li>3. Co-curricular participants are more likely to re-enroll.</li> </ol>	<ol style="list-style-type: none"> <li>1. Participation increases social integration.</li> <li>2. Co-curriculars provide a means to make friends and build relationships.</li> <li>3. Involvement in Greek life is very popular and influences students to continue at CMU.</li> </ol>
Specifically, how do the components of social integration as an antecedent of persistence differ between athletics and non-athletes; and, co-curricular participants and non-participants?	<ol style="list-style-type: none"> <li>1. For both athletes and non-athletes at CMU, communal potential and psychosocial engagement are the only significant antecedents of social integration at either the primary or secondary level.</li> <li>2. Communal potential is a consistent primary antecedent across co-curricular participants and non-participants. Psychosocial engagement is primary for participants and secondary for non-participants.</li> <li>3. Institutional integrity appears as a secondary antecedent among non-participants.</li> </ol>	



## VII. Study Question Two Analysis and Findings

*After removing co-curricular activities, what factors most influence and/are most predictive of first year to second year persistence?*

- a) *Specifically, what factors most influence social integration at CMU?*
- b) *Specifically, what differences (if any) exist between CMU and a High Retention Institution?*

Study question two examines which factors from the Braxton, et al. (2014) model influence persistence at CMU after removing all co-curricular activities. From those factors, the research team sought to identify those that most influenced social integration using quantitative and qualitative methods. Social integration is proven to have a positive influence on subsequent institutional commitment which has a positive influence on student persistence (Tinto, 1975; Braxton & Lee, 2005; Braxton, et al. (2014).

### A. Data Analysis

1. Qualitative Methodology. Students, faculty, staff, and administration were interviewed using a standardized interview protocol to gain a greater understanding of first year to second year persistence at CMU and the factors that influence social integration. Interviewers used open-ended questions to inquire about faculty, staff, peers, overall campus environment and culture, and satisfaction with various aspects of the institution. Students were asked directly if they had considered leaving CMU and the contributing factors and non-first year students were asked why they returned following freshman year. The interviews subsequently shed light on data obtained from the quantitative component of the study. The project team analyzed the results of the interviews and used an interview matrix to outline themes and significant quotes from each interview. To protect anonymity position titles are not provided with the quotes from faculty, staff, and administration.

2. Quantitative Methodology. The following sub-populations were assessed: 1) All CMU Students; 2) CMU First Year Students; and, 3) CMU Non-First Year Students. Independent samples t-test analyses of mean differences were performed on each of the Fall Survey variables identified in Table 4. Raw means and standard deviations are recorded in Appendix H; those exhibiting significant differences ( $p < .05$ ) are identified in Appendix I. Similar analyses were performed on each of the three corresponding HRI samples. Full results of the HRI analyses can be found in Appendices N and O.

Using the five perceptual variable identified, sequential ordinary least squares (“OLS”) regressions were performed on each tested sub-population with Social Integration as the dependent variable and recording the standardized coefficients of each variable, the unstandardized coefficients of each variable, the adjusted R square for each model, and the N value. Significance was noted at the  $< .001$ ,  $.01$  and  $.05$  levels. Those variables with significant standardized coefficients were identified as primary antecedents of social integration. To gain

deeper understanding of any cascading effects, subsequent OLS regression was performed on the variable exhibiting the highest standardized coefficient in each subgroup. Variables supportive of the dominant variable that were not also a primary antecedent of social integration were identified as secondary antecedents.

Sequential ordinary least squares (“OLS”) regressions with Social Integration as the dependent variable were performed on each sub-population (CMU and HRI) recording the standardized coefficients of each variable, the unstandardized coefficients of each variable, the adjusted R square for each model, and the N value. Significance was noted at the <.001, .01 and .05 levels. Comparisons of sub-populations use a trimmed regression to maintain appropriate subject to variable ratios. As demonstrated in Table 9 and Appendix P, *in one or more of the models tested* the variables of psychosocial engagement, communal potential, institutional integrity, commitment to student welfare, and faculty engagement exhibit significance ( $p < .05$ ) consistently within and across both institutions studied when controlling for high school GPA, on-campus residency, initial institutional commitment, and ability to pay. These entry characteristics were included as control variables after identifying significant correlations with the scale variable for social integration (Pearson coefficient) using the full CMU population. Variables not included are gender, race, parental education, parental income, faith engagement and diversity climate because they did not yield a significant correlation with social integration.

Those variables with significant standardized coefficients are identified as primary antecedents of social integration. Subsequent OLS regression was performed on the variable exhibiting the highest standardized coefficient in each subgroup to identify non-redundant (i.e. not also a primary) secondary antecedents. Full regression results can be found in Appendices M and Q.

Specific to Question 2’s emphasis on first year students *after removing the effects of co-curricular activities*, analyses were conducted across *all* first year students to increase the potential for generalizable results. Generalizability is important given CMU’s desire to understand broader aspects of first year predictors of persistence, not just those limited to the subset of the class (N=32 for first year, non-athlete co-curricular non-participants). Nonetheless, to ensure that unique characteristics were not overlooked, a full comparison of means was performed at the .05 level between first year students as a whole, and first year students who did not participate in either athletics or a co-curricular activity.

The spring dataset was analyzed for statistical similarity to the fall sample by a comparison of means (again employing one-way t-tests) across gender, race, age, citizenship, enrollment status, housing, initial institutional commitment, and athletic status. In this instance,  $p > .05$  is desirable. Results of the means comparisons between the fall and spring surveys are provided in Appendix J.

The spring survey was narrowly tailored to address the question of subsequent institutional commitment as a second, parallel antecedent of student persistence. Only results from CMU have been included in the analysis due to delays in receiving the HRI dataset. As identified above in Appendix K, Braxton, et al.’s (2014) original scale variable was comprised of two variables and

attained a relatively low Cronbach Alpha of .36. When constructed using the same two survey questions, the spring dataset yielded an unreliable Cronbach Alpha of .14. The variable was reconstructed using all seven questions from the survey to generate a scale variable, “Revised Subsequent Institutional Commitment” with significantly greater internal consistency achieving a Cronbach Alpha of .75.

The comparatively small number of questions in the spring survey, all of which were used to create the scale variable Revised Subsequent Institutional Commitment, allows for granularity of analysis. Appendix L provides a means analysis of individual questions, identifying significant differences in the means between first year students and non-first year students (one way t-test). Significance is noted at the .001, .01 and .05 levels. As referenced, first year students have been analyzed as a whole. The low number of non-athlete, co-curricular non-participants in the spring results renders any findings suspect (N=10) and therefore are not reported.

While spring survey results were not provided for the HRI, relative retention rates between CMU (66.4%) and the HRI (88.7%) were noted as germane to addressing potential anomalies in the data.

## B. Findings for Study Question 2

### *Detailed Qualitative Findings: Research Question 2*

Many themes arose during student interviews speaking to factors that influence and/are most predictive of first to second year persistence. These themes included the importance of faculty, the people make CMU great, and inconsistency in some university messaging.

#### 1. The Importance of Faculty: *“Faculty are beyond exceptional”*

The quality of the interactions with faculty and support received from faculty members was a constant topic of the student interviews. Students felt the faculty are a major reason many students stay at CMU. When asked “What influenced your decision to return to CMU after freshman year”, a majority of the non-first year students referenced their professors. Linda said “a lot of people stay because they are committed to the professors”. Multiple references were made to eating dinner at professor’s homes and attending a dinner at the president’s home as well. Faculty members credited those dinners -- as well as attending games, participating in intramural sports, and eating in the cafeteria -- with creating a community on campus that makes approaching faculty easy. When asked what they believed CMU’s strength to be from the student perspective, faculty and administrators collectively said faculty. Therefore, all stakeholders acknowledge the role faculty plays in the CMU experience.

For students who developed close relationships with faculty members, greater classroom participation and growth as a person resulted. Students mentioned faculty members attending sporting events and recitals on campus as acts that send a message that faculty cares about the students academically and socially. When asked “what has influenced you to interact with faculty outside the classroom”, students identified the friendliness of faculty, feeling the professors want

them to, and knowing it's okay to do so. John said, "The professors here they genuinely care and they are genuinely excited about the things they are teaching." Bill referenced one of the professors as a driving influence in him choosing to go to law school and the professor's help in studying for the LSAT. There appears to be a clear relationship between faculty engagement and commitment to the welfare of students and subsequent institutional commitment. There is a level of reciprocal respect between students and faculty members. Leonard, a junior transfer student, said "they don't see you as just a student they take you under their wing". One student suggested creating a mentor program with professors including scheduled lunches to discuss various topics. He felt his professors were very knowledgeable and students could learn a great deal from them. Marcy, a junior biology major, reflected back to her freshman year when she made the decision to stay:

*"I was in the transfer mode. I was going to transfer that semester [fall of freshman year] but I realized that I wasn't going to be happy at another school back home because they were all going to be huge and I was just going to be lost in the masses and here I had some friends and the faculty. The faculty is honestly a huge reason because I am close with all of the faculty that I deal with in my major and both my minors and I knew that I wasn't going to get that quality from the faculty and that quality of an education from a school back home."*

Students also expressed concern regarding the rigor of academics – or lack thereof. There is an expressed desire to be more challenged in some classrooms especially among the upperclassmen. Students believe faculty members would like to push students more and but cannot because of the varying academic levels in the classroom. Carl, a junior athletic training major, suggested that professors be involved in student recruitment to attract more students that enjoy learning. Faculty members also expressed concern regarding academic rigor. Two themes arose: athletics being a hindrance and student lack of preparedness. One faculty member spoke to the challenges of teaching a large number of athletes:

*"I was talking with a science faculty member she wanted to try some new pedagogical things with how she taught her classes and they sounded like really great ideas. She was going to spend one day a week really focusing on student interaction and students being able to sort of speak the lingo and she said 'the problem is there's so many athletes in my class and if I plan to do this every Friday it's quite possible that there will be students who will never be there on Friday because they'll be at games' ....I think that is a challenge and I would think for a student missing a lot of class for good reasons could be hard. I think it limits faculty a little bit from trying some preemptive pedagogical things because they never know am I going to have 15 people today or am I going to have 25 people today."*

All faculty and administrators expressed as a concern students not being academically and socially prepared for college. Matthew, a CMU administrator, said, "The level of academic preparedness of our students is average at best. They reflect the education system in Missouri." According to faculty, areas of concern are English and Mathematics. In addition, faculty stated students lack study skills and an understanding of homework at the college level.

Recommendations focused on recruiting students that are a good fit for CMU and enjoy learning as well as improving the CMU 101 curriculum.

## 2. The Power of People: *"Everybody talks to everybody"*

For many students, there was no question about the main influence on their persistence at CMU. Every student interviewed referenced "the people". The people included fellow students, faculty members, members of the administration, and the staff. From plant operations to the cafeteria staff to the president of the university, students felt everyone knew their name and would engage them in conversation. Just as with faculty, students feel staff is supportive and will speak with students about anything including non-academic topics. Leonard reflected on his interactions with the support services on campus and stated, "every person I've met on campus, they are willing to help". He had been invited to Thanksgiving dinner at a staff members home and received support in adjusting to a small town. This and other staff actions referenced by other students, positively reinforce perceptions of the institution's commitment to the welfare of its students.

For students remaining at CMU, the university has created a welcoming environment where students can meet great people and easily make friends. Students report the opportunity to interact with those from different backgrounds and different parts of the world which will help broaden their horizons. Collectively, the people of CMU create a sense of community that makes students feel comfortable. Stanley referenced friends as the reason he returned after freshman year and when asked if he ever thought about leaving, he responded with a question: "No, why would I move from a good community?". Even students who considered leaving at some point in their tenure at CMU attributed staying to the friends and the relationships they had developed. Marcy said, "I don't know anybody that hasn't considered leaving" but she also noted her friends are a main reason she stayed. Her advice to other students is "find the people to get involved with because that is the only reason you will stay."

## 3. Inconsistent Messaging: *"Nobody really talks about academics."*

Inconsistency in university messaging relating to academics and funding became a recurring theme during student interviews. This contributes negatively to student perceptions of institutional integrity. As previously noted, students felt misled during athletic recruitment based on their experiences after arriving on campus. Students also felt CMU was misleading about dual credits and transfer credits. Many students said dual credits obtained during high school did not transfer and thereby delayed graduation in the desired amount of time. Students transferring from community colleges shared similar experiences. When asked if she had experienced any challenges to completing her degree in the time expected, Kim B. shared her concerns as transfer student.

*"I have an extra math class I have to take because I didn't test into the college algebra and I took a pre-algebra classes in Minnesota and it doesn't transfer here so I have to sit in that same class again and then get into the college algebra. That's an extra semester...They [junior college courses] transferred in because I have an Associate's*

*but I feel like they didn't go towards anything. Looking at my schedule almost all the classes I took other than the typical general psychology that go into the chart they give you here but a bunch of my intro to exercise science, psychology of sport, sport and society classes the ones that are geared towards exercise science majors are in an elective category down here [CMU] so a bunch of my classes are now in my elective or the elective for a minor. Like right now I'm in an Intro to Exercise Science class and I have an Exercise Science Associate's Degree and I already sat in an Intro to Exercise Science but it's under electives and this one's going to be under my gen ed. So it's repetitive on a couple of classes."*

Students as well as faculty and staff mentioned negative interactions between students and staff in administrative offices noting a desire for better customer service in this area. Service and messaging issues contribute to student perceptions of the institution's commitment to student welfare and institutional integrity.

Speaking to the heart of institutional integrity questions, non-athletes said academics do not come first as the mission of the institution states. Ed recalled the psychology club planning to attend a conference and having difficulty in obtaining funding:

*"Us going to this conference was riding on them giving us money to do it. I know athletics is a huge thing for them but they travel all the time and it's no problem, they have a bus and we had to rent a bus to go to the conference with our own money just to do this academic stuff. That's why I keep hammering in that they don't focus on academics. If we were athletics and we were going to go somewhere and do something they are just like here's all this money, here's a bus, take the bus."*

When discussing financial aid and tuition, students stated they wanted to have a clearer understanding of how their tuition dollars were being used. Ed stated "the buildings do not reflect the cost of tuition and they aren't handicap friendly". Lucille and Marcy want the school to be more transparent about how money is spent. Although these experiences potentially impact perceptions of institutional integrity, they did not result in these students leaving CMU. Based on student interviews, students that depart CMU do so because of finances; athletics not meeting expectations with regard to playing time; lack of placement on a varsity team; not getting involved on campus; or, an intended major was not offered at CMU. Those students that choose to stay say they "love it at the end of the day".

### ***Detailed Quantitative Findings: Research Question 2***

#### **Factors most influencing and/or predictive of first year to second year persistence.**

First Year and Non-First Year Students at CMU are demographically homogenous with the exception of on-campus residency (88% among first years; 58% among non-first years), which results from the CMU housing policy requiring students below the age of 21 to live on campus. First year students exhibit lower mean averages against the variables of communal potential (M=1.69 vs. M=1.85), institutional integrity (M=1.39 vs. M=1.70), commitment to



student welfare (M=1.43 vs. M=1.75) and faith engagement (M=2.64 vs. M=2.96), all trending toward more favorable when compared to non-first year students.

Subsequent Institutional Commitment variables offer no significant differences between first year students and upperclassmen except in response to the question, “It is likely that I will register here next Fall”. There is an anomaly in the data in this regard as the magnitude of difference (M=1.29 versus M=1.75,  $p < .05$ ) is greater than the 92% of first year students that indicate a positive intent to return in the fall versus the 88% among non-first years ( $p = .46$ ). In the first instance, the question is posed as part of a series (see Appendix L); in the second, the question is standalone (“What do you think you’ll be doing in Fall 2017” with 1 = Attending CMU and 0 = Attending another college or university / Not attending any college or university.). The difference in phrasing (registering versus attending) may influence responses.

**Table 13: Summary of Significant Mean Differences Between Sub-Groups** – CMU First Year Students vs. Non First Year Students

<i>Favors First Years</i>	<i>Favors Non-First Years</i>
On Campus Residence	
Communal Potential	
Institutional Integrity	
Commitment to Student Welfare	
Faith Engagement	
Intent to register here next fall	

In arriving at the trimmed regression model used throughout this study, the impact of co-curricular activity was tested against the base model by inserting a dummy variable for participation. This is shown as Model 4 in Table 9. The new variable did not impact the base model at a significant level with minimal influence on the standardized coefficients of other variables.

Results of ordinary least squares regressions using social integration as the dependent variable reveal communal potential as the primary antecedent for CMU’s first year and non-first year students with noticeably stronger predictive capacity among non-first years ( $\beta = .412$  and  $\beta = .571$  respectively). See Table 14. This represents a departure from Braxton et al. (2014) which did not find communal potential as having a statistically significant influence on social integration among first year students. On the other hand, non-first Year students include psychosocial engagement and commitment to the welfare of the students as antecedents to social integration

**Table 14: Results of Ordinary Least Squares Regression with Social Integration as the Dependent Variable** – CMU First Year Students vs. Non First Year Students

Variables	First Year Students		Non First Year Students	
	Standardized Coefficients	Un-Standardized	Standardized Coefficients	Un-Standardized
(Constant)		-0.437		0.015
Psychosocial Engagement	0.110	0.122	0.226**	0.194
Communal Potential	0.412***	0.418	0.571***	0.552
Institutional Integrity	0.25*	0.297	0.04	0.028
Commitment to Student Welfare	0.138	0.154	0.251*	0.218
Faculty Engagement	0.142	0.162	-0.136	-0.127
Athletic Experience				
Adjusted R-Squared	0.682***		0.648***	
N	62		121	

\* $p < 0.05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Study Question 2(a): Factors Most Influencing Social Integration at CMU after co-curricular activities of any type are removed

To address the possibility that athletic participation skewed responses among co-curricular non-responses (potentially understating the impact of non-engagement) additional analysis examined non-athlete, non-participants.

Ordinary least squares regression analysis was performed with results presented in Table 15. A word of caution is advisable. Even using a trimmed regression model, the low number of subjects (N=39) for non-athlete, non-participants in the model violates the lower boundary to maintain a subject-to-student ratio of 10:1. For this case only, two models were run further reducing the number of variables considered. Model 1 draws from Braxton, et al. (2014) which found psychosocial engagement, institutional integrity and commitment to student welfare to be significant perceptual variables. Model 2 builds on Model 1's findings by removing the one insignificant variable (commitment to student welfare) and replacing it with the most dominant variable in all other scenarios in our study: communal potential. Model 2 increases the adjusted R-square fit from .396 to .518 with communal potential as the only significant variable. Assuming Model 2, the sole primary antecedent of social integration for both co-curricular non-participants and non-athlete non-participants appears to be Communal Potential. Having noted this, the spurious nature of this finding is acknowledged.

**Table 15: Results of Ordinary Least Squares Regression with Social Integration as the Dependent Variable – CMU Co-Curricular Non-Participants vs. Non-Athlete, Co-Curricular Non-Participants**

Variables	Non-Athlete Co-Curricular Non-Participants			
	Model 1		Model 2	
	Standardized Coefficients	Un-Standardized	Standardized Coefficients	Un-Standardized
(Constant)		-0.405		0.209
Psychosocial Engagement	0.443***	0.507	0.063	0.057
Communal Potential			0.677***	0.628
Institutional Integrity	0.325*	0.322	0.073	0.054
Commitment to Student Welfare	0.212	0.252		
Adjusted R-Squared	0.396***		0.518***	
N	58		39	

\* $p < 0.05$ , \*\* $p < .01$ , \*\*\* $p < .001$

### Study Question 2(b): Differences Between CMU and the HRI Impacting Persistence

Parallel analyses to those performed on the CMU dataset were conducted for the HRI including analyses of means and regressions for: the full HRI sample, athletes vs. non-athletes; co-curricular participants vs. non-participants; and, first year students vs. non-first year students. In arriving at the trimmed regression model used throughout this study, the impact of athletic participation, co-curricular activity, and first year status also were tested against the HRI base model by sequentially inserting a dummy variable for each of these sub-groups. This is shown as Models 2, 3 and 4 in Table 9. For athletic and co-curricular participation, including the new variables did not impact the base model at a significant level with minimal influence on the standardized coefficients of other variables.

#### *a. Factors Impacting All Students*

Independent samples t-test analyses of mean differences were performed on each of the Fall Survey variables identified in Table 4. Raw means and standard deviations are recorded in Appendix H; those exhibiting significant differences ( $p < .05$ ) are identified in Appendix I. Similar analyses were performed on each of the three corresponding HRI samples. Full results of the HRI analyses can be found in Appendices N and O.

In the aggregate, CMU's and HRI students differ demographically, although not by race / ethnicity. CMU's sample is more diverse by gender (62% female vs. 75% male). At the mean, in the areas of parental education level (M=9.60 vs. M=11.58), parental income (M=7.88 vs. M=10.68), average grades in high school (M=8.07 vs. M=8.49), on-campus residency (M=0.67 vs. M=0.75), initial institutional commitment (M=3.52 vs. M=3.67) and ability to pay (M=1.84 vs. M=1.65), the HRI displays more favorable characteristics. In short, HRI students are decidedly more privileged. On matters of student perception, the institutions differ significantly

in three area, two of which are more favorably inclined toward CMU: communal potential and diversity climate. HRI students have a deeper level of faith engagement.

**Table 16: Summary of Significant Mean Differences Between Sub-Groups – Between Institutions**

<i>Favors CMU</i>	<i>Favors HRI</i>
Gender	Parental Education Level
Communal Potential	Parental Income
Diversity Climate	Average grades in high school
	On Campus Residency
	Ability to Pay
	Initial Institutional Commitment
	Faith Engagement

As shown in Table 17, OLS modeling indicates similar standardized beta coefficients between institutions for communal potential (CMU  $\beta=.521$ ; HRI  $\beta=.543$ ) and psychosocial engagement (CMU  $\beta=.184$ ; HR  $\beta=.198$ ) as predictors of social integration<sup>8</sup> with both favoring the HRI. CMU adds commitment to student welfare as an additional antecedent, whereas the HRI includes institutional integrity and faculty engagement as significant predictors.

**Table 17: Results of Ordinary Least Squares Regression with Social Integration as the Dependent Variable – CMU vs. HRI**

Variables	Central Methodist University		High Resolution Institution	
	Standardized Coefficients	Un-Standardized	Standardized Coefficients	Un-Standardized
(Constant)		0.179		-0.348
High School GPA+	-0.032	-0.01	0.005	0.002
On-Campus Residence++	0.015	0.019	0.013	0.023
Inistinal Institutional Commitment++	-0.058	-0.039	-0.035	-0.027
Ability to Pay++	-0.015	-0.012	-0.004	-0.003
Psychosocial Engagement	0.184**	0.166	0.198***	0.224
Communal Potential	0.521***	0.507	0.543***	0.557
Institutional Integrity	0.056	0.044	0.147***	0.134
Commitment to Student Welfare	0.201*	0.18	-0.004	-0.004
Faculty Engagement	-0.007	-0.007	0.103**	0.127
Athletic Status				
Co-Curricular Participation				
Adjusted R-Squared	0.636***		0.604***	
N	183		550	

\* $p < 0.05$ , \*\* $p < .01$ , \*\*\* $p < .001$

++ Bivariate analysis on numeric variable indicates significant correlation with Social Integration at the .01 Level

+ Bivariate analysis on numeric variable indicates significant correlation with Social Integration at the .05 Level

<sup>8</sup> To retain consistent modeling, the same control variables were included in the HRI analysis and again are not significant variables in the model. Although sample sizes are larger at the HRI and would allow for inclusion of the control variables in all instances, the same trimmed regression model is employed to allow parallel analysis.

Subsequent OLS regression identifies communal potential as the dominant predictive variable in both instances. Results (Adjusted  $R^2 = .500$  and  $.362$  for CMU and the HRI respectively) introduce institutional integrity as a secondary antecedent of social integration among CMU students and commitment to student welfare at the HRI. Full results are presented in Appendices M and Q.

*b. Cross-Institutional Athletic Participation and Persistence.*

When compared to one another, CMU and HRI Athletes are largely similar along demographic lines. Non-athletes, however, display significant differences across a number of demographic variables. CMU achieves a more balanced gender mix among non-athletes of 65% female versus 77% at the HRI. However, CMU non-athletes compare less favorably along the variables of parental income ( $M=7.74$  vs.  $M=10.67$ ), average grades in high school ( $M=8.02$  vs.  $M=8.47$ ); and, on campus residency (65% vs. 74 %). For both Athletes and Non-Athletes, ability to pay is of greater concern for CMU students ( $M=1.86$  and  $M=1.83$  versus  $M=1.45$  and  $M=1.67$  at the HRI<sup>9</sup>). Communal potential ( $M=1.90$  vs.  $M=1.84$ ) is less favorable among CMU non-athletes than for those attending the HRI as is Faith Engagement ( $M=3.01$  vs.  $M=2.10$ ). For CMU athletes, communal potential is more favorable ( $M=1.69$  vs.  $M=1.85$ ), while faith engagement ( $M=2.90$  vs.  $M=2.29$ ) and Athletics Engagement ( $M=1.83$  vs.  $M=1.53$ ) achieve less favorable scores at a significant level when compared to athletes at the HRI. Institutionally, CMU achieves a significantly more favorable perception among students regarding the Diversity Climate, a trend that persists among non-athletes ( $M=3.30$  vs.  $M=3.50$ ).

**Table 18: Summary of Significant Mean Differences Between Sub-Groups** – Athletes across Institutions

	<i>Favors CMU</i>	<i>Favors HRI</i>
<b>Athletes</b>		Ability to Pay Institutional Integrity Faith Engagement Athletic Engagement
<b>Non-Athletes</b>	Gender balance Diversity Climate	Parental Income Average Grades in HS Higher on Campus Residency Ability to Pay Communal Potential Faith Engagement

OLS regressions shown in Table 19 indicate that communal potential is the strongest predictor of social integration at both institutions among athletes and very similar levels ( $\beta=.543$  and  $\beta=.538$ ). Beyond communal potential, psychosocial engagement factors as a primary antecedent of social integration at CMU while HRI athletes include athletic experience.

<sup>9</sup> The exceptional difference among HRI athletes is due, no doubt, to their NCAA Division 1 status wherein scholarship awards are substantially higher and include other costs of attendance beyond tuition. These athletes also differ from their non-athlete peers at the HRI.

**Table 19: Results of Ordinary Least Squares Regression with Social Integration as the Dependent Variable – CMU Athletes vs. HRI Athletes**

Variables	CMU Athletes		HRI Athletes	
	Standardized Coefficients	Un-Standardized	Standardized Coefficients	Un-Standardized
(Constant)		-0.248		-0.555
Psychosocial Engagement	0.186*	0.196	0.198	0.233
Communal Potential	0.543**	0.601	0.538***	0.499
Institutional Integrity	0.120	0.099	0.170	0.149
Commitment to Student Welfare	0.182	0.168	0.012	0.013
Faculty Engagement	-0.097	-0.095	0.06	0.075
Athletic Experience	0.092	0.061	.169*	0.191
Adjusted R-Squared	0.621***		0.673***	
N	82		61	

\* $p < 0.05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Table 20 reveals the introduction of institutional integrity and faculty engagement as primary antecedents of social integration among non-athletes at the HRI. Neither of these variables are present among CMU’s non-athletes as a primary antecedent with only institutional integrity introduced as a secondary antecedent when communal potential is held out as the dependent variable. (See Appendix M.)

**Table 20: Results of Ordinary Least Squares Regression with Social Integration as the Dependent Variable – CMU Non-Athletes vs. HRI Non-Athletes**

Variables	CMU Non Athletes		HRI Non Athletes	
	Standardized Coefficients	Un-Standardized	Standardized Coefficients	Un-Standardized
(Constant)		-0.026		-0.437
Psychosocial Engagement	0.193*	0.154	0.200***	0.225
Communal Potential	0.464**	0.423	0.544***	0.567
Institutional Integrity	0.078	0.059	0.145***	0.133
Commitment to Student Welfare	0.172	0.149	-0.005	-0.005
Faculty Engagement	0.078	0.077	0.107**	0.129
Athletic Experience				
Adjusted R-Squared	0.634***		0.593***	
N	93		493	

\* $p < 0.05$ , \*\* $p < .01$ , \*\*\* $p < .001$

*c. Cross-Institutional Co-Curricular Participation and Persistence.*

As previously noted, CMU’s Co-curricular participants and non-participants are largely homogenous. This stands in stark contrast with the HRI where the two groups differ in almost all demographic regards (with non-participant means listed first): gender (21% male vs. 12%); race/ethnicity (21% students of color among vs. 12%); parental education level (M=11.37 vs. M=12.46); parental income (M=9.98 vs. M=10.90); average grades in high school (M=8.06 vs. M=8.72); and, on campus residency (62% on campus vs. 81%). While less balanced in terms of gender and race, students involved in co-curricular activities at the HRI start from a more favorable condition economically, academically, and from a housing perspective. Regarding engagement and again with non-participant means listed first, CMU’s co-curricular participants report higher levels of psychosocial engagement (M=2.53 vs. M=2.09), social integration (M=1.79 vs. M=1.55) and faith engagement (M=3.20 vs. M=2.84). By comparison, HRI co-curricular students report more favorable mean scores in the areas of psychosocial engagement (M=2.45 vs. M=2.06); communal potential (M=2.04 vs. M=1.79); institutional integrity (M=1.64 vs. M=1.54); social integration (M=1.85 vs. M=1.53); faith engagement (M=2.48 vs. M=2.01); and, faculty engagement (M=2.34 vs. M=2.19). In short, the gap between co-curricular participants and non-participants appears to be less pronounced at CMU.

Greater demographic similarity exists between CMU participants and HRI non-participants: significant mean differences exists between institutions at the participant level in the areas of gender (CMU = 38% male vs. 22%), parental education level (M=9.73 vs. M=12.46, also true for non-participants, M=9.28 vs. M=11.37), parental income level (M=8.23 vs. M=10.90, also true for non-participants, M=7.16 vs. M=9.98), average grades in high school (M=8.21 vs. M=8.72), and campus residency (70% on campus vs. 81%), favoring HRI participants in all categories except gender diversity. Ability to pay also becomes a differentiator, again favoring the HRI (M=1.87 vs. M=1.64). Faith Engagement (M=2.84 vs. M=2.01) and Athletic Engagement (M=1.83 vs. M=1.53) favors the HRI for both co-curricular participants and non-participants (M=3.20 vs. M=2.48, faith; M=1.85 vs. M=1.54 athletics). Favoring CMU is the mean score for communal potential among non-participants (M=1.88 vs. M=2.04); favoring the HRI is the mean score for diversity climate among co-curricular participants (M=3.40 vs. M=3.29).

**Table 21: Summary of Significant Mean Differences Between Sub-Groups – Co-Curricular Participants across Institutions**

	<i>Favors CMU</i>	<i>Favors HRI</i>
<b>Participants</b>	Gender	Parental Education Level Parental Income Average High School Grades On Campus Residence Ability to Pay Faith Engagement Athletics Engagement Diversity Climate

	<i>Favors CMU</i>	<i>Favors HRI</i>
<b>Non-Participants</b>	Communal Potential	Parental Education Level Parental Income Faith Engagement Athletics Engagement

OLS regressions indicate that Communal potential is the strongest predictor of social integration at both institutions among co-curricular participants ( $\beta=.520$  at CMU and  $\beta=.565$  at the HRI) while psychosocial engagement is likewise a predictor ( $\beta=.230$  at CMU and  $\beta=.160$  at the HRI). See Table 22. Beyond communal potential, only at the HRI do institutional integrity and faculty engagement appear as primary antecedents. In fact, upon subsequent OLS regression using communal potential as the descriptive variable given its role as having the largest standardized coefficient for social integration, neither institutional integrity nor faculty engagement appear as secondary antecedents to social integration at CMU.

**Table 22: Results of Ordinary Least Squares Regression with Social Integration as the Dependent Variable – Co-Curricular Participants across Institutions**

Variables	CMU		HRI	
	Standardized Coefficients	Un-Standardized	Standardized Coefficients	Un-Standardized
(Constant)		-0.021		-0.401
Psychosocial Engagement	0.230**	0.203	0.160***	0.185
Communal Potential	0.520***	0.497	0.565***	0.575
Institutional Integrity	0.061	0.044	0.167**	0.148
Commitment to Student Welfare	0.175	0.144	-0.042	-0.039
Faculty Engagement	-0.027	-0.024	0.133**	0.155
Athletic Experience				
Adjusted R-Squared	0.625***		0.586***	
N	127		446	

\* $p < 0.05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Similar to the analysis for CMU, athletes at the HRI also were removed to measure their impact on predictor variables for ordinary least squares regression analysis. Results of ordinary least squares regressions using social integration as the dependent variable indicate that removing athletes from the HRI co-curricular dataset results in the same predictor variables as previously with only minor shifts in the standardized beta coefficients. See Table 23. When comparing institutions, communal potential again appears as the primary antecedent across both institutions although psychosocial engagement also appears as a primary antecedent of social integration for the HRI. When conducting subsequent OLS regression using communal potential as the dependent variable, psychosocial engagement emerges as a secondary antecedent at CMU. At



both institutions, institutional integrity is a secondary antecedent among co-curricular non-participants regardless of whether athletes are included or removed from the pool. See Appendices M and Q. Also, see Table 15 and accompanying discussion for treatment of the insufficient N value for CMU non-athlete, co-curricular non-participants.

**Table 23: Results of Ordinary Least Squares Regression with Social Integration as the Dependent Variable – Non-Athlete, Co-Curricular Non-Participants across Institutions**

Variables	CMU		HRI	
	Non Athlete Non Participants		Non Athlete Non Participants	
	Standardized Coefficients	Un-Standardized	Standardized Coefficients	Un-Standardized
(Constant)		-0.024		-0.528
Psychosocial Engagement	0.055	0.050	0.285**	0.316
Communal Potential	0.557**	0.506	0.487***	0.520
Institutional Integrity	0.055	0.041	0.106	0.093
Commitment to Student Welfare	0.084	0.077	0.139	0.155
Faculty Engagement	0.179	0.184	0.031	0.040
Athletic Experience				
Adjusted R-Squared	0.565***		0.561***	
N	35		86	

\* $p < 0.05$ , \*\* $p < .01$ , \*\*\* $p < .001$

*d. Cross-Institution First Year Status and Persistence.*

Assessing differences between first years and non-first years at each institution identifies first years students as having more favorable scores at both institutions for on-campus residency (88% vs. 58% at CMU; 93% vs. 66% at the HRI), institutional integrity (CMU:  $M=1.39$  vs.  $M=1.70$ ; HRI:  $M=1.41$  vs.  $M=1.63$ ), commitment to student welfare (CMU:  $M=1.43$  vs.  $M=1.75$ ; HRI:  $M=1.44$  vs.  $M=1.74$ ), and faith (CMU:  $M=2.64$  vs.  $M=2.96$ ; HRI:  $M=2.13$  vs.  $M=2.31$ ). Communal potential also stands out as favoring first year students at CMU ( $M=1.69$  vs.  $M=1.85$ ) but not the HRI. Variables with mean differences only observed at the HRI include gender (21% male vs. 28%), psychosocial engagement ( $M=2.31$  vs.  $M=2.13$ ), and social integration ( $M=1.70$  vs.  $M=1.60$ ) favoring non-first year students; and, parental education level ( $M=12.64$  vs.  $M=11.56$ ) and average grades in high school ( $M=8.69$  vs.  $M=8.34$ ) which favor first years.

Demographic differences between institutions for first year students mirrors those found for co-curricular participants: CMU is more gender balanced (41% male vs. 21%), while lagging in parental education level ( $M=9.18$  vs.  $M=12.64$ ); parental income ( $M=7.56$  vs.  $M=10.69$ ), average grades in high school ( $M=8.15$  vs.  $M=8.69$ ) and ability to pay ( $M=1.83$  vs.  $M=1.70$ ). Similarly, non-first year students at CMU record lower mean scores for parental education ( $M=9.78$  vs.  $M=11.56$ ), parental income ( $M=8.02$  vs.  $M=10.13$ ), average grades in high school

(M=8.04 vs. M=8.34), on campus residency (58% vs. 66%) and ability to pay (M=1.85 vs. M=1.68). As with first years, CMU non-first years students exhibit greater gender diversity than the HRI (37% male vs. 28%) but also demonstrate lower initial institutional commitment (M=3.48 vs. M=3.63).

**Table 24: Summary of Significant Mean Differences Between Sub-Groups** – First Year Students Across Institutions

	<i>Favors CMU</i>	<i>Favors HRI</i>
<b>First Year Students</b>	Gender Institutional Integrity	Parental Education Level Parental Income Average High School Grades Ability to Pay Faith Engagement
<b>Non-First Years</b>	Gender Initial Institutional Commitment	Parental Education Level Parental Income Average Grades in High School On campus residency Ability to pay

In arriving at the trimmed regression model used throughout this study, the impact of co-curricular activity was tested against the base model by inserting a dummy variable for participation. This is shown as Model 4 in Table 9. The new variable did not impact the base model at a significant level with minimal influence on the standardized coefficients of other variables. However, as shown in Model 4 of Appendix P, first-year status at the HRI does present at a significant level ( $p < .001$ ).

Ordinary least squares regression analysis was performed with results outlined below in Table 25. At both institutions, communal potential is the most significant antecedent to social integration among first year students with the magnitude being greater at the HRI ( $\beta = .661$  at the HRI vs.  $\beta = .412$ ). Institutional integrity appears as a primary antecedent among CMU first year students; this is not the case at the HRI. By introducing first year status as dummy variable, significant HRI standardized coefficients are impacted as follows:

1. Psychosocial Engagement decreases from  $\beta = .198^{***}$  to  $\beta = .171^{***}$
2. Communal Engagement decreases from  $\beta = .543^{***}$  to  $\beta = .542^{***}$
3. Institutional Integrity increases from  $\beta = .147^{***}$  to  $\beta = .149^{***}$

**Table 25: Results of Ordinary Least Squares Regression with Social Integration as the Dependent Variable – First Year Students Across Institutions**

Variables	CMU		HRI	
	Standardized Coefficients	Un-Standardized	Standardized Coefficients	Un-Standardized
(Constant)		-0.437		-0.142
Psychosocial Engagement	0.110	0.122	0.102	0.124
Communal Potential	0.412***	0.418	0.661***	0.768
Institutional Integrity	0.25*	0.297	0.112	0.138
Commitment to Student Welfare	0.138	0.154	0.061	0.081
Faculty Engagement	0.142	0.162	-0.05	-0.086
Athletic Experience				
Adjusted R-Squared	0.682***		0.614***	
N	62		141	

\* $p < 0.05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Subsequent OLS regression was performed on the variable exhibiting the highest standardized coefficient in each subgroup to identify non-redundant secondary antecedents. In both instances, Communal Potential was the dominant predictive variable. Results (Adjusted  $R^2 = .682$  and  $.397$  for CMU and the HRI respectively) introduce institutional integrity as a secondary antecedent of social integration at the HRI and psychosocial engagement at both the HRI and CMU. Full results are presented in Appendices M and Q.

As presented below in Table 26, among non-first year students, faculty engagement and institutional integrity are identified as primary antecedents at the HRI; at CMU, institutional integrity appears only as a secondary antecedent and faculty engagement is neither a primary nor secondary antecedent of social integration. See Appendix Q.

**Table 26: Results of Ordinary Least Squares Regression with Social Integration as the Dependent Variable – First Year Students Across Institutions**

Variables	CMU Non First Year Students		HRI Non First Year Students	
	Standardized Coefficients	Un-Standardized	Standardized Coefficients	Un-Standardized
(Constant)		0.015		-0.255
Psychosocial Engagement	0.226**	0.194	0.191***	0.201
Communal Potential	0.571***	0.552	0.522***	0.504
Institutional Integrity	0.04	0.028	0.133**	0.106
Commitment to Student Welfare	0.251*	0.218	0.069	0.062
Faculty Engagement	-0.136	-0.127	0.076*	0.079
Athletic Experience				
Adjusted R-Squared	0.648***		0.612***	
N	121		535	

\* $p < 0.05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Table 27 provides a summary of the findings derived from both the qualitative and quantitative methods for project question two.

**Table 27: Summary Findings for Study Question 2**

Study Question	Quantitative Analysis	Qualitative Analysis
<b>II. After removing co-curricular activities, what factors most influence and/are most predictive of first year to second year persistence?<sup>10</sup></b>	<ol style="list-style-type: none"> <li>1. Class standing does not appear to impact persistence as measured by a student’s stated intent to return (although this response is inconsistent with responses to another question regarding registration).</li> <li>2. First year students express an intent to return that is significantly above the realized retention rate.</li> <li>3. For non-participants, institutional integrity matters.</li> </ol>	<ol style="list-style-type: none"> <li>1. Relationships with faculty members are driving force for students who remain at CMU.</li> <li>2. CMU policies and practices should reinforce academics more explicitly.</li> <li>3. Transparency and consistent application of policies and practices should be improved</li> </ol>

<sup>10</sup> See the Data Analysis section above regarding the reporting of all first year students in these results.

<i>Study Question</i>	<i>Quantitative Analysis</i>	<i>Qualitative Analysis</i>
Specifically, what factors most influence social integration at CMU?	<ol style="list-style-type: none"><li>1. Communal potential and psychosocial engagement are significant predictors of social integration at the aggregate level and across all sub-populations tested.</li><li>2. Student welfare is a present but inconsistent antecedent of social integration depending on the sub-population assessed.</li><li>3. Institutional integrity fails to rise to the level of a primary antecedent in the aggregate nor within any sub-population tested.</li><li>4. Faculty engagement does not support social integration at either the primary nor secondary level either in the aggregate or within any sub-group.</li></ol>	<ol style="list-style-type: none"><li>1. Faculty interactions are well-regarded</li><li>2. Students are aware of the support services available to them and have had positive experiences.</li><li>3. Students like the close and intimate community environment.</li></ol>

<i>Study Question</i>	<i>Quantitative Analysis</i>	<i>Qualitative Analysis</i>
Specifically, what differences (if any) exist between CMU and a High Retention Institution?	<ol style="list-style-type: none"> <li>1. Institutional integrity is more prevalent at the HRI as an antecedent of social integration appearing as a primary antecedent among 4 of 8 sub-populations and as a secondary antecedent in 3 more. At CMU, institutional integrity appears only once as a primary antecedent and 4 times as a secondary antecedent.</li> <li>2. Faculty engagement is completely absent at CMU as an antecedent of social integration. At the HRI, it appears as a primary antecedent in 4 of 8 scenarios.</li> <li>3. Demographic predictors suggestive of cultural capital deficits are more pronounced at CMU, particularly among non-participant groups.</li> <li>4. Reversing this trend, CMU athletes have less concern regarding ability to pay than their non-athlete peers at both CMU and the HRI while reporting higher parental education levels than athletes at the HRI. Athletes remain a more “elite” class at CMU due to their financial capacity as much as their status.</li> </ol>	N. A.

## VIII. Consolidated Discussion of Findings

		Athletes			Co-Curriculars			First Years	
		Institution	Athletes	Non-Athletes	Participants	Non-Participants	Non-Athlete Non-Participants	First Year	Non First Year
		Central Methodist University		Communal Potential	Communal Potential	Communal Potential	Communal Potential	Communal Potential	Communal Potential
Commitment to Student Welfare	Psychosocial Engagement			Psychosocial Engagement	Psychosocial Engagement			Institutional Integrity	Psychosocial Engagement
	Non-Redundant Secondary Antecedents	Psychosocial Engagement						Commitment to Student Welfare	
	Primary Antecedents	Institutional Integrity		Institutional Integrity	Commitment to Student Welfare	Psychosocial Engagement	NA	Psychosocial Engagement	Institutional Integrity
	Non-Redundant Secondary Antecedents					Institutional Integrity	NA		
		Athletes			Co-Curriculars			First Years	
		Institution	Athletes	Non-Athletes	Participants	Non-Participants	Non-Athlete Non-Participants	First Year	Non First Year
		Communal Potential	Communal Potential	Communal Potential	Communal Potential	Communal Potential	Communal Potential	Communal Potential	Communal Potential
	Primary Antecedents	Psychosocial Engagement	Athletic Experience	Psychosocial Engagement	Institutional Integrity	Psychosocial Engagement	Psychosocial Engagement		Psychosocial Engagement
	Non-Redundant Secondary Antecedents	Institutional Integrity		Institutional Integrity	Psychosocial Engagement			Institutional Integrity	
	Primary Antecedents	Faculty Engagement		Faculty Engagement	Faculty Engagement			Faculty Engagement	
	Non-Redundant Secondary Antecedents	Commitment to Student Welfare	Psychosocial Engagement	Commitment to Student Welfare	Commitment to Student Welfare	Institutional Integrity	Institutional Integrity	Institutional Integrity	Commitment to Student Welfare
	Primary Antecedents							Psychosocial Engagement	

**Figure 2: Social Integration Antecedent Map**  
 Listed in Order of Magnitude of Significant Standardized Coefficients

### 1. Antecedents of Social Integration at CMU.

With perfect consistency in the aggregate and across subgroups, communal potential -- students' perception of the potential for community among peers on campus -- stands out as the single most influential predictor of social integration at Central Methodist University (standardized  $\beta = .521, p < .001$ ). At the HRI, communal potential serves as the most influential variable across the total sample ( $\beta = .543, p < .001$ ) and across every subgroup. Psychosocial engagement -- the frequency with which student's engage in extra curricular academic discussions and social opportunities -- is the second most frequent predictor (CMU  $\beta = .184, p < .01$ ; HRI  $\beta =$

.198,  $p < .001$ ) of social integration but appears with less consistency. Communal potential being a stronger predictor of social integration than psychosocial engagement differs from Braxton, et al.'s findings which "found that communal potential, instead, tends to act as an antecedent of psychosocial engagement" (p. 168). In the original model, the concepts of communal potential and psychosocial engagement are cascading antecedents; in this study, they are parallel antecedents. In either regard, the concepts are closely related and results are consistent with qualitative findings. Figure 2 above highlights this pattern of consistency (an enlarged version appears at Appendices R and R). However, Figure 2 likewise highlights a very important distinction that grew from qualitative study findings: faculty matters. More to the point, faculty engagement matters. This is especially true at the HRI. Thus, the addition of a new variable to the Braxton, et al.'s 2014 model enters the picture of social integration. Viewed as an "antecedent map", Figure 2 informs the allocation of resources directed toward improving social integration and thereby persistence. For example, this would suggest that funds in support of faculty-student interaction beyond the classroom merit consideration.

## 2. Persistence and Retention at CMU.

However, Figure 2 also suggests another important finding, one that is especially well aligned with the qualitative analysis. When viewing the CMU map, it is important to remember what the ordinary least squares regression measures. Each component represents a predictor of social integration at the institution being assessed. In other words, significant standardized coefficients indicate what *is* present, not what *isn't* or *should be*. Based on CMU's relatively high mean scores for subsequent institutional commitment and persistence, one errantly could conclude that "more of the same" is in order. After all, student persistence as measured by intent to return ranges from 72% to 90%. However, the known retention rate is substantially below these estimates standing at 66.4%. In other words, while OLS regressions offer insight as to the predictors of social integration, and this aligns with revised subsequent institutional commitment and intent to return, there remains an unexplained gap. Phrased differently, a substantial number of CMU's students are persistent yet don't come back (i.e.: they do not retain). As previously noted, persistence and retention are related but independent concepts. This distinction is not trivial. Rather, it places responsibility for the persistence-retention gap directly on CMU.

To explain the difference in CMU's persistence and retention rates, the project team postulates that 1) the presence of one set of variables in the regressions for CMU, plus 2) the absence of a primary antecedent found in both the HRI and Braxton, et al. (2014, p. 254) models, have substantial impact on students' decisions not to return to CMU. Specifically, we reference demographics at CMU that suggest lower levels of cultural capital relative to the HRI (especially among non-athlete, co-curricular non-participants), and the substantial absences of institutional integrity and faculty engagement as primary antecedents of social integration at CMU. It is possible that over the course of a summer both areas weigh in decisions to return when students are not under the present influence of the CMU environment. For example, as found above, where cultural capital is lacking family support is lower. Equally, while wealthier than parents of non-athletes, athlete's parents may be less inclined to pay private college tuition to watch their children have less playing time -- or play on a lower level team -- than expected. Athletic participation may support communal potential, but it may run counter to persistence if the athletic



experience undermines institutional integrity (i.e.: consistency between the values the institution espouses and those it practices).

### 3. Unlocking Institutional Integrity at CMU.

If such a premise is valid, finding a path by which CMU could increase institutional integrity would prove helpful. The erosion of institutional integrity between first and subsequent years, along with lower levels of faculty and psychosocial engagement during the first year support this postulate. To further explore this position, the project team performed OLS step regression on the HRI dataset holding out institutional integrity as the dependent variable with the following results<sup>11</sup>:

**Table 28: Regression Results from the HRI**  
Institutional Integrity as the Dependent Variable

Variables	HRI Institutional Integrity	
	Standardized Coefficients	Un-Standardized
(Constant)		0.648
Gender	-0.084	-0.109
Race/Ethnicity	0.002	0.003
Parental Education Level	0.063	0.013
Parental Income	-0.018	-0.003
Average Grades in High School	0.023	0.01
On-Campus Residence	-0.02	-0.037
Initial Institutional Commitment	-0.068	-0.056
Ability to Pay	0.021	0.018
Psychosocial Engagement	-0.136**	-0.167
Social Integration	0.148**	0.162
Communal Potential	0.102**	0.112
Commitment of the Institution to Student Welfare	0.487***	0.491
Faith Engagement	0.062	0.045
Diversity Climate	-0.089*	-0.075
Faculty Engagement	0.072	0.095

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Adjusted  $R^2 = .553$

Commitment to Student Welfare is the dominant predictor of institutional integrity at the HRI. In a similar vein, Braxton, et al. (2014) found commitment to student welfare as the dominant predictor of subsequent institutional commitment (*Standardized  $\beta = .277, p < .001$* ) (p. 254), as well as the strongest of five predictors of social integration (*Standardized  $\beta = .276,$*

<sup>11</sup> In this instance, the larger sample size allowed a more robust regression model employing all variables measured. As an independent test, this does not create inconsistency in the study while allowing more control variables to be measured.

$p < .001$ ). Based on the consistency of these connections, efforts by CMU to promote and project greater institutional commitment to student welfare may be a gateway to improved student perceptions of institutional integrity.

These findings present a positive outlook for CMU to the extent the University can leverage further a strength identified in the qualitative research although paradoxically absent in the quantitative findings. Braxton, et al. (2014) found that Faculty Interest in Students overwhelmingly is the largest influencer of Commitment to Student Welfare (.571,  $p < .001$ ) (p. 256) and for Institutional Integrity in residential colleges (.343,  $p < .001$ ). Their conclusion: “Faculty plan a critical role in student persistence” (p. 209). These findings are consistent with the work of Pascarella & Terenzini, among others, who conclude “student contact with faculty members outside the classroom appears consistently to promote student persistence, educational aspirations and degree completion” (2005, p. 417). In the vernacular of this work, and when contrasted to the HRI, Faculty Engagement should be promoted so that it becomes an antecedent – ideally a primary antecedent – of social integration at CMU. Anecdotally, there is a deep relationship with faculty. What the data suggests, however, is that this relationship is not broad.

#### **4. A Matter of Mission.**

Faculty engagement and/or faculty interest in students only goes so far if academics -- ultimately the core purpose of any university or college -- fails to resonate among the student body as the primary goal in attending. While athletics is a necessary and highly productive enrollment driver for CMU, when overemphasized it likewise has the converse effect of increasing departure. Student and staff interviews consistently point to this phenomenon. Taken at face value, the question must be asked: would the second year class be larger if fewer, more qualified students aligned with CMU’s mission were admitted in the first place? If only 66 of 100 CMU first-year students return for their second year, wouldn’t 73 of 90 students be a better course<sup>12</sup>? Undeniable financial benefits flow from this philosophy. However, the most compelling reason is the human capital argument: college administrators have an ethical obligation to ensure that every matriculated (and appropriately motivated) student has a reasonable and equitable likelihood of graduating from that institution. Admitting students that the institution knows have little likelihood of persisting fails this test.

This being the case, it is important to note an additional qualitative finding. Throughout the course of this study, administration at CMU earnestly sought to address the tension between academics and athletics. Engaging this research speaks to the institution’s sincere intent. Moreover, administration appears willing to act. Approximately two-thirds of the way through this study, CMU launched a new website substantially raising the profile of academics as the centerpiece of the CMU experience. The extent to which better messaging will lead to better outcomes remains to be seen. However, it is an encouraging first step.

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<sup>12</sup>This retention rate would approximate the Fall 2015 national average for full-time, private colleges of 81.2%. (Data published by the National Student Clearinghouse Research Center: <https://nscresearchcenter.org/snapshotreport-persistence/retention22/>)

## **5. What Segmentation Tells Us.**

Both within institutions and across institutions, addressing persistence across a homogenous student body is inappropriate. Clear differences exist between CMU and the HRI regardless if the source of such differences is institutional, socio-economic, perceptual, or some combination thereof. Family background shapes outcomes. Athletes have different experiences than non-athletes and therefore have unique perceptions. The same can be said for first year students, those who choose not to participate in co-curricular activities. Based on analysis of the datasets beyond what is reported in this study, the same is true of low income students and students of color. Blanket policies addressing persistence therefore may be less effective than targeting high risk groups with messages narrowly tailored to their unique needs, at least when considering incremental investment.



## **IX. Recommendations of Institutional Policy and Practice**

Based on the findings of this study and a review of extant literature, the project team advances nine recommendations of policy to address CMU's first-year retention challenges. Embedded in these suggestions are practices intended to promote implementation of each principle. While advanced in a manner specific to CMU, the underlying tenets of success should be applicable to similarly situated institutions.

### **1. Create an Office of Independent Life while Expanding Access to the Greek System.**

Offices of Greek Life designed to facilitate and promote greater social interaction within and among members of the Greek system are common on college campuses. Yet, despite a departure gap between Greeks and non-Greeks favoring the Greek system<sup>13</sup>, students advantaged by established social networks receive additional support while those lacking affiliation do not. Findings of this study point to a pronounced gap in re-enrollment intent between co-curricular participants and non-participants (especially non-athlete, non-participants). Assigning to a senior administrator direct responsibility for understanding the unique profile of "Independents" would serve as a window into the needs of first generation students, CMU's growing population of non-traditional professional students, and opportunities to create socio-academic affiliations including new micro-learning communities.

Conversely, reducing funding to the Greek system in favor of Independents would be errant given the Greek system's prominence during student interviews. In this regard, additional chapters should be added to campus as demand dictates. In the short term, providing a "social scholarship" for low SES students could prove as beneficial as it would be original. The data presented connects reduced levels of income to lower cultural capital and lower cultural capital to a greater propensity to be among non-athletic, co-curricular non-participants (clearly an at-risk group). When weighed against retained tuition (even if from Pell Grant funding), the return to CMU could be favorable.

### **2. Leverage the Role of Faculty as Essential to Persistence.**

Faculty-student interactions outside the classroom foster student socialization and adherence to the norms and values of college thereby increasing the bond between student and institution (Pascarella & Terenzini, 2005). Faculty is repeatedly cited in student interviews as a positive contributor in their decision to return to CMU for a second year and beyond. The absence of faculty engagement in this study's quantitative analysis suggests that CMU may leverage faculty involvement to further support persistence. In other words, CMU can evolve from a base of fewer but deep relationships to more broad-based engagement. Faculty can be used in student recruitment to promote the prioritization of academics as well as establish the

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<sup>13</sup> For example, Auburn University reports a first year gap of 11.61% among men (94.1% for Greeks vs. 82.49% for non-Greeks) and 8.33% among women (92.6% vs. 84.27%). Source: [https://cws.auburn.edu/studentaffairs/greekLife/ConMan\\_Uploads/files/Retention\\_study.pdf](https://cws.auburn.edu/studentaffairs/greekLife/ConMan_Uploads/files/Retention_study.pdf). These rates are comparable to the HRI in this study where a combined 8.0% gap exists in the four year average retention rate between Greeks and non-Greeks.

student-faculty relationship early in the student lifecycle. This should have the additive effect of attracting more academically-minded students. Study results show that non-athletes at CMU have a higher level of initial institutional commitment. Therefore, recruiting more academically minded students rather than those seeking a place to continue their athletic career could have a positive impact on incoming students initial commitment to CMU.

CMU currently exhibits a high degree of student-faculty interaction in and out of the classroom. However, high-risk students who could greatly benefit from these interactions may not seek them out. According to Schreiner, Noel, Anderson, & Cantwell (2011), the following actions make a difference for high risk students: encouraging and motivating them to learn; expressing interest in the students; communicating a sense of importance to the student; pushing them to excel and understand difficult concepts; meeting students where they are; calling students by name; and, requiring office visits beyond regular class meetings. These actions are tangible demonstrations of the institution's commitment to student welfare, a factor Braxton, et al. (2014) emphasize as critical to student persistence and highlighted by this study as supportive of CMU's goals. CMU's commitment to student welfare is a sporadic predictor of social integration across groups on campus. In addition, the HRI analyses demonstrated that commitment to student welfare can have a positive influence on the students perception of institutional integrity. Therefore, enacting practices related to the role of faculty can yield positive results in multiple areas. For a detailed set of suggestions unique to faculty's role in promoting persistence, see Braxton, et al.'s (2014) work.

During qualitative interviews, students expressed concerns regarding academic rigor. They sought increased challenge in the classroom and greater engagement in academic activities to supplement learning. Faculty's pedagogical practices relate to student persistence by impacting the quality of student effort and the level of engagement in learning (Braxton, 2008) which in turn link to student persistence (Pascarella & Terenzini, 2005). Proven teaching practices to engage students include: structuring the course effectively; actively involving students in activities; asking higher order questions; providing feedback on student performance, and the encouraging cooperation among students (Chickering & Gamson, 1987; Braxton, 2008).

### **3. Reframe Academic Messaging within Athletics.**

Bowen (2011) states the academic-athletic divide is a growing concern for higher education and must be addressed sooner rather than later. This is evident at CMU as demonstrated in qualitative interviews, analysis of the student experiences survey, and through a cursory review of graduation rates by sport. Currently athletes are required to participate in mandatory study hall which, in theory, is sound practice. However, based on feedback from athletes and non-athlete library patrons, implementation at CMU merits review. Returning academics to the forefront represents a cultural shift, especially within the athletic department. Such prominence also aligns the actions of the athletic department to be in accordance with the mission of the university. This can have a positive influence on institutional integrity which study results show is more influential at the HRI than CMU. Consequently, additional policies and practices may be required. To begin addressing this issue Bowen (2011) suggests the president first articulate the relationship between athletics and educational values at the institution; he likewise cautions that

the president needs the support of the board of trustees when enacting policies that realign academics and athletics. Bolman and Deal (2013) also highlight the importance of academic messaging starting with leadership.

Expectancy Theory suggests that “effort is a function of three beliefs: expectancy (effort will lead to performance), instrumentality (performance will lead to outcomes), and valence (these outcomes are important or valued)” (Grant & Shin, 2011). Unless administrators invest resources to connect the poles of expectancy, empirically validate the pathways of instrumentality, and tangibly demonstrate the assertions of valence, academic achievement among athletes will continue to lag and persistence will suffer. With the behaviors suggested by expectancy theory well in mind, developing ways to celebrate scholar-athlete success is strongly recommended. For example, scholar-athlete achievement can be recognized at the team level during practices and team meetings as well as earning university wide recognition at campus gatherings, in common areas, or by promotion on internal and external social media channels. Similarly, coaches need tangible support from administration that performance is more than a won-lost record. Unlike in the academic sphere where such a practice could compromise academic integrity, coaches can be financially incentivized based on academic performance of the team. In addition, student support services can provide office hours within the athletics department to provide athletes with greater access, or given demand, permanently assign a staff representative to be housed within the department where athletes maintain their greatest social identity. Done well, each recommendation is another building block toward improved student perception of the commitment of the institution to student welfare.

#### **4. Enhance Institutional Integrity as a Critical Objective.**

CMU’s mission states it will “prepare students to make a difference in the world by emphasizing academic and professional excellence, ethical leadership, and social responsibility”. According to Braxton et al. (2014), the actions of the institution should support the mission, goals, and values of the institution as student perceptions of institutional integrity -- i.e. the alignment of institutional mission and actions -- are linked to their level of social integration. CMU students discussed concerns regarding institutional integrity relating to the priority of academics, transparency, and meeting expectations of the CMU experience. Corroborating anecdotal evidence, quantitative results of this study indicate that institutional integrity does not play a significant role in student persistence at CMU, or at least only a secondary one. Therefore, it is recommended that CMU independently evaluate whether university practices across a broad spectrum align with its mission and goals. Close attention should be paid to athletic recruitment techniques; discipline within athletics; preferential treatment of certain student groups above others; and, transfer credit policy. Similarly, messaging in student discussions; marketing materials; faculty and student reward structures; and, general recruitment strategies should be reviewed for consistency with espoused values and norms. Aligning practices with the mission of the institution and clearly communicating this to the student body, moves an action from being perceived as extra to being essential to the institution (Greenfield, Keup, & Gardner, 2013).

## **5. Establish Academic Celebrations as a Key Component of the CMU Culture.**

Students, staff, and faculty expressed concern that athletics is of greater importance than academics at CMU. They further stated CMU does not celebrate academic achievement nor does it financially invest in academic initiatives at the same level as athletic initiatives. Bolman and Deal (2013) highlight the role rituals and ceremonies play in creating culture within an organization. They communicate deeper meaning, lift spirits, and reinforce a dedication to shared values. Introducing academic celebrations as a constant, campus-wide occurrence will contribute to a culture of academic excellence that supports CMU's stated mission. Examples of unexploited opportunities include a dean's list ceremony; displaying the names of dean's list recipients in communal areas of the campus; student highlights on CMU social media and the university website; a fully-funded academic scholarship award with appropriate designation; public recognition of those students who participate in academic enrichment events; and, allocating funds or assisting in fundraising efforts to support students attending academic conferences and competitions.

Where junior varsity athletics is recognized with an additional \$2,000 scholarship, the same is not true for academic excellence. With proper calibration of the school's scholarship model, CMU should be able to establish a post matriculation academic scholarship offering non-athletes a rolling \$2,000 of additional funding beginning the semester after a student earns dean's list honors and continuing for as long as the student remains on the dean's list. In theory, the university already has validated this concept with their decision to allow JV athletes to retain their athletics scholarship funding level even if they choose to leave a team (a common if not advertised practice). By promoting an academic option to retain the JV scholarship, students would be incentivized to remain at the institution for academic reasons while creating space on the playing roster for incoming students. Not incidentally, CMU would retain merit funds until after students have proven themselves.

## **6. Restructure CMU Recruitment Initiatives.**

To a great extent, satisfaction is correlated to expectations; accurate expectations of the college experience influences student satisfaction and subsequent persistence. Therefore, shaping expectations prior to college entrance is important (Braxton et al, 2014). CMU recruitment initiatives should be evaluated to ensure only messaging that accurately reflects the CMU experience and mission are incorporated. This may positively influence student perceptions of institutional integrity as expectations align with post-matriculation experiences. Restating the importance of academics while highlighting strong academic programs can be punctuated by student testimonials and individual or departmental success stories. For example, faculty and administrators referenced nursing and athletic training as "programs of distinction" and students of these programs reported being highly satisfied with their experience.

It is a truism that students most listen to other students. Literature regarding student norms consistently reinforces the role of peer modeling. When discussing campus involvement, CMU can use an energetic student body to speak more credibly than the institution itself. Study



results show that communal potential and psychosocial engagement are significant predictors of social integration at CMU and the HRI. Therefore, having students promote these attributes credibly communicates positive experiences related to involvement at CMU. The research team experienced this phenomenon first hand during interviews with first-year students and upperclassmen. From student ambassador programs to simple quotes from students explaining how involvement has impacted their personal growth and development, leveraging the voice of students is a free and immediately accessible avenue of high-trust messaging. Social media sites can highlight stories such as student athletes that excel in the classroom, provide success stories targeting specific high schools, and feature stories of post-graduation employment success. Consistently throughout the entire recruitment process, from first contact to matriculation, admissions officers, coaches and all supporting media should clarify institutional values and expectations (Braxton & Mundy, 2001).

Because faculty involvement can be leveraged as a predictive factor in CMU persistence, faculty should participate in recruitment to establish that relationship early in the student experience while allowing faculty expectations to be communicated to students. As a result, prospective students will have a deeper understanding that attending CMU is foremost a high-quality education experience, and second an opportunity to experience inter-collegiate athletics at a competitive level. When recruiting athletes, coaches and admission professionals should be encouraged to focus on student-athlete rather than athlete-students. Honest conversation with students regarding projected playing time, probability of advancing from JV to Varsity, and discipline policies need not compromise competitiveness. Rather, it promotes team continuity if it lowers departure rates. This speaks directly to institutional integrity for up to 70% of CMU's student body.

As CMU's student body evolves away from a dominantly athletic driven enrollment model toward one with greater academic emphasis, athletics can and should remain a part of the CMU experience. Bowen (2011) recommends that recruitment policies allow all students -- not just recruited athletes -- the opportunity to earn a spot on intercollegiate teams. "Open" tryouts at the beginning of each season promotes a greater sense of inclusion, engenders pre-season interest in each sport, and allows coaches the opportunity to mine undiscovered talent or fill gaps in the roster. Similarly, academically inclined students who have come to appreciate CMU's proud athletic tradition earnestly may seek to become a part of it. The difference is subtle but significant when addressing retention: initial institutional commitment is higher among academically oriented students relative to athletes thereby providing a firmer foundation on which to generate persistence.

## **7. Evaluate and Revamp CMU 101 Curriculum to Better Support Persistence.**

Students enrolled in first year experience courses persist to sophomore year at a higher rate than those who elected not to participate in the course (Sidle & McReynolds, 1999; Burgette & Magun-Jackson, 2008). In addition, these students earn higher grades, become more involved on campus, and engage with faculty (Barefoot, Warnock, Richardson, & Roberts, 1998). The effects of first year seminars also extend to the development of a well-rounded student and citizen (Padgett, Keup, & Pascarella, 2013). Therefore, CMU follows the principles of best practice.

However, based on student and faculty interviews, the delivery, curriculum, and uniformity of the course offerings needs improvement. The course should be designed as an extension of freshman orientation and utilize student support professionals and faculty that have knowledge specific to challenges of the CMU student body. The program can incorporate academic discussion, higher order questions and promote the value of debate. Similarly, CMU 101 is also an avenue to enhance students' understanding of the college experience at CMU, academic expectations, and study skills. This is especially helpful for students lacking cultural capital such as first generation and international students (Pascarella, Pierson, Wolnaik, & Terenzini, 2004).

To address a revised CMU 101 offering, a committee should be developed to review the course curriculum, pedagogical methods used, and first year seminar research to formulate a redesign plan. The committee can be composed of instructors whose CMU 101 students have the highest retention. Appendix T shows the results of an analysis conducted to rank CMU 101 instructors by volume of students taught and retention rate. To effectively develop this course, the committee must first have an understanding of personal and familial background, level of academic preparation and engagement, and the challenges faced by CMU students (Greenfield, Keup, & Gardner, 2013).

## **8. Extend the Eagle Connect Program to all Students.**

Psychosocial engagement is the second most significant variable influencing social integration mirroring the high participation in events and organizations on CMU's campus. In addition, students interact outside of the classroom. The t-test analyses show athletes and co-curricular participants have higher levels of social integration than others. Identifying ways to maintain this involvement throughout the student lifecycle and engaging more students in these activities may have a positive impact on social integration as indicated by the substantially higher levels of subsequent institutional commitment and intent to re-enter exhibited by co-curricular participants. Therefore, policies to encourage participation can also have an impact on persistence and graduation rates. Students credit EagleConnect for facilitating first-year student attendance at events and promoting general campus involvement. However, as part of the rollout strategy in 2016, EagleConnect was not offered to third- and fourth-year students. Not only is this a missed opportunity, this omission is a point of contention for upper level students who feel left out of a major institutional initiative. The team was surprised with the frequency and strength with which this oversight was mentioned during interviews. Extending the program to include all students is a low cost, high visibility method of promoting communal potential across the entire student body. More upperclassmen attending events and interacting with first year students serves as a positive example to first year students through interaction with students who have chosen to remain at CMU. Changing this policy would positively contribute to a collective perception of the institution's commitment to student welfare and institutional integrity.

## **9. Strategic Retention Initiative**

As CMU strives to increase student retention, it is imperative that it be proactive in identifying students that may susceptible to early departure. During interviews, students reported that most CMU students contemplate leaving during the first year. Implementing a retention

initiative that will allow CMU to identify vulnerable students and address concerns early may have a direct impact on the institutions retention rate. Hossler and Bean (1990) address enrollment management as holistic and continuing from first contact through graduation. More narrowly tailored to current students, Brier, Hirschy, and Braxton (2008) suggest institutions develop strategic retention initiatives including contact with all first year students during the fourth and fifth week of the fall semester followed by a second call in the spring semester. During these calls, university representatives discuss the student's experience to date regarding academics, social life, and any areas of concern. The project team recommends CMU employ a similar practice to identify at-risk students early in their collegiate careers and address any issues before they become impediments to persistence. Building on this foundation, a fully-integrated identification system to identify at-risk students at any stage of their collegiate careers would include all functional areas such as academic life; residence life; student life; spiritual life; student success; counseling support; financial aid, and other high-touch areas of the institution. Doing so decreases the incidence of students falling through the cracks while reinforcing the level of care CMU maintains for its students, prioritizing student feedback, and authentically modeling the university's commitment to social responsibility. Modeled after the practice at other institutions, a third component of the strategic retention initiative is staffing and enabling a Student Outreach Team. The Outreach Team includes faculty and staff that meet regularly to discuss students of concern and determine what support and resources are needed to promote that student's success in and out of the classroom. Students come to the attention of the Outreach Team when a faculty member, staff, student or parent reports a concern for a student by contact with the Outreach Team coordinator, submits an online notice or reports concerns expressed during the first-year calls that merit attention.



## **X. Study Limitations**

CMU leadership was involved actively in defining the scope of work, hypothesis development, defining project questions, and bilateral analysis of extant and newly generated data. Communications were candid, thorough, and timely while supporting a scope of work that balanced research breadth and quality with geographic and time constraints. Limitations in this study nonetheless remain:

### **1. No First Person Input from Departed Students.**

Access to former students was not obtained during the course of this study. While most likely disinterested, departed students would have offered factual data behind first-year departure. The project team designed a survey for departed students but the proposed email distribution list was insufficient to generate responses necessary for significant results. We sought to mitigate this weakness during qualitative interviews with current students, coaches and administrators by exploring their understanding of the motivations of departed students.

### **2. Varsity and Junior Varsity Athletes were Treated as One Dataset.**

Given the evolving distinction between JV and varsity athletes (varsity scholarships were introduced in 2016, for example), greater differentiation may have produced shown different perceptions relating to certain aspects of this study, most notably social interaction, athletic engagement, and institutional integrity. While the response set was robust from athletes, it nonetheless understated the proportion of athletes on campus. JV athletes may have responded as a co-curricular participant only. In a similar regard, the survey instrument asked for current athletic status and not whether the respondent had ever played a sport. This likely reduced the number of responses and may understate negative perceptions among athletes.

### **3. Lack of Respondent Specific Longitudinal Responses.**

The desire for broad response rates within an acceptable timeframe required the use of anonymous survey instruments for both the fall and spring surveys. This created challenges in longitudinal analysis requiring a modifications to the study approach whereby different samples represent the larger CMU population. While analyses of means indicate comparable sample sets, an identical set of students was not surveyed. Instead, a cohort longitudinal sample was used rather than a longitudinal panel design.

### **4. Potential for Intervening Variables and the Exclusion of Relevant Intervening Variables.**

It is possible that intervening circumstances could have been introduced between the fall and spring surveys such as real or perceptual fallout from the presidential election in November. The research team did not find any qualitative or quantitative reason to believe that any intervening variables skewed responses. However, given the exceptionally high proportion of athletes, it is possible that -- depending of the experiences of certain athletes -- the conclusion of fall sports could have impacted responses. Participation levels from student athletes remained

consistent: 38.18% of responses in the fall dataset identified as athletes, of which 11.91% were football players (i.e.: the largest fall sport and 10% of the student body) while 39.11% of the spring survey included athletes, of which 14.28% represented football players. Nonetheless, perceptions influenced by the experiences of students completing their playing season during the spring semester are not captured in the data.

### **5. Small Sample Size among Non-Athlete, Co-Curricular Non-Participants.**

The small net sample size for CMU non-athlete, co-curricular non-participating students may render findings suspect for this subgroup. Similarly, results could be skewed by a higher proportion of transfer and/or professional students – i.e.: those involved in preceptor or similar situations thereby precluding co-curricular activity. This possibility is supported by the lower incidence of on campus housing among this group.

### **6. Fundamental Differences between CMU and the HRI.**

The HRI was selected to provide a contrasting example and was chosen by convenience. Due to fundamental differences in the character of each institution, direct comparisons between CMU and the HRI are ill advised. Rather, results should be used to identify broad patterns worthy of deeper consideration or further research.

### **7. Reliance on Self-Reported Data.**

This study is heavily reliant on students' self-reported experiences. While commonly the case in qualitative research, the nature of the survey questionnaire specifically spoke to individual perception. As such, responses cannot be independently verified (although in the aggregate and when compared to another institution or the Braxton, et al. (2014) research, data was reviewed for consistency.) This introduces potential bias such as inconsistent recollection of experiences or events; self-attribution or displacement; and/or disproportionate response to certain events either due to emotion or -- as might be the case for first-semester, first-year students, -- relative inexperience with the institution.

### **8. Selection Bias.**

CMU's administration selected all faculty and staff candidates as well as first round students interview subjects. While the project team did not sense a lack of candor nor conflicts with findings from the quantitative results, it is possible that creaming may have occurred. Conversely, second-round student interviews were self-selected, potentially attracting students motivated to share perspectives uniquely important to them. Again, the project team found little inconsistency; in fact, qualitative and quantitative results were strongly reinforcing.

### *Recommendations to CMU for Future Research*

Five future research suggestions arise from this work:

a) Perform Analytical Cascading Analysis.

This work accepted, indeed relied upon, Braxton, et al.'s analytical cascading findings to generate the core variables of social integration. When compared to the findings of Braxton, et al. (2014), the aggregated dataset used in this study (i.e.: CMU and the HRI) returned results consistent with the original study so this appears to have been a reasonable choice that allowed greater breadth across population. However, to fully understand the antecedents of persistence, especially when comparing results across institutions or within subgroups of a campus, full replication of the Braxton, et al. (2014) research may be appropriate.

b) Rerun Data Against a More Closely Aligned High Retention Peer Institution.

Due to time limitations and resource constraints, the project team accessed a high retention institution of convenience. While this study infers demographic disparities don't necessarily generate perceptual disparities of a like magnitude regarding social integration, CMU may find utility in an analysis of peer institutions within its conference to locate a more similarly situated HRI. The student experiences survey could be administered in a joint research project or, if CMU accepts the premise that demographic and geographic differences are not as important as mission alignment, a best-practices site visit may be sufficient to engender a renewed focus on implementation of initiatives, program outcomes, and sustainability (Greenfield et al, 2013).

c) Conduct a Longitudinal Study that Matches Student Cases on the Fall and Spring Survey.

In the Braxton et al. (2014) study, researchers were able to match student cases by a unique identification number. Due to time constraints and anonymity requirements of this study, the project team was not able to replicate this part of the research design thereby breaking the direct link between initial impressions of the fall semester and subsequent institutional commitment in the spring. Even without direct linkage, CMU benefits: conducting bi-annual experience surveys will provide rich longitudinal data while sending a consistent message of the institution's interest in student well-being.

d) Purposefully Contact and Survey Departed Students.

Student departure is a well-researched phenomenon with theories covering a wide array of perspectives related to economic, organizational, psychological, and sociological factors (Braxton & Mundy, 2001). This study contributes to the discussion by providing an explanatory model of persistence contrasting different subgroups in the CMU population. To fully appreciate some of the factors leading students to depart its campus, however, CMU need only go to the source. Asking those who came and left would provide insights honed by reflection and somewhat removed from the emotions of current students who are battling with their decision to return or go. With the benefit of hindsight, departed students may point to the actions that really would have made a difference in their college experience at CMU.

e) Empirically Connect the Concepts of Institutional Integrity and Institutional Commitment to Student Welfare with Retention.

This research suggests a deductive connection between institutional integrity and retention while seeking to explain the gap between intent to return (persistence) and the decision to return (retention). An empirically supported link between persistence and retention would be an obvious improvement. Developing a survey of persisting but departed students in a format compatible with the original study would open the door of analytical cascading to generate a common basis for direct comparisons between the antecedents of persistence and the antecedents of retention. Of greatest utility is the potential for clear delineation between student and institutional variables.



## **XI. Conclusion**

Central Methodist University is by no means unique in the need to confront serious retention challenges. To its advantage, CMU has an administration committed to addressing the situation as an ethical and mission driven obligation and not exclusively a fiscal reality. Faculty and staff are engaged and caring. Especially important, students convey they sense this. To its disadvantage, CMU's over-reliance on athletics as an enrollment strategy compromises the university's academic purpose, promotes inconsistent application of school policy, encourages coaches to over-represent playing opportunities, and attracts many students with an allegiance to extending their high-school careers above preparation for life as a productive adult. It's not a matter of whether athletics should be a part of CMU's make up; without the allure of being a college athlete, most current students would never have considered the institution to begin. Nor is athletics the only lens through which the university should be viewed. Given the extent to which athletics permeates all aspects of campus life, however, it is the logical place to start. In short, the challenge is one of authenticity and integrity. Both qualitative and quantitative analysis supports this conclusion as both the problem and the solution. Authenticity is found in renewed commitment to the university's academic purpose. Integrity is promoted through greater faculty engagement and consistent alignment of values and action within and without athletics.

Addressing a larger purpose of this study, clear pathways aligning theory and practice exist to guide higher education leadership in pragmatic and accessible ways. Braxton, et al.'s (2014) methodology is shown to be applicable and adaptable to the individual circumstances of a residential college or university. It successfully bridges theory and practice by accommodating the introduction of new variables specific to individual circumstances while maintaining structural integrity and generating logically consistent results. Colloquially, the model and methodology bends but doesn't break, an essential characteristic for administrators in the trenches. This is demonstrated well across both institutions studied. Student perception of communal potential consistently dominates as the most important predictor of social integration. Although this finding strays slightly from Braxton, et al.'s (2014) original research, drilling down to secondary antecedents aligns the findings across consistent axes.

A particularly encouraging finding is the ability to extend the Braxton, et al. (2014) logic to connect persistence and retention using extant variables of the Braxton, et al. (2014) model, most specifically through student perceptions of institutional integrity. This matters because retention is a known and self-apparent outcome while persistence is difficult to measure and may be a remarkably inaccurate predictor of retention (as is the case at CMU). In short, this work casts light on where to look when departure rates run contrary to a perceived positive first-year student experience. More to the point, this puts responsibility for retention where it clearly belongs: on the institution, not the student. This realization serves as a sobering check on any impulse faculty, staff or administrators may have to blame unprepared or undedicated students. If students express a desire to persist, it is incumbent on the university to remove real and perceptual institutional barriers discouraging students from returning to the institution they first chose to attend. Introducing a new variable to the Braxton, et al. (2014) equation demonstrates that student-faculty engagement is a good place to start. More specifically, faculty engagement

promotes perceptions of institutional commitment to the well-being of students. As a CMU senior said, “We need to feel the love”.

In the aggregate, this study’s findings offer much needed guidance in the allocation of scarce institutional resources: within institutions and across institutions, addressing persistence across a homogenous student body is inappropriate. Clear differences exist between institutions, regardless if the source of such differences is institutional, socio-economic, perceptual, or some combination thereof. Athletes have different experiences than non-athletes and therefore have unique perceptions. The same can be said for first year students, those who choose not to participate in co-curricular activities, or are students of color. Blanket policies addressing persistence therefore may be ineffective. At the margin, leadership should consider targeting high-risk groups with messages narrowly tailored to their unique needs.





## Appendices

- A. **Central Methodist University**  
*Peer Comparison and KPI Review*
- B. **CMU Internal Data Collection**
- C. **Central Methodist University**  
*GPA vs. SAT/ACT Incongruence: How CMU's Academic and Athletics Profile May Cause Conflict*
- D. **Interview Protocols:**
  - 1. *Student Interview Instrument*
  - 2. *Faculty Interview Instrument*
  - 3. *Consent for Participation in Interview Research*
- E. **Fall 2016 Survey Instrument**  
*Code Book*
- F. **IRB Approvals:**
  - 1. *IRB# 161564 Approval Letter from Vanderbilt University, September 28, 2016*
  - 2. *Stamped Amendment to IRB# 161564 dated February 8, 2017*
  - 3. *IRB# EXMT-0-16-F-1 Executed Project Approval Form from High Retention Institution*
- G. **Spring 2017 Survey Instrument**  
*Code Book*
- H. **Means and Standard Deviations for Variables Used in Braxton, et al.'s Testing of the Revised Theory of Student Persistence in Residential Colleges and Universities**  
*as revised by Coyne & Stokes: Central Methodist University*
- I. **Significant Mean Differences Within Institutions as Identified by Independent Samples T-Tests**  
*Central Methodist University*
- J. **Comparison of Dataset Means:**  
*Fall 2016 vs. Spring 2017 Datasets*
- K. **Cronbach's Alpha for Spring Survey Scale Variables**  
*Based on CMU Only*

- L. **Significant Variations in the Means within Sub-Populations:**  
*Subsequent Institutional Commitment Inputs and Stated Intent  
Central Methodist University – Athletics, Co-Curricular Activity, Class Standing*
- M. **OLS Regression Results removing Social Integration and with Communal Potential as the Dependent Variable:**  
*Central Methodist University - Athletics, Co-Curricular Activity, Class Standing*
- N. **Means and Standard Deviations for Variables Used in Braxton, et al.’s Testing of the Revised Theory of Student Persistence in Residential Colleges and Universities as revised by Coyne & Stokes:** High Retention Institution
- O. **Significant Mean Differences Within Institutions as Identified by Independent Samples T-Tests**  
*High Retention Institution*
- P. **Tested Variables Against Social Integration as the Dependent Variable:**  
*High Retention Institution*
- Q. **OLS Regression Results removing Social Integration and with Communal Potential as the Dependent Variable:**  
*High Retention Institution - Athletics, Co-Curricular Activity, Class Standing*
- R. **Summary of Significant Social Integration Antecedents:**  
*Central Methodist University*
- S. **Summary of Significant Social Integration Antecedents:**  
*High Retention Institution*
- T. **CMU 101:**  
*Retention Contribution by Instructor*

## APPENDIX A

Summer | 16

**For internal use only.** Some metrics used in this report are calculated using a different methodology or source than CMU employs, or is required to employ, in public reports. In these instances, the source methodology has been retained to allow accurate comparisons across institutions. This document was prepared by Colin Coyne and Alexis Stokes as part of their doctoral research at Peabody College of Education and Human Development at Vanderbilt University. Central Methodist University's Office of Institutional Research did not review this document and is not responsible for any errors it may contain or inconsistencies with other reporting from the University.



# Peer Comparison and KPI Review

*The attached analysis provides a detailed review of 17 Peer and Aspirant Institutions across 104 measures based primarily on 2014 IPEDS data, the most recent year for which complete data is available. Central Methodist University's Peer KPI's are established at the 50th percentile of the each measure using only the 17 private institutions in the dataset. Where appropriate, variances to the 50th percentile are noted. Rankings and percentage variances are color coded along a spectrum with green being most favorable and red least favorable. 2016 data (or the most recent data available) will be included in the dashboard presentation indicating the current trend. The University's performance is noted against 95% Confidence Intervals for each measure thereby highlighting distinct outliers from the private institutions included in the sample. Favorable and unfavorable variances are clearly identified.*

*The 17 institutions selected represent regional peers and competitors based on considerations such as those schools ahead of CMU in regional rankings, schools with whom CMU most competes for students, faith alignment, and athletic conference membership. All 17 institutions are private. Based on the high percentage of CMU measures falling within the 95% Confidence Intervals, as well as CMU's relative rankings, the peer group appears appropriate.*

*Constructed in this manner, Peer KPI's for the capstone project are a) independently verifiable; b) understood by internal and external constituents; c) related to the University's strategic objectives; d) measured against internal and external standards; and, e) aspirational in nature.*

## Table of Contents

<b>Key Findings.....</b>	<b>A-5</b>
Summary of Outliers .....	A-6
<b>Comparison and KPI Dashboard .....</b>	<b>A-7</b>
Peer, Competitor and Aspirant Rankings.....	A-7
Key Performance Indicators and Variance .....	A-7
<b>Peer, Competitor and Aspirant Detail Comparisons.....</b>	<b>A-10</b>
Summary of Peer, Competitor and Aspirant Key Performance Areas .....	A-10
Graduation Rates by Race or Gender.....	A-11
Historical Graduation Rates Among Peer and Aspirant Institutions .....	A-12
Retention and Progression Rates.....	A-13
Price and Financial Aid.....	A-14
Financial Outcomes.....	A-15
Funding and Faculty.....	A-16
Admissions.....	A-17
Degrees Granted by Program Area .....	A-18
Student Characteristics.....	A-19
Peer College Characteristics .....	A-20
<b>Source Data, Methodology and Definitions .....</b>	<b>A-21</b>
Source Data .....	A-21
Peer Methodology .....	A-21
Identification of Peer, Competitor and Aspirant Institutions	A-21
KPI Validity	A-21
CRO Data Definitions and Sources .....	A-22



## 2016 Key Findings

**104** Indicators of performance were measured

**42** of Central Methodist University's performance measures fell outside the 95% Confidence Interval established for that measure

- **30** measures are outside the 95% Confidence Interval in an unfavorable way
- **12** are outside the 95% CI in a favorable or non-negative way

FIT TO PEER, COMPETITOR  
AND ASPIRANT GROUP

CMU Within 95% Confidence Interval	Favorable / Unfavorable Variance
--	--

KEY PERFORMANCE AREAS

% Under-represented Minority	NO	⊗	-1
Estimated Median SAT / ACT	NO	⊗	-1
Median earnings 10 years after entry	NO	⊗	-1
Latino	NO	⊗	-1

GRADUATION RATES OVER TIME

6-Year Rate 2009	NO	⊗	-1
6-Year Rate 2010	NO	⊗	-1
6-Year Rate 2011	NO	⊗	-1
6-Year Rate 2013	NO	⊗	-1

RETENTION AND PROGRESSION RATES

% Full-Time 2011 Freshmen Who Returned in 2012-13	NO	⊗	-1
Average Net Price for Low-Income Students (\$0-30K)	NO	⊙	1

FINANCIAL OUTCOMES

Median earnings 10 years after entry	NO	⊗	-1
Median debt of completers	NO	⊙	1

FUNDING AND FACULTY

Instructional Expenditures / Total FTE	NO	⊙	1
Student Related Expenditures / Total FTE	NO	⊙	1
Percent Full-Time Faculty	NO	⊙	1

ADMISSIONS

Estimated Median SAT / ACT	NO	⊗	-1
% Submitting SAT Scores	NO	⊗	-1
Median SAT Verbal	NO	⊗	-1
% Submitting ACT Scores	NO	⊙	1
Median ACT Composite	NO	⊗	-1

DEGREES AWARDED BY PROGRAM AREA

% Degrees Awarded to Underrepresented Minorities	NO	⊗	-1
% Degrees Awarded to Females	NO	⊗	-1
% Degrees Awarded in Arts & Humanities	NO	⊗	-1
% Degrees Awarded in Social Sciences	NO	⊗	-1
% Degrees Awarded in Business	NO	⊗	-1
% Degrees Awarded in Education	NO	⊙	1
% Degrees Awarded in Health Sciences	NO	⊙	1
% Degrees Awarded in Other Fields	NO	⊙	1
% Degrees Awarded in Science, Technology, Engineering, and Math	NO	⊙	1
% STEM Degrees Awarded to Females	NO	⊗	-1

STUDENT CHARACTERISTICS

% Women	NO	⊗	-1
% Men	NO	⊙	1
% Underrepresented Minority	NO	⊗	-1
% Black	NO	⊗	-1
% Latino	NO	⊗	-1
% Native American	NO	⊗	-1
% Native Hawaiian/Pacific Islander	NO	⊗	-1
% White	NO	⊗	-1
% Two or More Races	NO	⊗	-1
% Other	NO	⊙	1
% Nonresident Aliens	NO	⊗	-1
% Part-Time	NO	⊗	-1
% Age 25+	NO	⊗	-1

# Comparison and KPI Dashboard

PEER, COMPETITOR AND ASPIRANT RANKINGS

KEY PERFORMANCE AREAS	CWU (Mock Metric)	Trend 2014 to Present	CWU 2014	RANK among ALL	Total in Count	RANK Among PEER/AS	Total in Count
2014 6-Year Grad Rate	50.7%	0.0%	50.7%	8	17	8	17
Under-represented Minority 6-Year Grad Rate	32.3%	0.0%	32.3%	9	15	9	15
Graduation Rate Gap	-18.8%	0.0%	-18.8%	12	15	12	15
% Pell Recipients Among Freshmen	45.0%	0.0%	45.0%	7	17	7	17
% Under-represented Minority	3.7%	0.0%	3.7%	17	17	17	17
Average High School GPA Among College Freshmen	3.47	0.0%	3.47	4	10	4	17
Estimated Median SAT / ACT	1,006	0.0%	1,006	13	16	13	17
Total Price for In-State, On-Campus Students	\$32,970	0.0%	\$32,970	6	17	6	17
Average Net Price After Grants	\$17,785	0.0%	\$17,785	7	17	7	17
Net Price after Grants as a % of Total	53.9%	0.0%	53.9%	7	17	7	17
Median earnings 10 years after entry	\$33,400	0.0%	\$33,400	13	17	13	17
Earnings as a Percent of Average Net Price	188%	0.0%	188%	13	17	13	17
Federal Loan 3-Year Default Rate	8.4%	0.0%	8.4%	13	17	13	17
Size (Undergrad FTE)	1,052	0.0%	1,052	11	17	11	17
Endowment Assets * FY2014	\$37,020,000	0.0%	\$37,020,000	9	17	9	17
Endowment per FTE	\$35,190.11	0.0%	\$35,190	6	17	6	17
2014 6-Year Grad Rate	50.7%	0.0%	50.7%	8	17	8	17
Under-represented Minority	32.3%	0.0%	32.3%	9	15	9	15
Non-Under-represented Minority	52.4%	0.0%	52.4%	8	17	8	17
Black	31.8%	0.0%	31.8%	6	13	6	13
Latino	0.0%	#DIV/0!	0.0%	#N/A	4	#N/A	4
Native American	0.0%	0.0%	0.0%	0	0	0	0
Native Hawaiian / Pacific Islander	-	0.0%	-	0	0	0	0
Asian	-	0.0%	-	0	0	0	0
White	52.4%	0.0%	52.4%	8	17	8	17
Two or More Races	-	0.0%	-	0	0	0	0
Female	55.3%	0.0%	55.3%	8	17	8	17
Male	46.5%	0.0%	46.5%	7	16	7	16
Black / White Gap	-20.6%	0.0%	-20.6%	9	13	9	13
Male / Female Gap	-8.8%	0.0%	-8.8%	5	16	5	16
6-Year Rate 2009	39.9%	0.0%	39.9%	16	17	16	17
6-Year Rate 2010	45.1%	0.0%	45.1%	14	17	14	17
6-Year Rate 2011	42.6%	0.0%	42.6%	12	17	12	17
6-Year Rate 2012	49.8%	0.0%	49.8%	10	17	10	17
6-Year Rate 2013	43.7%	0.0%	43.7%	14	17	14	17
6-Year Rate 2014	50.7%	0.0%	50.7%	8	17	8	17

KEY PERFORMANCE INDICATORS AND VARIANCE

2nd Quartile (Private Only)	Adjustment to Quartile	CWU KPI	Performance to KPI	% Variance
49.1%	0.0%	49.1%	1.6%	3.3%
34.3%	0.0%	34.3%	-2.0%	-5.8%
-12.5%	0.0%	-12.5%	-5.9%	-47.2%
41.6%	0.0%	41.6%	3.4%	8.2%
10.9%	0.0%	10.9%	-7.2%	-65.1%
3.46	0.0%	3.46	0.02	0.6%
1,047	0.0%	1,047	-41	-3.9%
\$34,952	0.0%	\$34,952	-51,982	-5.7%
\$19,264	0.0%	\$19,264	-51,479	-7.7%
53.1%	0.0%	53.1%	0.8%	1.5%
\$56,100	0.0%	\$56,100	-52,700	-7.5%
197.8%	0.0%	198%	-10.0%	-5.0%
6.4%	0.0%	6.4%	2.0%	31.3%
1,461	0.0%	1,461	-409	-28.0%
\$37,020,000	0.0%	\$37,020,000	50	0.0%
\$28,775	0.0%	\$28,775	\$6,415	22.3%
49.1%	0.0%	49.1%	1.6%	3.3%
34.3%	0.0%	34.3%	-2.0%	-5.8%
51.1%	0.0%	51.1%	1.3%	2.6%
31.3%	0.0%	31.3%	0.5%	1.6%
36.2%	0.0%	36.2%	-36.2%	-100.0%
0.0%	0.0%	0.0%	0.0%	0.0%
0.0%	0.0%	0.0%	0.0%	0.0%
51.4%	0.0%	51.4%	1.0%	1.9%
0.0%	0.0%	0.0%	0.0%	0.0%
54.1%	0.0%	54.1%	1.2%	2.2%
43.4%	0.0%	43.4%	3.1%	7.1%
-13.1%	0.0%	-13.1%	-3.1%	-17.7%
48.9%	0.0%	48.9%	-9.0%	-18.4%
52.7%	0.0%	52.7%	-7.6%	-14.4%
51.8%	0.0%	51.8%	-9.2%	-17.8%
50.6%	0.0%	50.6%	-1.6%	-1.6%
52.6%	0.0%	52.6%	-8.3%	-15.6%
49.1%	0.0%	49.1%	1.6%	3.3%

FIT TO PEER, COMPETITOR AND ASPIRANT GROUP

Sample Mean (Private Only)	Sample Median (Private Only)	CWU Within 95% Confidence Interval	Favorable / Unfavorable Variance
50.6%	49.1%	YES	
37.7%	34.3%	YES	
-11.6%	-12.5%	YES	
-41.4%	-41.6%	YES	
32.6%	10.9%	NO	
3.40	3.46	YES	
1048	1047	NO	
\$34,428	\$34,952	YES	
\$18,976	\$19,264	YES	
\$37,753	\$36,100	NO	
53.8%	53.1%	YES	
203.9%	197.8%	YES	
7.2%	6.4%	YES	
2081	1461	YES	
\$45,730,667	\$37,020,000	YES	
\$31,246	\$28,775	YES	
50.6%	49.1%	YES	
37.7%	34.3%	YES	
52.9%	51.1%	YES	
34.8%	31.3%	YES	
33.6%	36.2%	NO	
0.0%	0.0%	0	
0.0%	0.0%	0	
53.0%	51.4%	YES	
0.0%	0.0%	0	
55.6%	54.1%	YES	
44.8%	43.4%	YES	
-14.5%	-17.5%	YES	
-11.3%	-13.1%	YES	
50.5%	48.9%	NO	
53.3%	52.7%	NO	
49.6%	51.8%	NO	
52.1%	50.6%	YES	
53.1%	53.0%	NO	
50.6%	49.1%	YES	

RETENTION AND PROGRESSION RATES	PEER, COMPETITOR AND ASPIRANT RANKINGS				KEY PERFORMANCE INDICATORS AND VARIANCE				FIT TO PEER, COMPETITOR AND ASPIRANT GROUP							
	CMU (Most Recent)	Trend 2014 to Present	CMU among ALL	RANK among PRIVATE	Total in Count	RANK Among PRIVATE	Total in Count	2nd Quartile (Privates Only)	Adjustment to Quartile	CMU KPI	Performance to KPI	% Variance	Sample Mean (privates only)	Sample Median (privates only)	CMU Within 95% Confidence Interval	Favorable/Unfavorable Variance
% Full-Time 2011 Freshmen Who Returned in 2012-13	57.0%	↑	57.0%	15	17	15	17	69.0%	0.0%	69.0%	-12.0%	-17.4%	67.8%	69.0%	NO	
Number of Full-Time Students in the 2008 Freshman Cohort	300	↑	300	7	17	7	17	265	0.0%	265	35	13.2%	282	265	YES	
% Full-Time Students in the 2008 Freshman cohort	72.0%	↑	72.0%	10	16	10	16	73.0%	0.0%	73.0%	-1.0%	-1.4%	66.7%	73.0%	YES	
6-Year Grad Rate	50.7%	↑	50.7%	8	17	8	17	49.1%	0.0%	49.1%	1.6%	3.3%	50.6%	49.1%	YES	
5-Year Grad Rate	50.7%	↑	50.7%	8	17	8	17	49.1%	0.0%	49.1%	1.6%	3.3%	49.3%	49.1%	YES	
4-Year Grad Rate	36.7%	↑	36.7%	8	17	8	17	35.7%	0.0%	35.7%	1.0%	2.8%	39.2%	35.7%	YES	
<b>PRICE AND FINANCIAL AID</b>																
In-State Tuition and Fees	\$21,320	↑	\$21,320	7	17	7	17	\$21,790	0.0%	\$21,790	-\$470	2.2%	\$23,058	\$21,790	YES	
Total Price for In-State, On-Campus Students	\$32,970	↑	\$32,970	6	17	6	17	\$34,952	0.0%	\$34,952	-\$1,982	5.7%	\$35,428	\$34,952	YES	
Average Net Price After Grants	\$17,785	↑	\$17,785	7	17	7	17	\$19,264	0.0%	\$19,264	-\$1,479	7.7%	\$18,976	\$19,264	YES	
Average Net Price for Low-Income Students (\$0-30K)	\$14,011	↑	\$14,011	3	17	3	17	\$15,814	0.0%	\$15,814	-\$1,803	11.4%	\$16,073	\$15,814	NO	
% Pell Recipients Among Freshmen	45.0%	↑	45.0%	7	17	7	17	41.6%	0.0%	41.6%	3.4%	8.2%	41.4%	41.6%	YES	
% Pell Recipients Among Undergrads	42.1%	↑	42.1%	7	17	7	17	37.7%	0.0%	37.7%	4.4%	11.7%	38.3%	37.7%	YES	
Average Federal Grant Aid	\$4,741	↑	\$4,741	5	17	5	17	\$4,527	0.0%	\$4,527	\$214	4.7%	\$4,535	\$4,527	YES	
Federal Aid as a Percent of In-State Tuition	22.2%	↑	22.2%	5	17	5	17	19.9%	0.0%	19.9%	2.3%	11.5%	21.5%	19.9%	YES	
Total State Grant Aid / Undergrad FTE (statewide)	\$376	↑	\$376	2	17	2	17	\$0	0.0%	\$0	\$0	0.0%	\$358	\$376	YES	
Average Institutional Grant Aid	\$212	↑	\$212	4	17	4	17	\$212	0.0%	\$0	\$0	0.0%	\$240	\$212	YES	
Tuition Discount Rate	55.1%	↑	\$11,748	9	17	9	17	\$10,015	0.0%	\$10,015	\$1,733	-17.3%	\$13,417	\$11,907	YES	
Net Tuition as % of Actual Cost of Attendance	45.1%	↑	45.1%	11	17	11	17	46.1%	0.0%	46.1%	-1.0%	-2.1%	60.9%	55.1%	YES	
Average Freshman Student Loan (all sources)	\$7,180	↑	\$7,180	6	17	6	17	\$7,371	0.0%	\$7,371	-\$191	2.6%	\$7,669	\$7,371	YES	
% Undergrads Borrowing Federal Aid	74.0%	↑	74.0%	12	17	12	17	65.0%	0.0%	65.0%	9.0%	-13.8%	66.9%	65.0%	YES	
<b>FINANCIAL OUTCOMES</b>																
Median earnings 10 years after entry	\$33,400	↑	\$33,400	13	17	13	17	\$36,100	0.0%	\$36,100	-\$2,700	-7.5%	\$37,753	\$36,100	NO	
% Earning more than \$25,000/year 10 years after entry	70.7%	↑	70.7%	12	17	12	17	71.9%	0.0%	71.9%	-1.2%	-1.7%	74.1%	71.9%	YES	
Median debt of completers	\$17,285	↑	\$17,285	1	17	1	17	\$24,250	0.0%	\$24,250	-\$6,965	28.7%	\$24,046	\$24,250	NO	
Loan repayment rate 5 years after leaving	80.1%	↑	80.1%	13	17	13	17	88.4%	0.0%	88.4%	-8.3%	-9.4%	82.8%	84.5%	YES	
Federal Loan 3-Year Default Rate	8.4%	↑	8.4%	13	17	13	17	5.6%	0.0%	5.6%	2.8%	-50.0%	7.3%	6.4%	YES	
<b>FUNDING AND FACULTY</b>																
Instructional Expenditures / Total FTE	\$9,329	↑	\$9,329	1	17	1	17	\$5,778	0.0%	\$5,778	\$3,551	61.5%	\$5,954	\$5,778	NO	
Student Related Expenditures / Total FTE	\$13,095	↑	\$13,095	3	17	3	17	\$10,313	0.0%	\$10,313	\$2,782	27.0%	\$10,366	\$10,313	NO	
Educational & General Expenditures / Total FTE	\$18,126	↑	\$18,126	6	17	6	17	\$16,938	0.0%	\$16,938	\$1,188	7.0%	\$15,648	\$16,938	YES	
Endowment Assets / Total FTE	\$26,401	↑	\$26,401	8	17	8	17	\$20,516	0.0%	\$20,516	\$5,885	28.7%	\$28,071	\$20,516	YES	
Percent Full-Time Faculty	58.6%	↑	58.6%	3	17	3	17	45.4%	0.0%	45.4%	13.2%	29.1%	42.1%	45.4%	NO	
Full-Time Undergrad Student to Faculty Ratio	15.8	↑	15.8	10	17	10	17	15.8	0.0%	15.8	0.0	0.0%	23.0	15.8	YES	
<b>ADMISSIONS</b>																
% Admitted	65.1%	↑	65.1%	7	17	7	17	68.1%	0.0%	68.1%	-3.0%	4.4%	69.8%	68.1%	YES	
Average High School GPA Among College Freshmen	3.47	↑	3.47	4	10	4	10	3.455	0.0%	3.455	0	0.4%	3	3	YES	

PEER, COMPETITOR AND ASPIRANT RANKINGS

CMU (Most Recent)	Trend 2014 to Present	CMU 2014	RANK among ALL	Total in Count	RANK Among PRIVATES	Total in Count
1006	↑	1006	13	16	13	16
5.0%	↑	5.0%	13	16	13	16
445	↑	445	13	14	13	14
490	↑	490	11	14	11	14
97.0%	↑	97.0%	3	16	3	16
21.50	↑	21.50	13	16	13	16
220	↑	220	13	17	13	17
220	↑	220	13	17	13	17
6.8%	↑	6.8%	11	17	11	17
54.5%	↑	54.5%	15	17	15	17
3.2%	↑	3.2%	16	17	16	17
7.7%	↑	7.7%	13	17	13	17
11.4%	↑	11.4%	16	17	16	17
20.0%	↑	20.0%	3	17	3	17
26.4%	↑	26.4%	5	17	5	0
11.4%	↑	11.4%	4	17	4	0
4.0%	↑	4.0%	7	17	7	0
36.0%	↑	36.0%	15	17	15	0
1052	↑	1052	11	17	11	17
50.5%	↑	50.5%	14	17	14	17
49.5%	↑	49.5%	4	17	4	17
45.0%	↑	45.0%	7	17	7	17
42.1%	↑	42.1%	7	17	7	17
3.7%	↑	3.7%	17	17	17	17
2.7%	↑	2.7%	14	17	14	17
0.9%	↑	0.9%	16	17	16	17
0.1%	↑	0.1%	17	17	17	17
0.0%	↑	0.0%	14	17	14	17
1.2%	↑	1.2%	4	17	4	17
62.9%	↑	62.9%	15	17	15	17
0.0%	↑	0.0%	16	17	16	17
32.2%	↑	32.2%	1	17	1	17
0.2%	↑	0.2%	14	17	14	17
7.5%	↑	7.5%	14	17	14	17
4.8%	↑	4.8%	16	17	16	17

KEY PERFORMANCE INDICATORS AND VARIANCE

2nd Quartile (Privates Only)	Adjustment to Quartile	CMU KPI	Performance to KPI	% Variance
1047	0.0%	1047	-41.00	-3.9%
9.0%	0.0%	9.0%	-4.0%	-44.4%
494	0.0%	494	-49	-9.9%
500	0.0%	500	-9.50	-1.9%
91.0%	0.0%	91.0%	6.0%	6.0%
22.50	0.0%	22.50	-1	-4.4%
371	0.0%	371	-151	-40.7%
371	0.0%	371	-151	-40.7%
7.8%	0.0%	7.8%	-1.0%	-12.8%
59.3%	0.0%	59.3%	-4.8%	-8.1%
10.9%	0.0%	10.9%	-7.7%	-70.6%
13.0%	0.0%	13.0%	-5.3%	-40.8%
21.7%	0.0%	21.7%	-10.3%	-47.5%
12.0%	0.0%	12.0%	8.0%	66.7%
11.3%	0.0%	11.3%	8.7%	77.0%
21.1%	0.0%	21.1%	5.3%	25.1%
8.1%	0.0%	8.1%	3.3%	40.7%
1.5%	0.0%	1.5%	2.5%	166.7%
0	0.0%	46.9%	0	-32.2%
1461	0.0%	1461	-409	-28.0%
56.6%	0.0%	56.6%	-61%	-10.8%
43.4%	0.0%	43.4%	61%	14.1%
41.6%	0.0%	41.6%	3.4%	8.2%
37.7%	0.0%	37.7%	4.4%	11.7%
10.9%	0.0%	10.9%	-7.2%	-66.1%
5.9%	0.0%	5.9%	-3.2%	-54.2%
3.7%	0.0%	3.7%	-2.8%	-75.7%
0.6%	0.0%	0.6%	-0.5%	-83.5%
0.2%	0.0%	0.2%	-0.2%	-100.0%
1.1%	0.0%	1.1%	0.1%	9.1%
74.1%	0.0%	74.1%	-11.2%	-15.1%
1.8%	0.0%	1.8%	-1.8%	-100.0%
8.5%	0.0%	8.5%	23.7%	278.8%
1.4%	0.0%	1.4%	-1.2%	-87.9%
16.7%	0.0%	16.7%	-9.2%	-55.1%
13.9%	0.0%	13.9%	-9.1%	-65.5%

FIT TO PEER, COMPETITOR AND ASPIRANT GROUP

Sample Mean (Privates only)	Simple Median (Privates only)	CMU Within 95% Confidence Interval	Favorable / Unfavorable Variance
1048	1047	NO	⊗
10.0%	9.0%	NO	⊗
497	494	NO	⊗
507	500	YES	⊕
89.9%	91.0%	NO	⊗
22.56	22.50	NO	⊗
465	371	YES	⊕
468	371	YES	⊕
10.5%	7.8%	NO	⊗
62.6%	59.3%	NO	⊗
11.4%	10.9%	NO	⊗
11.6%	13.0%	NO	⊗
25.0%	21.7%	NO	⊗
12.8%	12.0%	NO	⊗
11.0%	11.3%	NO	⊗
20.2%	21.1%	NO	⊗
8.0%	8.1%	NO	⊗
4.9%	1.5%	YES	⊕
52.5%	46.9%	NO	⊗
2036	1461	YES	⊕
58.8%	56.6%	NO	⊗
41.2%	43.4%	NO	⊗
41.4%	41.6%	YES	⊕
38.3%	37.7%	YES	⊕
12.6%	10.9%	NO	⊗
8.4%	5.9%	NO	⊗
3.4%	3.7%	NO	⊗
0.8%	0.6%	NO	⊗
0.2%	0.2%	NO	⊗
1.0%	1.1%	YES	⊕
73.6%	74.1%	NO	⊗
2.1%	1.8%	NO	⊗
10.5%	8.5%	NO	⊗
3.3%	1.4%	NO	⊗
21.0%	16.7%	NO	⊗
18.7%	13.9%	NO	⊗

DEGREES GRANTED BY PROGRAM AREA

Total Number of Students Awarded Degrees

Total Degrees Awarded

% Degrees Awarded to Underrepresented Minorities

% Degree Awarded to Females

% Degrees Awarded in Arts & Humanities

% Degrees Awarded in Social Sciences

% Degrees Awarded in Business

% Degrees Awarded in Education

% Degrees Awarded in Health Sciences

% Degrees Awarded in Other Fields

% Degrees Awarded in Science, Technology, Engineering, and Math

% STEM Degrees Awarded to Underrepresented Minorities

% STEM Degrees Awarded to Females

STUDENT CHARACTERISTICS

Size (Undergrad FTE)

% Women

% Men

% Pell Recipients Among Freshmen

% Pell Recipients Among Undergrads

% Underrepresented Minority

% Black

% Latino

% Native American

% Native Hawaiian/Pacific Islander

% Asian

% White

% Two or More Races

% Other

% Nonresident Aliens

% Part-Time

% Age 25+

## Peer, Competitor and Aspirant Detail Comparisons

SUMMARY OF PEER, COMPETITOR AND ASPIRANT KEY PERFORMANCE AREAS

Male	2014 6- Year Grad Rate	Under- represented Minority 6- Year Grad Rate	Graduation Rate Gap	% Pell Recipients Among Freshmen	% Under- represented Minority	Average High School GPA Among College Freshmen	Estimated Median SAT / ACT	Total Price for In-State, On- Campus	Average Net Price After Grants	Net Price after Grants Total	Median earnings 10 years after entry	Earnings as a Percent of Average Net Price	Federal Loan 5 Year Default Rate	State	Site (Undergrad FTE)	Sector	Endowment Assets*, FY2014	Endowment per FTE
Simpson College	72.5%	60.0%	-12.5%	31.9%	4.9%	-	1,105	\$43,350	\$21,229	49.0%	\$45,800	210%	3.8%	IA	1,981	Private not-for-profit	\$85,363,062	\$54,685
Northwest Wesleyan University	68.5%	68.5%	0%	29.4%	6.9%	3.44	1,109	\$38,492	\$20,997	59.1%	\$45,500	217%	1.0%	NE	1,712	Private not-for-profit	\$55,800,339	\$32,594
William Jewell College	69.0%	69.0%	0%	29.4%	6.9%	3.44	1,109	\$38,492	\$20,997	59.1%	\$45,500	217%	1.0%	MO	1,712	Private not-for-profit	\$55,800,339	\$32,594
William Jewell College	59.6%	75.0%	15.4%	31.7%	11.0%	3.68	1,148	\$43,820	\$21,173	48.3%	\$40,300	194%	5.6%	MO	1,023	Private not-for-profit	\$73,837,331	\$71,100
Baker University	57.7%	45.2%	-12.5%	27.2%	16.6%	3.47	1,068	\$39,407	\$20,123	48.3%	\$48,900	298%	5.3%	KS	1,345	Private not-for-profit	\$19,020,664	\$29,012
Mckendree University	56.5%	39.5%	-17.0%	41.6%	19.8%	3.40	1,048	\$39,290	\$17,625	49.2%	\$42,500	242%	6.2%	IL	1,970	Private not-for-profit	\$36,069,842	\$38,666
Central Methodist University-Col	52.7%	65.7%	13.0%	31.6%	5.2%	-	1,047	\$39,250	\$21,386	60.7%	\$34,200	100%	3.5%	MO	896	Private not-for-profit	\$15,477,463	\$17,274
Central Methodist University-Col	50.7%	32.3%	-18.4%	45.0%	3.7%	3.47	1,006	\$32,970	\$17,865	53.9%	\$30,700	188%	8.4%	MO	1,052	Private not-for-profit	\$37,020,000	\$35,190
Stevens College	49.1%	60.0%	10.9%	52.4%	19.1%	-	1,047	\$42,424	\$24,322	57.3%	\$30,000	126%	6.4%	MO	563	Private not-for-profit	\$46,799,691	\$83,126
Evangelical University	47.3%	34.3%	-13.0%	45.4%	10.9%	-	1,048	\$32,183	\$20,440	63.6%	\$34,000	189%	6.4%	MO	1,950	Private not-for-profit	\$13,510,298	\$6,528
Southwest Baptist University	45.8%	18.8%	-28.4%	46.7%	7.3%	3.52	1,062	\$30,340	\$18,892	56.7%	\$32,800	194%	8.4%	MO	2,533	Private not-for-profit	\$35,089,420	\$10,754
Buena Vista University	43.7%	22.2%	-21.5%	45.0%	10.9%	3.15	1,001	\$33,313	\$17,673	53.1%	\$33,100	187%	7.9%	IA	2,071	Private not-for-profit	\$135,570,211	\$65,461
Missouri Baptist University	41.4%	29.2%	-12.2%	45.0%	10.9%	3.15	972	\$34,952	\$17,991	51.5%	\$36,100	201%	8.1%	MO	2,851	Private not-for-profit	\$22,600,884	\$28,775
Central College	35.6%	23.6%	-12.0%	31.8%	3.4%	3.89	1,039	\$30,245	\$16,459	69.2%	\$33,900	168%	7.6%	MO	982	Private not-for-profit	\$8,533,444	\$6,498
Missouri Valley College	26.6%	26.6%	0%	55.3%	26.1%	2.86	920	\$30,000	\$16,066	53.6%	\$33,400	208%	15.6%	MO	1,461	Private not-for-profit	\$5,541,436	\$3,793

2nd Quartile	Private Only	49.1%	34.3%	-12.5%	41.6%	10.9%	3.46	1,047	\$34,952	\$19,264	53.1%	\$36,100	197.8%	6.4%	1,461	17 Private	\$37,020,000	\$28,775
Adjustment to Quartile:	0.0%	0%	0%	0%	0%	0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	0%	0%	0%	0%	0%
CENTRAL METHODIST UNIVERSITY KPI	49.1%	34.3%	-12.5%	41.6%	10.9%	3.45	1,047	\$34,952	\$19,264	53.1%	\$36,100	197.8%	6.4%	1,461	17	Private	\$37,020,000	\$28,775
Performance to KPI	3.3%	-5.8%	-47.2%	8.2%	-66.1%	0.4%	-3.9%	-5.7%	-2.7%	1.5%	-21.5%	-5.0%	-31.3%	28.0%	28.0%	17	0.0%	0.0%
Sample Mean (private only)	50.0%	37.7%	-11.6%	41.4%	12.6%	3.308	1048	\$35,428	\$18,976	53.8%	\$37,243	203.5%	7.2%	2086	1176	17	545,730,667	\$31,246
Sample Median (private only)	49.1%	34.3%	-12.5%	41.6%	10.9%	3.45	1047	\$34,952	\$19,264	53.1%	\$36,100	197.8%	6.4%	1461	176	17	\$37,020,000	\$28,775
CMU Within 95% Confidence Interval	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	NO	YES	YES	YES	YES	17	YES	YES

ASPIRANT INSTITUTION  
PEER INSTITUTION

SOURCE DATA from The Education Trust: <http://www.collegeeffort.org>  
Based on 2014-15 ED data, the most recent year for which complete information is available

**Grad Rates by Race OR Gender**

2014 6-Year Grad Rate	Under- represented Minority	Non-Under- represented Minority	Black	Latino	Native American	Native Hawaiian/ Pacific	Asian	White	Two or More Races	Female	Male	Black / White Gap	Male / Female Gap
Simpson College	72.5%	73.0%	-	-	-	-	-	73.1%	-	74.6%	69.5%	-	-5.1%
Nebraska Wesleyan University	69.5%	70.0%	-	-	-	-	-	69.9%	-	76.4%	60.8%	-	-15.6%
Westminster College	66.4%	50.0%	58.8%	-	-	-	-	67.4%	-	63.9%	68.4%	-8.6%	4.5%
William Jewell College	59.6%	75.0%	69.7%	-	-	-	-	60.3%	-	66.9%	48.6%	-	-18.3%
Baker University	57.7%	45.2%	40.0%	-	-	-	-	62.1%	-	57.0%	58.7%	-22.1%	1.7%
McKendree University	56.5%	39.5%	41.7%	-	-	-	-	59.2%	-	64.1%	49.7%	-17.5%	-14.4%
William Woods University	52.7%	-	55.6%	-	-	-	-	56.3%	-	56.1%	38.9%	-	-17.2%
<b>Central Methodist University-COI</b>	<b>50.7%</b>	<b>32.3%</b>	<b>31.8%</b>	-	-	-	-	<b>52.4%</b>	-	<b>55.3%</b>	<b>46.5%</b>	<b>-20.6%</b>	<b>-8.8%</b>
Stephens College	49.1%	60.0%	70.0%	-	-	-	-	47.8%	-	48.4%	-	22.2%	-
Evangel University	47.3%	34.3%	31.3%	43.8%	-	-	-	51.4%	-	51.6%	41.9%	-20.1%	-9.7%
Southwest Baptist University	47.2%	18.8%	14.3%	-	-	-	-	50.9%	-	52.6%	40.6%	-36.6%	-12.0%
Buena Vista University	45.8%	42.5%	50.0%	36.4%	-	-	-	47.9%	-	53.8%	39.7%	-	-14.1%
Missouri Baptist University	43.7%	22.2%	25.0%	18.2%	-	-	-	48.1%	-	42.6%	44.9%	-23.1%	2.3%
Culver-Stockton College	41.4%	29.2%	27.8%	-	-	-	-	44.5%	-	54.1%	29.7%	-16.7%	-24.4%
Columbia College	37.6%	5.8%	6.7%	-	-	-	-	44.0%	-	41.9%	30.1%	-37.3%	-11.8%
Hannibal-LaGrange University	36.8%	23.5%	30.0%	-	-	-	-	40.7%	-	47.0%	28.0%	-10.7%	-19.0%
Missouri Valley College	26.9%	26.5%	24.7%	36.0%	-	-	-	24.7%	-	39.5%	20.0%	0.0%	-19.5%
Total in Count	17	15	13	4	0	0	0	17	0	17	16	13	16
Rank	8	9	8	#N/A				8		8	7	9	5
RANK AMONG PRIVATES	8	9	8	#N/A				8		8	7	9	5
Total in Count	17	15	13	4	0	0	0	17	0	17	16	13	16

2nd Quartile Privates Only:	49.1%	34.3%	31.3%	36.2%	51.4%	51.4%	51.4%	51.4%	51.4%	43.4%	43.4%	-17.5%	-13.1%
Adjustment to Quartile:	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CENTRAL METHODIST UNIVERSITY KPI	49.1%	34.3%	31.3%	36.2%	51.4%	51.4%	51.4%	51.4%	51.4%	43.4%	43.4%	-17.5%	-13.1%
Performance to KPI	1.6%	-2.0%	0.5%	-36.2%	1.3%	1.3%	1.0%	1.0%	1.0%	3.1%	3.1%	-3.1%	4.3%
% Variance	3.3%	-5.8%	1.6%	-100.0%	2.5%	1.6%	1.9%	1.9%	1.9%	7.1%	7.1%	-17.7%	32.6%
Sample Mean (privates only)	50.6%	37.7%	34.8%	33.6%	52.9%	53.0%	53.0%	53.0%	53.0%	44.8%	44.8%	-14.5%	-11.3%
Sample Median (privates only)	49.1%	34.3%	31.3%	36.2%	51.4%	51.4%	51.4%	51.4%	51.4%	43.4%	43.4%	-17.5%	-13.1%
CMU Within 95% Confidence Interval	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES

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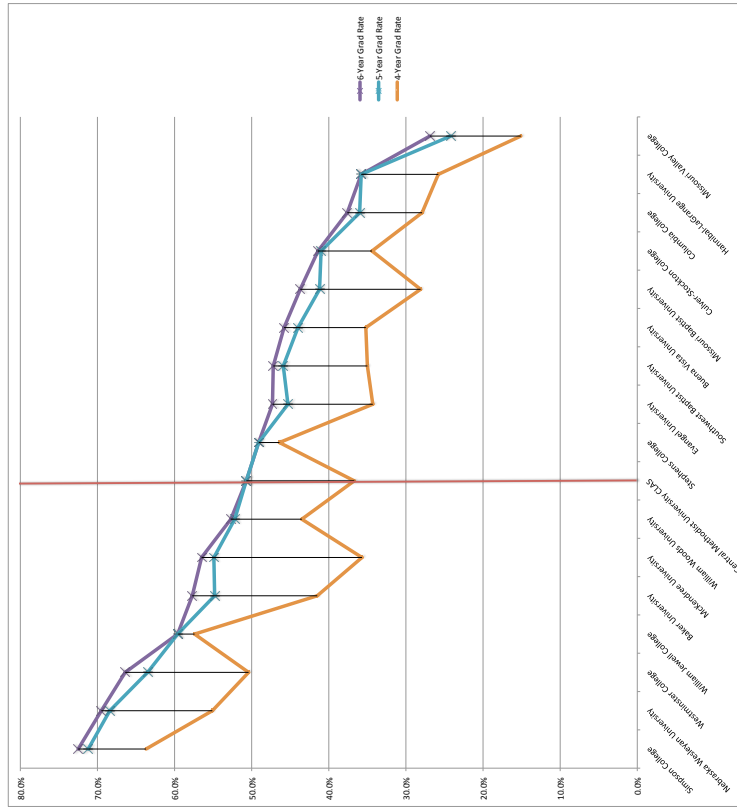
SOURCE DATA From The Education Trust: <http://www.collegefacts.org>  
Based on 2014 IPEDS data, the most recent year for which complete information is available





Retention and Progression Rates

	% Full-Time 2011 Freshmen Who Returned in 2012-13	Number of Full- Time Students in the 2008 Freshman Cohort	% Full-Time Students in the 2008 Freshman Cohort	6-Year Grad Rate	5-Year Grad Rate	4-Year Grad Rate
Simpson College	79%	386	77.0%	72.8%	71.2%	63.7%
Nebraska Wesleyan University	78%	583	84.0%	69.5%	68.4%	55.1%
Westminster College	78%	244	81.0%	59.6%	59.3%	57.4%
Baker University	78%	641	82.0%	57.7%	54.8%	41.5%
McKendree University	78%	308	42.0%	56.5%	54.9%	35.7%
William Woods University	74%	184	59.0%	52.7%	52.2%	43.5%
<b>Central Methodist University CLAS</b>	<b>57%</b>	<b>300</b>	<b>72.0%</b>	<b>50.7%</b>	<b>50.7%</b>	<b>38.7%</b>
Evangel University	72%	338	76.0%	47.3%	45.3%	34.3%
Southwest Baptist University	64%	449	82.0%	47.2%	45.9%	35.0%
Buena Vista University	69%	273	38.0%	45.8%	44.0%	35.2%
Missouri Baptist University	60%	199	40.0%	43.7%	41.2%	28.1%
Truett College	67%	177	51.0%	42.4%	41.0%	30.0%
Columbia College	58%	167	50.0%	37.6%	38.0%	27.6%
Hambush-LaGrange University	62%	159	56.0%	35.8%	36.8%	25.8%
Missouri Valley College	44%	417	73.0%	26.9%	24.2%	15.1%



Rank	15	16	17	18	19	20	21	22	23	24	25	26	27
Total Count	15	16	17	18	19	20	21	22	23	24	25	26	27
Rank Among Privates	15	7	10	10	8	8	8	8	8	8	8	8	8

2nd Quartile Private Only	69.0%	73.0%	49.1%	49.1%	49.1%	35.7%
Adjustment to Quartile	0.0%	0.0%	0.0%	0.0%	0.0%	0%
Performance to QPI	15.0%	73.0%	49.1%	49.1%	49.1%	55.7%
Sample Mean (privates only)	67.8%	82.2%	66.7%	50.6%	49.3%	39.2%
Sample Median (privates only)	69.0%	73.0%	49.1%	49.1%	49.1%	35.7%
CNU Within 95% Confidence Interval	NO	YES	YES	YES	YES	YES

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SOURCE: DATA from the Education Trust: <http://www.collegeaccess.org>  
Based on 2011 FRED data, the most recent year for which complete information is available

Price and Financial Aid

2014-6 Year Grad Rate	In-State Tuition and Fees	Total Price for In-State, On-Campus Students	Average Net Price After Grants	Average Net Price for Low-Income Students (\$0-30k)	% Pell Recipients Among Freshmen	% Pell Recipients Among Undergrads	Average Federal Grant Aid	Federal Aid as a Percent of In-State Tuition	Total State Grant Aid / Undergrad FTE (statewide)	Total Need-Based State Grant Aid / Undergrad FTE (statewide)	Average Institutional Grant Aid	Tuition Discount Rate	Net Tuition as % of Actual Cost of Attendance	Average Freshmen Student Loan (all sources)	% Undergrads Borrowing Federal Aid
72.5%	\$30,999	\$43,350	\$21,229	\$16,842	31.9%	28.7%	\$4,321	13.9%	\$276	\$256	\$18,103	58.4%	51.1%	\$8,586	73.0%
69.5%	\$27,242	\$39,492	\$20,987	\$16,808	28.4%	26.4%	\$4,570	16.8%	\$191	\$191	\$16,343	60.0%	47.1%	\$7,619	65.0%
66.4%	\$21,680	\$34,800	\$20,621	\$16,742	28.7%	29.3%	\$5,716	24.1%	\$376	\$212	\$11,903	54.9%	42.7%	\$8,417	76.0%
59.6%	\$31,000	\$43,820	\$21,173	\$17,433	31.7%	28.5%	\$5,157	16.6%	\$376	\$212	\$20,044	64.7%	46.1%	\$7,338	64.0%
57.7%	\$25,690	\$39,407	\$20,525	\$16,814	27.2%	37.7%	\$4,626	17.7%	\$125	\$125	\$16,346	63.9%	40.0%	\$7,208	73.0%
55.5%	\$26,050	\$38,290	\$17,572	\$13,036	41.6%	36.2%	\$4,621	17.7%	\$712	\$710	\$16,664	64.6%	43.4%	\$6,688	56.0%
52.7%	\$20,650	\$35,250	\$21,386	\$12,218	31.6%	33.3%	\$4,250	20.6%	\$376	\$212	\$10,956	53.1%	39.9%	\$9,305	61.0%
50.7%	\$21,320	\$32,970	\$17,785	\$14,011	45.0%	42.1%	\$4,741	22.2%	\$376	\$212	\$11,748	55.1%	45.1%	\$7,180	74.0%
49.1%	\$28,154	\$42,424	\$24,322	\$21,336	52.4%	45.6%	\$4,527	16.1%	\$376	\$212	\$15,056	53.6%	47.9%	\$9,205	76.0%
47.3%	\$20,040	\$32,183	\$20,480	\$17,922	45.4%	48.9%	\$4,573	22.8%	\$376	\$212	\$10,015	50.0%	45.2%	\$7,578	84.0%
47.2%	\$20,040	\$30,340	\$16,892	\$16,941	46.7%	41.4%	\$4,145	20.7%	\$376	\$212	\$9,646	48.1%	50.2%	\$7,371	86.0%
45.8%	\$29,448	\$40,589	\$19,264	\$15,926	40.2%	49.1%	\$5,105	17.3%	\$276	\$256	\$17,085	58.0%	52.6%	\$8,570	82.0%
43.7%	\$21,790	\$33,313	\$17,673	\$15,670	45.0%	50.3%	\$4,344	19.9%	\$376	\$212	\$11,907	54.6%	48.2%	\$6,773	34.0%
41.4%	\$23,300	\$34,952	\$17,991	\$15,144	53.6%	50.3%	\$5,134	22.0%	\$376	\$212	\$12,860	55.2%	47.3%	\$8,229	80.0%
37.6%	\$7,115	\$21,833	\$11,031	\$12,575	70.0%	54.2%	\$3,926	55.2%	\$376	\$212	\$8,787	137.6%	-22.2%	\$6,158	58.0%
35.8%	\$18,770	\$29,268	\$17,569	\$14,959	31.8%	31.6%	\$3,995	19.2%	\$376	\$212	\$9,679	51.6%	46.4%	\$6,324	51.0%
28.9%	\$18,800	\$30,000	\$16,066	\$14,797	55.3%	46.3%	\$4,347	23.1%	\$376	\$212	\$9,943	52.8%	44.2%	\$6,602	65.0%

2nd Quartile Privates Only:	\$21,790	\$34,952	\$19,264	\$15,814	41.6%	37.7%	\$4,527	19.9%	\$376	\$212	\$10,015	55.1%	46.1%	\$7,371	65.0%
Adjustment to Quartile:	0%	0%	0%	0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	0.0%	0.0%	0%	0.0%
CENTRAL METHODIST UNIVERSITY KPI	\$21,790	\$34,952	\$19,264	\$15,814	41.6%	37.7%	\$4,527	19.9%	\$376	\$212	\$10,015	55.1%	46.1%	\$7,371	65.0%
Performance to KPI	-5470	-51,982	-51,479	-51,803	3.4%	4.4%	\$214	2.3%	\$376	\$212	\$1,733	0.0%	-0.976%	-\$6,650	9.000%
% Variance	3.3%	5.7%	7.7%	11.4%	8.2%	11.7%	4.7%	11.3%	0.0%	0.0%	-17.3%	0.0%	-2.1%	90.2%	-13.8%
Sample Mean (privates only)	\$23,058	\$35,428	\$18,976	\$16,073	41.4%	38.3%	\$4,535	21.5%	\$358	\$240	\$13,417	60.9%	41.9%	\$7,609	66.9%
Sample Median (privates only)	\$21,790	\$34,952	\$19,264	\$15,814	41.6%	37.7%	\$4,527	19.9%	\$376	\$212	\$11,907	55.1%	46.1%	\$7,371	65.0%
CMU Within 95% Confidence Interval	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

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CORRELATION OF INSTITUTIONAL AID TO NET PRICE: 0.5160  
CORRELATION OF INSTITUTIONAL AID TO IN STATE TUITION: 0.8534  
CORRELATION OF INSTITUTIONAL AID TO IN STATE TOTAL COST: 0.8903

SOURCE DATA from The Education Trust: <http://www.edtrust.org>  
Based on 2014 IPEDS data, the most recent year for which complete information is available





Admissions

	2014 6-Year Grad Rate	% Admitted	Open Admissions	Average High School GPA Among College	Admissions Test Scores Policy	Estimated Median SAT / ACT	% Submitting SAT Scores	Median SAT Verbal	Median SAT Math	% Submitting ACT Scores	Median ACT Composite
Simpson College	72.5%	68.0%	No	-	Required	1,105	5%	-	-	99%	24.0
Nebraska Wesleyan University	69.5%	76.9%	No	-	Required	1,109	6%	540	560	96%	24.0
Westminster College	66.4%	71.9%	No	3.44	Required	1,090	14%	470	540	78%	24.0
William Jewell College	59.6%	57.8%	No	3.68	Required	1,146	9%	584	578	94%	25.0
Baker University	57.7%	86.9%	No	3.47	Required	1,066	9%	493	545	100%	23.5
McKendree University	56.5%	62.9%	No	3.40	Required	1,046	7%	485	510	93%	22.5
William Woods University	52.7%	75.1%	No	-	Required	1,047	16%	531	504	84%	22.5
<b>Central Methodist University-Col</b>	<b>50.7%</b>	<b>65.1%</b>	<b>No</b>	<b>3.47</b>	<b>Required</b>	<b>1,006</b>	<b>5%</b>	<b>445</b>	<b>490</b>	<b>97%</b>	<b>21.5</b>
Stephens College	49.1%	67.6%	No	-	Required	1,047	16%	535	485	88%	22.5
Evangel University	47.3%	64.2%	No	-	Required	1,046	28%	520	515	80%	22.5
Southwest Baptist University	47.2%	90.2%	No	3.52	Required	1,062	7%	475	485	85%	23.0
Buena Vista University	45.9%	68.8%	No	3.40	Required	1,050	3%	-	-	97%	22.5
Missouri Baptist University	43.7%	61.0%	No	-	Required	1,001	11%	455	470	89%	21.5
Culver-Stockton College	41.4%	59.3%	No	3.15	Required	972	9%	485	485	93%	20.5
Columbia College	37.6%	100.0%	Yes	3.59	Not applicable	-	-	-	-	-	-
Hannibal-LaGrange University	35.8%	66.1%	No	-	Recommended	1,029	3%	520	475	79%	22.0
Missouri Valley College	26.9%	22.2%	No	2.86	Recommended	920	12%	415	430	87%	19.5

	Total in Count	17	17	0	10	16	16	14	14	16	16
<b>Rank</b>	8	7			4	13	13	13	11	3	13
<b>RANK AMONG PRIVATES</b>	8	7		4	4	13	13	13	11	3	13
				10	10	16	16	14	14	16	16

	Total in Count	17	17	0	10	16	16	14	14	16	16
<b>2nd Quartile Privates Only:</b>	49.1%	68.1%			3.46	1047	9.0%	494	500	91.0%	22.5
<b>Adjustment to Quartile:</b>	0.0%	0.0%			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>CENTRAL METHODIST UNIVERSITY KPI</b>	49.1%	68.1%		3.46	1047	9.0%	494	500	91.0%	22.5	
<b>Performance to KPI</b>	1.6%	-3.0%		0.02	-41	-4.0%	-10	-49	-10	6.0%	-1.0
<b>% Variance</b>	3.3%	4.8%		0.0%	-3.9%	-44.4%	-1.9%	-9.9%	-1.9%	6.6%	-4.8%
<b>Sample Mean (privates only)</b>	50.6%	69.8%		3.40	1048	10.0%	497	507	89.9%	22.6	
<b>Sample Median (privates only)</b>	49.1%	68.1%		3.46	1047	9.0%	494	500	91.0%	22.5	
<b>GMU Within 95% Confidence Interval</b>	YES	YES		YES	NO	NO	NO	NO	NO	NO	NO

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SOURCE DATA FROM THE EDUCATION TRUST: <http://www.collegenews.com>  
Based on 2014 IPEDS data, the most recent year for which complete information is available

Degrees Granted by Program

2014-6-Year Grad Rate	Total Number of Students Awarded Degrees	Total Degrees Awarded	% Degrees Awarded to Underrepresented Minorities	% Degrees Awarded to Females	% Degrees Awarded in Arts & Humanities	% Degrees Awarded in Social Sciences	% Degrees Awarded in Business	% Degrees Awarded in Education	% Degrees Awarded in Health Sciences	% Degrees Awarded in Other Fields	% Degrees Awarded in Science, Technology, Engineering, and Math	% STEM Degrees Awarded to Underrepresented Minorities	% STEM Degrees Awarded to Females
72.5%	393	393	5.1%	54.5%	8.9%	13.0%	26.7%	12.0%	2.8%	19.3%	17.3%	1.5%	41.2%
69.5%	476	479	7.3%	62.2%	13.8%	14.2%	16.7%	5.8%	18.0%	17.1%	14.4%	1.4%	47.8%
66.4%	253	253	12.3%	50.2%	6.3%	16.6%	28.9%	11.8%	0.0%	15.8%	20.6%	13.5%	42.3%
59.6%	274	274	6.2%	65.3%	10.9%	21.2%	17.5%	4.0%	30.7%	7.3%	8.4%	0.0%	34.8%
57.7%	510	510	14.5%	56.1%	2.0%	6.7%	56.9%	3.3%	16.5%	9.6%	5.1%	11.5%	46.2%
56.5%	503	509	15.1%	58.2%	4.3%	16.7%	32.0%	7.7%	27.1%	4.1%	8.1%	17.1%	22.0%
52.7%	232	232	4.7%	73.7%	12.9%	3.4%	18.6%	17.7%	3.4%	39.7%	4.3%	0.0%	90.0%
<b>50.7%</b>	<b>220</b>	<b>220</b>	<b>6.8%</b>	<b>54.5%</b>	<b>3.2%</b>	<b>7.7%</b>	<b>11.4%</b>	<b>20.0%</b>	<b>20.0%</b>	<b>26.4%</b>	<b>11.4%</b>	<b>4.0%</b>	<b>36.0%</b>
48.1%	135	135	13.3%	97.8%	37.8%	2.2%	28.1%	5.2%	16.3%	8.8%	1.5%	0.0%	100.0%
47.3%	386	386	7.8%	59.3%	13.7%	13.2%	17.6%	16.3%	2.3%	28.5%	8.3%	0.0%	56.3%
46.8%	371	371	5.7%	61.5%	14.0%	11.8%	10.8%	19.9%	21.3%	13.5%	8.9%	3.0%	54.5%
45.7%	656	656	4.4%	72.4%	4.1%	15.6%	30.6%	16.0%	1.1%	27.7%	4.9%	9.4%	46.9%
43.7%	376	384	8.9%	60.2%	10.2%	9.6%	21.6%	25.5%	3.9%	26.0%	3.1%	0.0%	41.7%
41.4%	145	145	13.1%	56.6%	11.0%	15.9%	18.6%	13.8%	12.4%	24.1%	4.1%	0.0%	83.3%
37.6%	2,601	2,639	26.5%	57.9%	20.0%	14.4%	41.4%	0.0%	0.2%	21.1%	2.9%	6.5%	40.3%
35.8%	174	174	3.4%	66.1%	15.6%	4.0%	25.9%	28.2%	0.0%	23.6%	2.9%	0.0%	60.0%
26.9%	203	203	23.2%	57.6%	4.4%	10.9%	21.7%	10.8%	11.3%	31.0%	9.9%	15.0%	50.0%

Rank Among Peers	17	17	17	17	17	17	17	17	17	17	17	17	17
Rank Among Peers	8	13	13	11	15	16	16	12	4	5	4	7	15
Rank Among Peers	17	17	17	17	17	17	17	17	17	0	0	0	0

2nd Quartile Private Only	49.1%	371	7.8%	59.3%	10.9%	13.0%	21.7%	12.0%	11.3%	21.1%	8.1%	1.5%	46.9%
Adjustment to Quarters	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CENTRAL METHODIST UNIVERSITY KPI	49.1% <td>371</td> <td>7.8% <td>59.3% <td>10.9% <td>13.0% <td>21.7% <td>12.0% <td>11.3% <td>21.1%</td> <td>8.1%</td> <td>1.5%</td> <td>46.9%</td> </td></td></td></td></td></td></td>	371	7.8% <td>59.3% <td>10.9% <td>13.0% <td>21.7% <td>12.0% <td>11.3% <td>21.1%</td> <td>8.1%</td> <td>1.5%</td> <td>46.9%</td> </td></td></td></td></td></td>	59.3% <td>10.9% <td>13.0% <td>21.7% <td>12.0% <td>11.3% <td>21.1%</td> <td>8.1%</td> <td>1.5%</td> <td>46.9%</td> </td></td></td></td></td>	10.9% <td>13.0% <td>21.7% <td>12.0% <td>11.3% <td>21.1%</td> <td>8.1%</td> <td>1.5%</td> <td>46.9%</td> </td></td></td></td>	13.0% <td>21.7% <td>12.0% <td>11.3% <td>21.1%</td> <td>8.1%</td> <td>1.5%</td> <td>46.9%</td> </td></td></td>	21.7% <td>12.0% <td>11.3% <td>21.1%</td> <td>8.1%</td> <td>1.5%</td> <td>46.9%</td> </td></td>	12.0% <td>11.3% <td>21.1%</td> <td>8.1%</td> <td>1.5%</td> <td>46.9%</td> </td>	11.3% <td>21.1%</td> <td>8.1%</td> <td>1.5%</td> <td>46.9%</td>	21.1%	8.1%	1.5%	46.9%
Performance to KPI	-1.6%	-151	-1.0%	-4.8%	-7.2%	-5.3%	-10.3%	8.0%	8.7%	5.3%	3.3%	2.5%	-10.9%
% Variance	3.3%	-40.7%	-12.8%	-8.1%	-7.0%	-40.8%	-37.5%	66.7%	77.0%	25.1%	40.7%	166.7%	-23.2%
Sample Mean (privates only)	50.16%	465	10.5%	62.8%	11.8%	11.6%	24.0%	12.8%	11.0%	20.2%	8.0%	4.9%	52.5%
Sample Median (privates only)	49.1%	371	7.8%	59.3%	10.9%	13.0%	21.7%	12.0%	11.3%	21.1%	8.1%	1.5%	46.9%
CNU Within 95% Confidence Interval	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

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SOURCE DATA from The Education Trust: <http://www.collegeaccess.org>  
 Based on 2014 IPEDS data, the most recent year for which complete information is available

Student Characteristics

	2014 6-Year Grad Rate	Size (Undergrad FTE)	% Women	% Men	% Pell Recipients Among Freshmen	% Pell Recipients Among Undergrads	% Underrepresented Minority	% Black	% Latino	% Native American	% Hawaiian/Pacific Islander	% Asian	% White	% Two or More Races	% Other	% Nonresident Aliens	% Part-Time	% Age 25+
Simpson College	72.8%	1,581	56.8%	43.2%	31.6%	33.6%	5.2%	3.6%	1.2%	0.5%	0.2%	0.6%	85.9%	2.4%	5.7%	1.7%	24.7%	28.6%
Norwich University	69.8%	1,712	59.3%	40.7%	26.4%	28.7%	4.9%	2.7%	2.0%	0.8%	0.0%	0.9%	89.2%	2.0%	4.1%	1.2%	13.2%	13.0%
Western Michigan University	66.4%	1,021	44.4%	55.6%	28.7%	29.3%	11.6%	5.9%	4.0%	0.3%	0.1%	2.1%	83.6%	1.5%	5.8%	1.6%	16.7%	13.9%
William Jewell College	59.8%	1,023	43.2%	56.8%	31.7%	28.5%	11.0%	6.4%	3.2%	0.6%	0.1%	0.8%	69.3%	5.3%	5.5%	10.9%	0.8%	2.7%
Baker University	57.7%	1,345	56.1%	43.9%	27.7%	37.7%	18.6%	9.8%	4.3%	2.5%	0.5%	1.2%	77.3%	1.2%	6.4%	2.7%	43.6%	7.0%
McKendree University	56.5%	1,970	54.0%	46.0%	41.6%	36.2%	19.8%	14.7%	4.1%	1.0%	0.4%	1.0%	69.9%	1.4%	8.5%	1.7%	24.7%	29.4%
William Woods University	52.7%	868	73.9%	26.1%	31.6%	33.6%	5.2%	3.6%	1.2%	0.5%	0.2%	0.6%	85.9%	2.4%	5.7%	1.7%	24.7%	28.6%
<b>Central Methodist University-CO</b>	<b>50.7%</b>	<b>1,062</b>	<b>50.5%</b>	<b>49.5%</b>	<b>45.0%</b>	<b>42.1%</b>	<b>3.7%</b>	<b>2.7%</b>	<b>0.9%</b>	<b>0.1%</b>	<b>0.0%</b>	<b>1.2%</b>	<b>62.9%</b>	<b>0.0%</b>	<b>32.2%</b>	<b>0.2%</b>	<b>7.5%</b>	<b>4.8%</b>
Stephens College	49.1%	563	99.5%	0.5%	52.4%	45.6%	19.1%	16.7%	2.1%	0.4%	0.4%	1.1%	72.4%	6.5%	0.6%	0.0%	19.5%	11.2%
Eastern University	47.3%	1,950	56.0%	44.0%	45.4%	48.5%	10.9%	4.5%	5.3%	1.0%	0.0%	0.8%	70.5%	3.2%	13.9%	0.7%	9.1%	9.4%
Southwest Baptist University	46.8%	2,333	62.3%	37.7%	46.7%	41.4%	7.3%	5.3%	1.4%	0.6%	0.3%	0.8%	77.7%	1.3%	12.5%	0.0%	31.8%	19.8%
Brescia University	46.6%	2,071	65.0%	35.0%	40.2%	49.1%	7.4%	1.7%	5.3%	0.5%	0.1%	1.1%	81.8%	0.9%	8.7%	2.5%	14.5%	36.6%
Missouri Baptist University	43.7%	2,261	56.3%	43.7%	45.0%	49.5%	10.9%	7.7%	2.8%	0.4%	0.0%	1.2%	67.0%	2.0%	18.9%	1.4%	64.1%	18.8%
Culver-Stockton College	41.4%	791	48.8%	51.2%	53.6%	50.5%	16.3%	12.1%	3.7%	0.5%	0.6%	0.3%	78.8%	2.3%	1.8%	1.8%	7.0%	5.1%
Columbia College	37.6%	11,627	59.8%	40.2%	70.0%	54.2%	31.5%	23.1%	7.3%	1.0%	0.5%	1.3%	56.4%	2.3%	8.1%	1.1%	41.0%	74.6%
Hannibal-LaGrange University	35.8%	982	58.1%	41.9%	31.6%	31.5%	4.9%	3.4%	0.9%	0.6%	0.4%	0.5%	81.9%	1.8%	10.5%	10.1%	27.0%	20.1%
Missouri Valley College	28.9%	1,461	42.4%	57.6%	55.3%	46.3%	26.1%	20.2%	5.3%	0.6%	0.5%	1.0%	57.6%	0.0%	14.9%	13.1%	17.6%	14.6%

	Rank	Adjustment to Quartile	Performance to KPI	% Variance	Sample Mean (privates only)	Sample Median (privates only)	CMUWRth 95% Confidence Interval
<b>2nd Quartile Privates Only</b>	1461	43.4%	37.7%	3.3%	50.6%	49.1%	49.1% - 50.6%
<b>Adjustment to Quartile:</b>	0%	0%	0%	3.3%	41.6%	41.6%	41.6% - 41.6%
<b>CENTRAL METHODIST UNIVERSITY KPI</b>	1461	43.4%	37.7%	3.3%	50.6%	49.1%	49.1% - 50.6%
<b>Performance to KPI</b>	-409	-6.1%	-4.4%	-10.8%	-10.8%	-10.8%	-10.8% - -10.8%
<b>% Variance</b>	2036	41.2%	38.3%	3.3%	41.6%	41.6%	41.6% - 41.6%
Sample Mean (privates only)	50.6%	41.2%	38.3%	3.3%	41.6%	41.6%	41.6% - 41.6%
Sample Median (privates only)	49.1%	43.4%	37.7%	3.3%	41.6%	41.6%	41.6% - 41.6%
CMUWRth 95% Confidence Interval	YES	NO	YES	YES	YES	YES	YES - YES

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SOURCE DATA from The Education Trust: <http://www.collegestates.org>  
Based on 2014 P.E.D.S. data, the most recent year for which complete information is available

College Characteristics

	2014 6-Year Grad Rate	City	State	Locale	Sector	Carnegie Class	Minority-Serving Institution	NCAA Division / Athletic Association	Athletic Conference
Simpson College	72.5%	Indianola	IA	Town; Fringe	Private not-for-profit	Bac/A & S	Not Applicable	II/III	Iowa Intercollegiate Athletic Conf
Nebraska Wesleyan University	69.5%	Lincoln	NE	City; Large	Private not-for-profit	Bac/A & S	Not Applicable	N/A/A	Great Plains Athletic Conference
Westminster College	68.4%	Fulton	MO	Town; Distant	Private not-for-profit	Bac/A & S	Not Applicable	II/III	St. Louis Intercollegiate Ath. Conf
William Jewell College	59.6%	Liberty	MO	Suburb; Large	Private not-for-profit	Bac/A & S	Not Applicable	II/III	Great Lakes Valley Conference
Baker University	57.7%	Baldwin City	KS	Town; Fringe	Private not-for-profit	Masters Large	Not Applicable	N/A/A	Heart of America Athletic Conference
McKendree University	56.5%	Lebanon	IL	Suburb; Large	Private not-for-profit	Masters Large	Not Applicable	II/III	Great Lakes Valley Conference
William Woods University	52.7%	Fulton	MO	Town; Distant	Private not-for-profit	Masters Large	Not Applicable	N/A/A	American Midwest Conference
<b>Central Methodist University-College</b>	<b>50.7%</b>	<b>Fayette</b>	<b>MO</b>	<b>Town; Distant</b>	<b>Private not-for-profit</b>	<b>Bac/Diverse</b>	<b>Not Applicable</b>	<b>N/A/A</b>	<b>Heart of America Athletic Conference</b>
Stephens College	49.1%	Columbia	MO	City; Midsize	Private not-for-profit	Bac/Diverse	Not Applicable	N/A/A	American Midwest Conference
Evangel University	47.3%	Springfield	MO	City; Midsize	Private not-for-profit	Bac/Diverse	Not Applicable	N/A/A	Heart of America Athletic Conference
Southwest Baptist University	47.2%	Bolivar	MO	Town; Distant	Private not-for-profit	Masters Large	Not Applicable	II/III	Mid-America Intercollegiate Ath Assoc
Buena Vista University	45.8%	Storm Lake	IA	Town; Remote	Private not-for-profit	Bac/Diverse	Not Applicable	II/III	Iowa Intercollegiate Athletic Conf
Missouri Baptist University	43.7%	Saint Louis	MO	Suburb; Large	Private not-for-profit	Masters Large	Not Applicable	N/A/A	American Midwest Conference
Culver-Stockton College	41.4%	Canton	MO	Rural; Remote	Private not-for-profit	Bac/Diverse	Not Applicable	N/A/A	Heart of America Athletic Conference
Columbia College	37.6%	Columbia	MO	City; Midsize	Private not-for-profit	Masters Medium	Not Applicable	N/A/A	American Midwest Conference
Hannibal-LaGrange University	35.8%	Hannibal	MO	Town; Remote	Private not-for-profit	Bac/Diverse	Not Applicable	N/A/A	American Midwest Conference
Missouri Valley College	26.9%	Marshall	MO	Town; Remote	Private not-for-profit	Bac/Diverse	Not Applicable	N/A/A	Heart of America Athletic Conference

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SOURCE DATA from The Education Trust: <http://www.collegemeasures.org>  
 Based on 2014 IPEDS data, the most recent year for which complete information is available





## Source Data, Methodology and Definitions

### Source Data

Data used in this report has been downloaded from College Results Online (© 2016. College Results Online, The Education Trust. All rights reserved.). College Results Online (“CRO”) is “an interactive, user-friendly Web tool designed to provide policymakers, counselors, parents, students, and others with information about college graduation rates for nearly any four-year college or university in the country.” CRO is provided by The Education Trust, “a national non-profit advocacy organization that promotes high academic achievement for all students at all levels, particularly for students of color and low-income students.”

Most of CRO’s data come from the Integrated Postsecondary Education Data System (IPEDS), the federal government’s annual survey of higher education institutions. Other data sources include other Department of Education databases; Barron’s Profile of American Colleges; College Board; Peterson’s Databases; and the National Association of State Student Grant and Aid Programs.

The web address for CRO is: [www.collegeresultsonline.org](http://www.collegeresultsonline.org).

To recreate the original CRO peer dataset used in this report, the following web address may be used:  
<http://www.collegeresults.org/search1ba.aspx?institutionid=177542,177065,177144,178244,153001,179326,177339,179548,176947,179964,147013,154688,179955,179946,181446,154350>

Data was exported directly from the CRO website as an Excel .XLS file. Once downloaded, sorting, statistical calculations, conditional formatting, presentation formatting, additional column calculations (highlighted in the table headers), and the dashboard presentation worksheet were produced by the authors and saved as an Excel .XLSX file. 2016 (or most recent) data included in the Dashboard will be provided by CMU’s Office of Institutional Research and Effectiveness.

### Peer Methodology

#### Identification of Peer, Competitor and Aspirant Institutions

The 17 institutions selected represent regional peers and competitors based on considerations such as those schools ahead of CMU in regional rankings, schools with whom CMU most competes for students, faith alignment, and athletic conference membership. All 17 institutions are private. Based on the high percentage of CMU measures falling within the 95% Confidence Intervals, as well as CMU’s relative rankings, the peer group appears appropriate.

#### KPI Validity

The 2016 Central Methodist University Peer Comparison and KPI Review is intended to provide a robust set of metrics against which the University can compare itself *relative* to peers, competitors and aspirants. For this reason, externally defined metrics and independently compiled source data substantially improve the validity of the dataset. Where CRO’s data definitions may be inconsistent with CMU’s conventions, *the original data from CRO has been retained to ensure peer comparisons remain consistent and to remove any possibility of bias*. Where 2016 data is required in the Dashboard report but cannot replicate the CRO calculation, the data will be omitted.

Constructed as above, Central Methodist University KPI’s are a) independently verifiable; b) understood by

internal and external constituents; c) related to the University's strategic objectives; d) measured against internal and external standards; and, e) aspirational in nature.

The Education Trust and CRO clearly identify their role as one of advocacy. However, there is no indication that CRO's advocacy compromises the integrity of underlying data.

### **CRO Data Definitions and Sources**

*To ensure accurate translation of definitions and methodologies, the following sections are copied in their entirety from the College Results Online Website.*

The sections below list the definitions and sources for both the data indicators used in the peer grouping algorithm discussed above and the additional data made available in CRO. Data elements that have the designation (IPEDS) are based on or derived from data from the U.S. Department of Education's National Center for Education Statistics, Integrated Post-secondary Education Data System (IPEDS).

#### *Graduation Rates by Race OR Gender*

- Graduation Rates for Underrepresented Minority Students: This refers to the 6-year graduation rate for first-time, full-time, bachelor's or equivalent degree-seeking Black, Latino, or Native American undergraduates who enrolled in Fall 2008 and successfully completed their degree within six years.
- Graduation Rates for Non-Underrepresented Minority (Non-URM) Students: This refers to the 6-year graduation rate for first-time, full-time, bachelor's or equivalent degree-seeking White or Asian freshmen who enrolled in Fall 2008 and successfully completed their degree within six years.

#### *Graduation Rates by Race AND Gender*

- Graduation Rates for Underrepresented Minority Females: This refers to the 6-year graduation rate for first-time, full-time, bachelor's or equivalent degree-seeking Black, Latino, or Native American freshmen females who enrolled in Fall 2008 and successfully completed their degree within six years.
- Graduation Rates for Underrepresented Minority Males: This refers to the 6-year graduation rate for first-time, full-time, bachelor's or equivalent degree-seeking Black, Latino, or Native American freshmen males who enrolled in Fall 2008 and successfully completed their degree within six years.
- Graduation Rates for Non-Underrepresented Minority (Non-URM) Females: This refers to the 6-year graduation rate for first-time, full-time, bachelor's or equivalent degree-seeking White or Asian freshmen females who enrolled in Fall 2008 and successfully completed their degree within six years.
- Graduation Rates for Non-Underrepresented Minority (Non-URM) Males: This refers to the 6-year graduation rate for first-time, full-time, bachelor's or equivalent degree-seeking White or Asian freshmen males who enrolled in Fall 2008 and successfully completed their degree within six years.

#### *Graduation Rates Over Time*

- 6-Year Rate 2009: The percentage of first-time full-time bachelor's or equivalent degree-seeking undergraduates who began in Fall 2003 and successfully completed their degree within six years (on or before August 31, 2009).

- 6-Year Rate 2010: The percentage of first-time full-time bachelor's or equivalent degree-seeking undergraduates who began in Fall 2004 and successfully completed their degree within six years (on or before August 31, 2010).
- 6-Year Rate 2011: The percentage of first-time full-time bachelor's or equivalent degree-seeking undergraduates who began in Fall 2005 and successfully completed their degree within six years (on or before August 31, 2011).
- 6-Year Rate 2012: The percentage of first-time full-time bachelor's or equivalent degree-seeking undergraduates who began in Fall 2006 and successfully completed their degree within six years (on or before August 31, 2012).
- 6-Year Rate 2013: The percentage of first-time full-time bachelor's or equivalent degree-seeking undergraduates who began in Fall 2007 and successfully completed their degree within six years (on or before August 31, 2013).
- 6-Year Rate 2014: The percentage of first-time full-time bachelor's or equivalent degree-seeking undergraduates who began in Fall 2008 and successfully completed their degree within six years (on or before August 31, 2014).

#### *Retention and Progression Rates*

- % Full-Time 2012 Freshmen Who Returned in 2013-14: Often referred to as an institution's 1st-year retention rate, the percentage of first-time, full-time degree-seeking undergraduates from Fall 2012 who are again enrolled either full-time or part-time in the 2013–14 academic year. (IPEDS)
- Number of Full-Time Students in 2008 Freshman Cohort: The number of first-time, full-time bachelor's or equivalent degree-seeking undergraduates enrolled in Fall 2008. This number is used as the denominator to calculate the 4-year, 5-year, and 6-year graduation rates. (IPEDS)
- % Full-Time Students in the 2008 Freshman Cohort: The percent of the Fall 2008 undergraduate entering class who are first-time, full-time degree-seeking undergraduates. While this percentage is collected during the IPEDS 2008–09 data collection, institutions are allowed to modify the cohort size of first-time, full-time degree-seeking undergraduates when reporting graduation rates in later years. (IPEDS)
- 4-Year, 5-Year, and 6-Year Graduation Rates: The graduation-rate data presented in CRO represents the proportion of first-time, full-time, bachelor's or equivalent degree-seeking students who graduate within 4 years, 5 years, and 6 years. Note that these rates are cumulative. For example, the five-year graduation rate shows the percentage of students from the freshman cohort who graduated in 5 years or *less*, not the percentage who took exactly 5 years to graduate. Institutions' 6-Year Graduation Rate is typically the default time period for comparison purposes; 4-year and 5-year graduation rates, however, are also available. To see more information about how the federal government collects graduation rate data, see more in the Graduation Rate Data section. (IPEDS)
- Transfer-Out Rate: The percentage of students who began in the 2008 cohort of first-time, full-time, bachelor's or equivalent degree-seeking freshmen at the institution and transferred to another school

without earning a degree at the initial institution. Reporting of transfer data is optional for colleges and universities that do not consider preparing students for transfer as part of their mission. (IPEDS)

- Percent Still Enrolled: The percent of students who began in the 2008 freshman cohort and have not graduated within six years, but are still enrolled in a degree program. For cohorts that entered before 2005, this variable measured the percent of students who were still enrolled in long programs of study—those that take longer than four years to complete. (IPEDS)

#### *Degrees Granted by Program Area*

- Institutions report the number of degrees awarded in various subjects every year. Those subjects have been categorized by the Classification of Instructional Programs (CIP). The categories below represent the number of degrees awarded in a number of broad subject areas, each of which is comprised of a number of discrete CIP codes.
- Total Number of Students Awarded Degrees: The unduplicated number of students who were awarded a bachelor's degree in any major. This differs from the "Total Degrees Awarded" variable below because a single student can earn multiple degrees. (IPEDS)
- Total Degrees Awarded: This variable is derived directly from the Completions survey Grand total (CRACE24) for first majors (MAJORNUM=1) and Bachelor's degree (AWLEVEL=5) and the sum of all 6-digit CIP programs (CIPCODE=99) from IPEDS. If an institution submits data for more than one institution the total awards/degrees are allocated based on factors submitted by the institution. This may be the case with "parent/child" institutions, where the parent campus – such as the main campus of Penn State – will submit data for each of its branch campuses – like Penn State Abington and Shenango.
- Percent Degrees Awarded to Underrepresented Minorities: The percent of baccalaureate degrees awarded to Black, Latino, or American Indian students.
- Percent Degrees Awarded to Females: The percent of baccalaureate degrees awarded to female students.
- Percent Degrees Awarded in Arts & Humanities: The percent of baccalaureate degrees awarded in liberal arts areas like foreign languages, English, philosophy, religion, and performing arts (CIP Codes 16, 23, 24, 38, 39, and 50). (IPEDS)
- Percent Degrees Awarded in Social Sciences: The percent of baccalaureate degrees awarded in areas like ethnic studies, economics, politics, psychology, sociology, and history (CIP Codes 5, 42, 45, and 54). (IPEDS)
- Percent Degrees Awarded in Business: The percent of baccalaureate degrees awarded in business, management, and marketing (CIP Code 52). (IPEDS)
- Percent Degrees Awarded in Education: The percent of baccalaureate degrees awarded in education (CIP Code 13). (IPEDS)

- Percent Degrees Awarded in Health Sciences: The percent of baccalaureate degrees awarded in health professions (CIP Code 51). (IPEDS)
- Percent Degrees Awarded in Other Fields: The percent of baccalaureate degrees awarded in areas like agriculture, architecture, communications, interdisciplinary studies, and social services (CIP Codes 1, 3, 4, 9, 10, 12, 19, 22, 25, 29, 30, 31, 43, 44, 46, 47, 48, 49, and 95). (IPEDS)
- Percent Degrees Awarded in Science, Technology, Engineering, and Math (STEM): The percent of baccalaureate degrees awarded in areas like computer science, engineering, biology, math, statistics, physics, and chemistry (CIP Codes 11, 14, 15, 26, 27, 40, and 41). (IPEDS)
- Percent STEM Degrees Awarded to Underrepresented Minorities: The percent of baccalaureate degrees awarded to Black, Latino, or American Indian students in areas like computer science, engineering, biology, math, statistics, physics, and chemistry (CIP Codes 11, 14, 15, 26, 27, 40, and 41). (IPEDS).
- Percent STEM Degrees Awarded to Females: The percent of baccalaureate degrees awarded to female students in areas like computer science, engineering, biology, math, statistics, physics, and chemistry (CIP Codes 11, 14, 15, 26, 27, 40, and 41). (IPEDS).

#### *College Characteristics*

- Locale: There are 12 possible locale designations, using a classification system from the U.S. Census Bureau: (IPEDS)
  - **City: Large:** Territory inside an urbanized area and inside a principal city with population of 250,000 or more.
  - **City: Midsize:** Territory inside an urbanized area and inside a principal city with population less than 250,000 and greater than or equal to 100,000.
  - **City: Small:** Territory inside an urbanized area and inside a principal city with population less than 100,000.
  - **Suburb: Large:** Territory outside a principal city and inside an urbanized area with population of 250,000 or more.
  - **Suburb: Midsize:** Territory outside a principal city and inside an urbanized area with population less than 250,000 and greater than or equal to 100,000.
  - **Suburb: Small:** Territory outside a principal city and inside an urbanized area with population less than 100,000.
  - **Town: Fringe:** Territory inside an urban cluster that is less than or equal to 10 miles from an urbanized area.
  - **Town: Distant:** Territory inside an urban cluster that is more than 10 miles and less than or equal to 35 miles from an urbanized area.
  - **Town: Remote:** Territory inside an urban cluster that is more than 35 miles from an urbanized area.
  - **Rural: Fringe:** Census-defined rural territory that is less than or equal to 5 miles from an urbanized area, as well as rural territory that is less than or equal to 2.5 miles from an urban cluster.
  - **Rural: Distant:** Census-defined rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural

- **Rural: Remote:** Census-defined rural territory that is more than 25 miles from an urbanized area and is also more than 10 miles from an urban cluster.
- **Sector:** There are a number of different sectors of higher education, based on both length of academic programs (four-year, two-year, less than two-year), and financial status (public, private non-profit, private for-profit). CRO only contains data for four-year institutions that grant bachelor's degrees and are public, private non-profit, or private for-profit. Beginning with the 2002 cohort, this may include some institutions that award primarily associate's degrees, but also offer bachelor's degrees. (IPEDS)
- **Carnegie Classification:** Originally published in 1973, the non-profit Carnegie Foundation's classification system is widely used to distinguish higher education institution in terms of their degree programs and institutional mission. The categories have been substantially revised and updated a number of times over the years. The most recent version was released in 2010 and uses the same classification methodology as the 2005 version. Minor changes in the classification logic are explained [here](#). Explanations for the meanings of the classifications are below. The names in parenthesis below are the category names as they are displayed on CRO. More information about the Carnegie Classification system can be found [here](#).

The current basic system utilizes the following categories:

- **Research Universities – Very High Research Activity (Research Very High):** These institutions awarded at least 20 doctorates in 2008-09 and scored very high on either or both an aggregate and/or a per-capita index measuring research and development (R&D) expenditures in science and engineering (S&E), R&D expenditures in non-S&E fields, S&E research staff, and doctoral conferrals in humanities, social sciences, STEM, and other fields. Professional practice degrees such as M.D., J.D., D.P.T., etc. did not count towards an institution's total doctorates awarded.
- **Research Universities – High Research Activity (Research High):** These institutions awarded at least 20 doctorates in 2008-09 and scored high (but not very high) on either or both an aggregate and/or a per-capita index measuring research and development (R&D) expenditures in science and engineering (S&E), R&D expenditures in non-S&E fields, S&E research staff, and doctoral conferrals in humanities, social sciences, STEM, and other fields. Professional practice degrees such as M.D., J.D., D.P.T., etc. did not count towards an institution's total doctorates awarded.
- **Doctoral/Research Universities (Doctoral/Research):** These institutions awarded at least 20 doctorates in 2008-09 but did not score very high or high on either an aggregate or a per-capita index measuring research or an development (R&D) expenditures in science and engineering (S&E), R&D expenditures in non-S&E fields, S&E research staff, and doctoral conferrals in humanities, social sciences, STEM, and other fields. Professional practice degrees such as M.D., J.D., D.P.T., etc. did not count towards an institution's total doctorates awarded.
- **Master's Colleges and Universities Larger Programs (Master's Large):** These institutions awarded at least 200 master's degrees in 2008-09, but fewer than 20 doctorates.
- **Master's Colleges and Universities Medium Programs (Master's Medium):** These institutions awarded between 100 and 199 master's degrees in 2008-09, but fewer than 20 doctorates.

- **Master's Colleges and Universities Smaller Programs (Master's Small):** These institutions awarded between 50 and 100 master's degrees in 2008-09, but fewer than 20 doctorates.
- **Baccalaureate Colleges—Arts & Sciences (Bac/A&S):** At these institutions, in 2008-09, bachelor's degrees accounted for more than half of all undergraduate degrees, at least half of bachelor's degree majors were in arts & sciences, and less than 50 master's degrees were awarded.
- **Baccalaureate Colleges—Diverse Fields (Bac/Diverse):** At these institutions, in 2008-09, bachelor's degrees accounted for more than half of all undergraduate degrees, less than half of bachelor's degree majors were in arts & sciences, and less than 50 master's degrees were awarded.
- **Baccalaureate/Associate's Colleges (Bac/Assoc):** At these institutions, in 2008-09, bachelor's degrees accounted for at least 10 percent but less than half of all undergraduate degrees awarded, and less than 50 master's degrees were awarded.
- **Tribal Colleges and Universities:** These colleges are, with few exceptions, tribally controlled and located on reservations. They are all members of the American Indian Higher Education Consortium. There are six tribal colleges in the CRO14 database.
- **Associate's Colleges:** Institutions were included if their highest degree conferred was the associate's degree or if bachelor's degrees accounted for less than 10 percent of all undergraduate degrees (according to 2008-09 degree conferrals as reported in IPEDS). Public 2-year institutions under the governance of a 4-year university or system are included in the "Public 2-year Colleges under Universities" category. Baccalaureate-granting institutions where bachelor's degrees account for fewer than 10 percent of undergraduate degrees are designated as "Primarily Associate's" colleges.
- **Specialized Institutions:** These institutions offer degrees ranging from the bachelor's to the doctorate and typically award a majority of degrees in a single field. Institutions were determined to have a special focus if at least 75 percent of undergraduate and graduate degrees were concentrated in a single field.
  - *Theological seminaries, Bible Colleges, and other specialized faith-related institutions* (Spec/Faith): These institutions primarily offer religious instruction or train members of the clergy.
  - *Medical schools and medical centers* (Spec/Medical): These institutions award most of their professional degrees in medicine. In some instances, they include other health professions programs, such as dentistry, pharmacy, or nursing.
  - *Other health profession schools* (Spec/Health): These institutions award most of their degrees in such fields as chiropractic, nursing, pharmacy, or podiatry.
  - *Schools of engineering* (Spec/Engg): These institutions award most of their bachelor's or graduate degrees in engineering.
  - *Other technology-related schools* (Spec/Tech): These institutions award most of their bachelor's or graduate degrees in other technical fields of study
  - *Schools of business and management* (Spec/Bus): These institutions award most of their bachelor's or graduate degrees in business or business-related programs.

- *Schools of art, music, and design* (Spec/Arts): These institutions award most of their bachelor's or graduate degrees in art, music, design, architecture, or some combination of such fields.
  - *Schools of law* (Spec/Law): These institutions award most of their degrees in law.
  - *Other specialized institutions* (Spec/Other): Institutions in this category include graduate centers, maritime academies, military institutes, and institutions that do not fit any other classification category.
- **Minority-Serving Institution:** This category designates whether an institution has been designated as a Historically Black College or University, a Hispanic Serving Institution, or a Tribal College. HBCUs are designated as such by the U.S. Department of Education. There are 84 HBCUs in the CRO14 database. Hispanic Serving Institutions are designated as such if at least 25 percent of their full-time equivalent undergraduates are Latino. There are 214 HSIs in the CRO14 database. Tribal colleges are all members of the American Indian Higher Education Consortium. There are six Tribal Colleges in the CRO14 database. (IPEDS)
- NCAA Division/Athletic Association:
    - **NCAA Division** - Institutions in NCAA Division I are designated as “I”, those in either Division II or Division III are designated as “II/III.” Source: <http://ope.ed.gov/athletics/>
    - **Athletic Association** - Schools that are members of the National Association of Intercollegiate Athletics are designated as NAIA. Members of the National Small College Athletic Association are designated as NSCAA. Members of the National Christian Collegiate Athletic Association are designated as NCCAA. Members of the National Junior College Athletic Association are designated as NJCAA, and members of other athletic associations are designated as other. (IPEDS)
  - Athletic Conference: Athletic conference designation is based on conference membership for NCAA Division I men’s basketball, and is limited to the conferences that receive an automatic bid to the NCAA Division I men’s basketball tournament. (IPEDS)
  - Accrediting Agency: These private educational associations of regional or national scope assess whether institutions have met specific evaluation criteria, aimed at measuring quality. Institutions that meet an agency's criteria are "accredited" and may then be eligible for federal benefits like Title IV student financial aid. This variable is found on the college profile page. (Department of Education)
  - Endowment Assets: This variable, applicable to public and private non-profit institutions only represents the gross investments of endowment funds, term endowment funds, and funds functioning as endowment for the institution and any of its foundations or other affiliated organizations. (IPEDS)
  - Net Price Calculator Website: The web address for an institution's net price calculator for full-time, first-time undergraduate students. This variable is found on the college profile page. (IPEDS)
  - Percent of Undergraduates Taking Any Distance Education: The percent of undergraduate students who take any distance education – i.e. online – courses at the institution. This variable is found on the college profile page. (IPEDS)



- Commuter Campus: This variable is derived from the Carnegie Classification 2010 Size and Setting variable and is based on the proportion of degree-seeking undergraduates who attend full-time and the proportion living in institutionally-owned, -operated, or -affiliated housing. Additionally, schools missing the Commuter variable were imputed using a ratio of dorm capacity to total undergraduates. If this ratio was less than or equal to 0.4, the institution was designated as a commuter campus in the peer group algorithm. Otherwise, the institution was designated as a residential campus. This variable is not accessible on CRO, but is used in the algorithm to create similar colleges. (IPEDS)
- Additionally, schools missing the Commuter variable were imputed using a ratio of dorm capacity to total undergraduates (IPEDS). If this ratio was less than or equal to 0.4, the institution was designated as a commuter campus in the peer group algorithm. Otherwise, the institution was designated as a residential campus.

### *Student Characteristics*

- Size (Full-Time Equivalent Undergraduates): Estimated as the number of full-time undergraduates plus the number of part-time undergraduates divided by three. Full-time equivalent undergraduates will be abbreviated as FTE in the remainder of this document. (IPEDS)
- Number of Freshmen Receiving Pell Grants: Number of full-time, first-time degree/certificate-seeking undergraduate students who received Pell Grants divided by full-time, first-time degree/certificate-seeking undergraduates in the financial aid cohort. This variable is available starting with the 2007-08 Financial Aid cohort (IPEDS). For all previous years, **Percent Federal Grant Aid** (see definition below) was substituted for this variable.
  - **Percent Federal Grant Aid**: Percent of first-time, full-time degree-seeking students receiving federal grant aid (Title IV Pell Grants plus Supplemental Educational Opportunity Grants). Also includes need-based and merit-based educational assistance funds and training vouchers provided from other federal agencies and/or federally-sponsored educational benefits programs, including the Veteran's Administration, Department of Labor, and other federal agencies. (Used for reporting on the Student Financial Aid component) (IPEDS)
- Percentage of Undergraduates Receiving Pell Grants: Number of undergraduate students who received Pell Grants divided by the financial aid cohort (see definition for **Financial Aid Cohort** below). This variable is available starting with the 2007-08 Financial Aid cohort (IPEDS).
  - **Financial Aid Cohort**: The number of undergraduate students enrolled at an institution as of October 15 (or the institution's official fall reporting date) for institutions with standard academic terms. Standard academic terms consist of the following calendar systems: semester, quarter, trimester, or 4-1-4. For institutions that do not operate on standard academic terms (program reporters) the number of undergraduate students is based on a full year cohort (unduplicated counts) of students enrolled during the 12-month period September 1 through August 31 (IPEDS).
- Percent Underrepresented Minority (URM): The percent of FTE undergraduates who are Black, Latino, or Native American. As mentioned in the New Race/Ethnicity Categories section, although IPEDS adopted new reporting categories (disaggregating data for Asians and Native Hawaiian and Other Pacific Islander, and providing data for students of Two or More Races) starting with the 2012-13 collection year, the 2014 graduation rates in this dataset are based on the 2008 freshman cohort.

Since institutional reporting was not yet mandatory at that previous point in time, institutional reports of graduation rates for Native Hawaiian or Other Pacific Islander and Two or More Races are unreliable. For this reason, the calculations for percent URM and non-URM do not yet include these new categories. (IPEDS)

- Percent Black, Latino, etc.: The percent of FTE undergraduates who belong to different categories of race/ethnicity. (IPEDS)
- Percent Nonresident Alien: The percent of FTE undergraduates who are Nonresident Aliens. Nonresident aliens are defined as people who are not citizens or nationals of the U.S. and who are in this country on a visa or temporary basis. (IPEDS)
- Percent Part-Time: The number of part-time undergraduates divided by the total number of undergraduates. Part-time undergraduates are defined as students enrolled for less than 12 semester or quarter credits or less than 24 contact hours a week each term. (IPEDS)
- Percent 25 and Over: The number of FTE undergraduates age 25 or older divided by the total number of FTE undergraduates. Beginning in 2013, odd year's data was substituted for even year's data for institutions that do not provide annual updates to enrollment by age. Because collection of the age variable is only mandatory in the fall of every odd year, odds year's data was substituted for every even year's data in prior years. (IPEDS)

Admissions

**Table 29: ACT/SAT Equivalencies**

ACT Score	SAT Equivalent
35	1560
34	1510
33	1460
32	1420
31	1380
30	1340
29	1300
28	1260
27	1220
26	1190
25	1150
24	1110
23	1070
22	1030
21	990
20	950
19	910
18	870
17	830
16	790
15	740
14	690
13	640
12	590
11	530

- Percent Admitted: Percent of first-time, first-year, degree-seeking applicants who were admitted. Institutions may report either data from either Fall 2012 or Fall 2013. (IPEDS)
- Open Admissions: Admissions policy whereby the school will accept any student who applies. (IPEDS)
- Average High School GPA Among College Freshmen: This variable is provided by Peterson's Databases, and represents the average high school grade point average, on a 4.0 scale, for degree-seeking, first-time, first-year (freshman) undergraduate students. No GPA data is shown if less than 50% of students submitted high school GPA data.
- Admissions Test Scores Policy: This variable indicates whether an institution requires or recommends the submission of SAT or ACT test scores as part of their application process. Institutions listed as “Not Applicable (N/A)” are open admission. (IPEDS)

- Estimated Median SAT / ACT: Higher education institutions do not report median aggregate SAT or ACT data to IPEDS. For the SAT, they report the 25<sup>th</sup> and 75<sup>th</sup> percentile score of students submitting scores for the critical reading, mathematics, and writing sections. For the ACT, they report the 25<sup>th</sup> and 75<sup>th</sup> percentile scores for the English, math, and composite scores.

The median composite ACT score is estimated by averaging the 25<sup>th</sup> percentile and 75<sup>th</sup> percentile composite ACT scores. The median combined SAT score is estimated by adding the average of the 25<sup>th</sup> and 75<sup>th</sup> percentile critical reading score to the average of the 25<sup>th</sup> and 75<sup>th</sup> percentile math score.

Some institutions accept only the SAT or the ACT, while some accept both. For institutions that only accept the ACT, the estimated median ACT score was converted to an SAT equivalent using a concordance table (at right) based on a study of students who take both exams. More information about concordance between SAT and ACT scores can be found [here](#).

The 25<sup>th</sup> and 75<sup>th</sup> percentile composite ACT scores were converted, then averaged. For institutions accepting both tests, a weighted average was used, based on the number of first-time, first-year, degree-seeking students who submitted each test. This represents a change from methodology in previous years of CRO, which used either the SAT or converted ACT score depending on which test made up the majority of all test scores submitted by first-time, first-year degree-seeking freshmen. (IPEDS )

- Percent of Students Submitting SAT Scores: The percent of first-time, first-year, degree seeking students who submitted SAT scores. (IPEDS)
- Median SAT Critical Reading: The average of the 25th and 75th percentile critical reading scores on the SAT.
- Median SAT Math: The average of the 25th and 75th percentile mathematics scores on the SAT.
- Median SAT Writing: The average of the 25th and 75th percentile writing scores on the SAT.
- Percent of Students Submitting ACT Scores: The percent of first-time, first-year, degree-seeking students who submitted ACT scores. (IPEDS)
- Median ACT Composite: The average of the 25th and 75th percentile ACT composite scores.

#### *Price and Financial Aid*

- In-State Tuition and Fees: The amount of tuition and required fees covering a full academic year most frequently charged to students. These values represent what a typical student would be charged and may not be the same for all students at an institution. If tuition is charged on a per-credit-hour basis, the average full-time credit hour load for an entire academic year is used to estimate average tuition. Required fees include all fixed sum charges that are required of such a large proportion of all students that the student who does not pay the charges is an exception. (This amount will be the same as out-of-state tuition and fees for most private institutions.)
- Total Price for In-State, On-Campus Students: Cost of attendance for full-time, first-time degree/certificate-seeking in-state undergraduate students living on campus for academic year 2013-14. It includes in-state tuition and fees, books and supplies, on-campus room and board, and other on-

campus expenses. Again, this amount will be the same as total price for out-of-state, on-campus students for most private institutions, since there typically is no difference between in-state and out-of-state tuition and fees at these institutions.

- **Out-of-State Tuition and Fees:** Out-of-state tuition and fees are the tuition and fees charged by public institutions to those students who do not meet the state's or institution's residency requirements. This variable is only found on the college's individual profile.
- **Average Net Price After Grants:** Average net price paid by first-time, full-time undergraduates who received grant or scholarship aid from federal, state, or local governments, or the institution. Net price is calculated as the total cost of attendance (for in-state students at public colleges and for in-state *and* out-of-state students at private colleges) minus the average amount of grant aid (from federal, state/local, and institutional sources). (IPEDS)
- **Average Net Price for Low-Income Students (\$0-30K):** Average net price paid by first-time, full-time undergraduates who received Title IV aid. Net price is calculated as the total cost of attendance (for in-state students at public colleges and for in-state *and* out-of-state students at private colleges) minus the average amount of grant aid (from federal, state/local, and institutional sources) for students in the \$0-30,000 income range. (IPEDS)
- **Percentage of Freshman Receiving Pell Grants:** Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received Pell Grants. This variable is available starting with the 2008-09 Financial Aid cohort (IPEDS). For all previous years, **Percent Federal Grant Aid** (see definition below) was substituted for this variable.
  - **Percent Federal Grant Aid:** Percent of first-time, full-time degree-seeking students receiving federal grant aid (Title IV Pell Grants plus Supplemental Educational Opportunity Grants). Also includes need-based and merit-based educational assistance funds and training vouchers provided from other federal agencies and/or federally-sponsored educational benefits programs, including the Veteran's Administration, Department of Labor, and other federal agencies. (Used for reporting on the Student Financial Aid component) (IPEDS)
- **Percent of Undergraduates Receiving Pell Grants:** Number of undergraduate students who received Pell Grants divided by the financial aid cohort (see definition for **Financial Aid Cohort** below). This variable is available starting with the 2007-08 Financial Aid cohort (IPEDS).
  - **Financial Aid Cohort:** The number of undergraduate students enrolled at an institution as of October 15 (or the institution's official fall reporting date) for institutions with standard academic terms. Standard academic terms consist of the following calendar systems: semester, quarter, trimester, or 4-1-4. For institutions that do not operate on standard academic terms (program reporters) the number of undergraduate students is based on a full year cohort (unduplicated counts) of students enrolled during the 12-month period September 1 through August 31 (IPEDS).
- **Average Federal Grant Aid per Receiving Student:** Average level of grants provided to full-time, first-time degree/certificate-seeking undergraduate students awarded by federal agencies. Examples of grants include the U.S. Department of Education, such as Pell Grants and Supplemental Educational Opportunity Grants (SEOG), and need- and merit-based educational assistance funds and

training vouchers from the Veteran's Administration, Department of Labor, and other federal agencies. (IPEDS)

- Total State Grant Aid \$ / FTE (Statewide): This amount represents the estimated statewide amount of undergraduate student grant aid (both need-based and non-need-based) provided per FTE undergraduate, in the state in which the institution is located. This amount can be found in National Association of State Student Grant and Aid Programs (NASSGAP) Annual Survey Report on State-Sponsored Student Financial Aid for the 2013-14 academic year, Table 12.
- Total State Need-Based Grant Aid \$ / FTE (Statewide): This amount represents the estimated statewide amount of need-based undergraduate student grant aid provided per FTE undergraduate, in the state in which the institution is located. This amount can be found in National Association of State Student Grant and Aid Programs (NASSGAP) Annual Survey Report on State-Sponsored Student Financial Aid for the 2013-14 academic year, Table 12.
- Average Institutional Grant Aid / Full-Time First-Time Student: Average amount of institutional grants (scholarships/fellowships) received by full-time, first-time, degree/certificate-seeking undergraduate students.
  - **Institutional grants** - Scholarships and fellowships granted and funded by the institution and/or individual departments within the institution, (i.e., instruction, research, public service) that may contribute indirectly to the enhancement of these programs. Includes scholarships targeted to certain individuals (e.g., based on state of residence, major field of study, athletic team participation) for which the institution designates the recipient. (IPEDS)
- Average Freshmen Student Loan (all sources): Average amount of student loan aid received from all sources by first-time, full-time undergraduates. (IPEDS)
- Percentage of Undergraduates Borrowing Federal Aid: Percentage of degree/certificate-seeking undergraduate students who borrowed federal student loans. Federal loans include all Title IV subsidized and unsubsidized loans and all institution and private loan. Loan made directly to parents (i.e., Parent PLUS loans) are not included. (IPEDS)

### *Financial Outcomes*

These variables represent students' financial outcomes after enrolling in a given institution. Those variables that are sourced from the College Scorecard represent *only students who received federal financial aid*.

- Median earnings 10 years after entry: Average amount of student loan aid received from all sources by first-time, full-time undergraduates. (IPEDS)
- % Earning more than \$25,000/year 10 years after entry: The share of students earning over \$25,000/year (threshold earnings) 10 years after entry among the 2001-2002 enrollment cohort. (College Scorecard)
- Median debt of completers: The median debt of students who borrowed federal financial aid and who completed a degree. Data represent two-year pooled cohorts; in CRO 14, the data represent the 2013 and 2014 graduating cohorts of students. Years refer to award years (e.g., award year 2013 begins on July 1, 2012, and ends June 30, 2013). (College Scorecard)

- Loan repayment rate 5 years after leaving: The proportion of borrowers who have not defaulted on their federal loans and who made progress in paying them down (i.e. have paid down at least \$1 in the principal balance on their loans) after leaving the institution (with or without a degree). The repayment rate is calculated with two-year pooled cohorts. In CRO14, the five-year repayment rate refers to the 2008-2009 pooled cohort as measured in 2013 and 2014. Years refer to fiscal years, and repayment rates are based on the set of federal loan borrowers who entered repayment in the specified fiscal years. (College Scorecard)
- Federal Loan Default Rate: These data represent the official three-year cohort default rates reported by the Department of Education. A cohort default rate is the percentage of borrowers who entered into repayment during the cohort fiscal year and default on their federal loans within three years. (Department of Education)

### *Funding and Faculty*

The financial data shown on CRO is for the 2013-2014 academic year. The IPEDS reporting system requires universities to report expenditures broken down into a number of categories and sub-categories. The sample survey forms used to report this information, which contain these categories, can be found [here](#) for public institutions that use the GASB reporting method and [here](#) for private non-profit institutions and public institutions that use the FASB reporting method.

- Instructional Expenditures / FTE: “Instructional expenses” is a discrete reporting category. It includes expenditures for the colleges, schools, departments, and other instructional divisions of the institution and expenses for departmental research and public service that are not separately budgeted. It also includes general academic instruction, occupational and vocational instruction, community education, preparatory and adult basic education, and regular, special, and extension sessions. It includes expenses for both credit and non-credit activities. It excludes expenses for academic administration where the primary function is administration (e.g., academic deans). Information technology expenses related to instructional activities if the institution separately budgets and expenses information technology resources are included (otherwise these expenses are included in “academic support”). (IPEDS)
- Student-Related Expenditures / FTE: This is an intermediate financial measure, including instructional, student services, and academic support expenditures, which is only available for public and not-for-profit institutions. The specific formula was developed by the National Center for Higher Education Management Systems (NCHEMS). Student-related expenditures are calculated as  $(\text{Instruction} + \text{Student Services} + \text{Academic Support} * (\text{Instruction} / (\text{Instruction} + \text{Public Service} + \text{Research})))$ . (IPEDS)
- Educational and General Expenditures / FTE: This is a broader category, which includes the instructional expenditures listed above, plus expenditures for research, public service, academic support, student services, institutional support, plant operation & maintenance, and scholarships. This variable is also only available for public and not-for-profit institutions. (IPEDS)

In the 2013-2014 dataset, substitutions were made for Parent/Child schools for the Instructional Expenditures/FTE, Educational and General Expenditures/FTE, and Student and Related Expenditures/FTE variables using the Parent/Child allocation factor (PCF\_F) found in the Response Status Section in the Finance Survey (IPEDS). For example, Rutgers University reports its finance

data to IPEDS for the main campus only, but indicates how to allocate the funds between campuses using the allocation factors. For more information, please also see the Parent/child indicator (PRCH\_F) and the Parent/child allocation method (PCF\_M) variables in the IPEDS Finance Survey Response Status Section. For those Parent/Child schools without Allocation Factors in IPEDS (e.g. the University of Pittsburgh System), the figures for the Main Parent campus was substituted for all the children campuses.

- Endowment Assets / FTE:: This variable represents an institution's endowment assets per full time equivalent student as of the end of fiscal year 2014. Endowment assets include gross investments of endowment funds, term endowment funds, and funds functioning as endowment for the institution and any of its foundations or other affiliated organizations. This variable is also only available for public and not-for-profit institutions. (IPEDS)
- Percent Full-Time Faculty: The number of full-time faculty members as a percent of all faculty members. Beginning in 2013, odd year's data were substituted for institutions that did not provide updated data during the even year. Because collection of the faculty variable is only mandatory in the fall of every odd year, odd year's data were substituted for every even year's data in prior CRO updates. (IPEDS)
- Full-Time Undergraduates / Full-Time Faculty Ratio: The number of full-time undergraduates divided by the number of full-time faculty. (IPEDS)

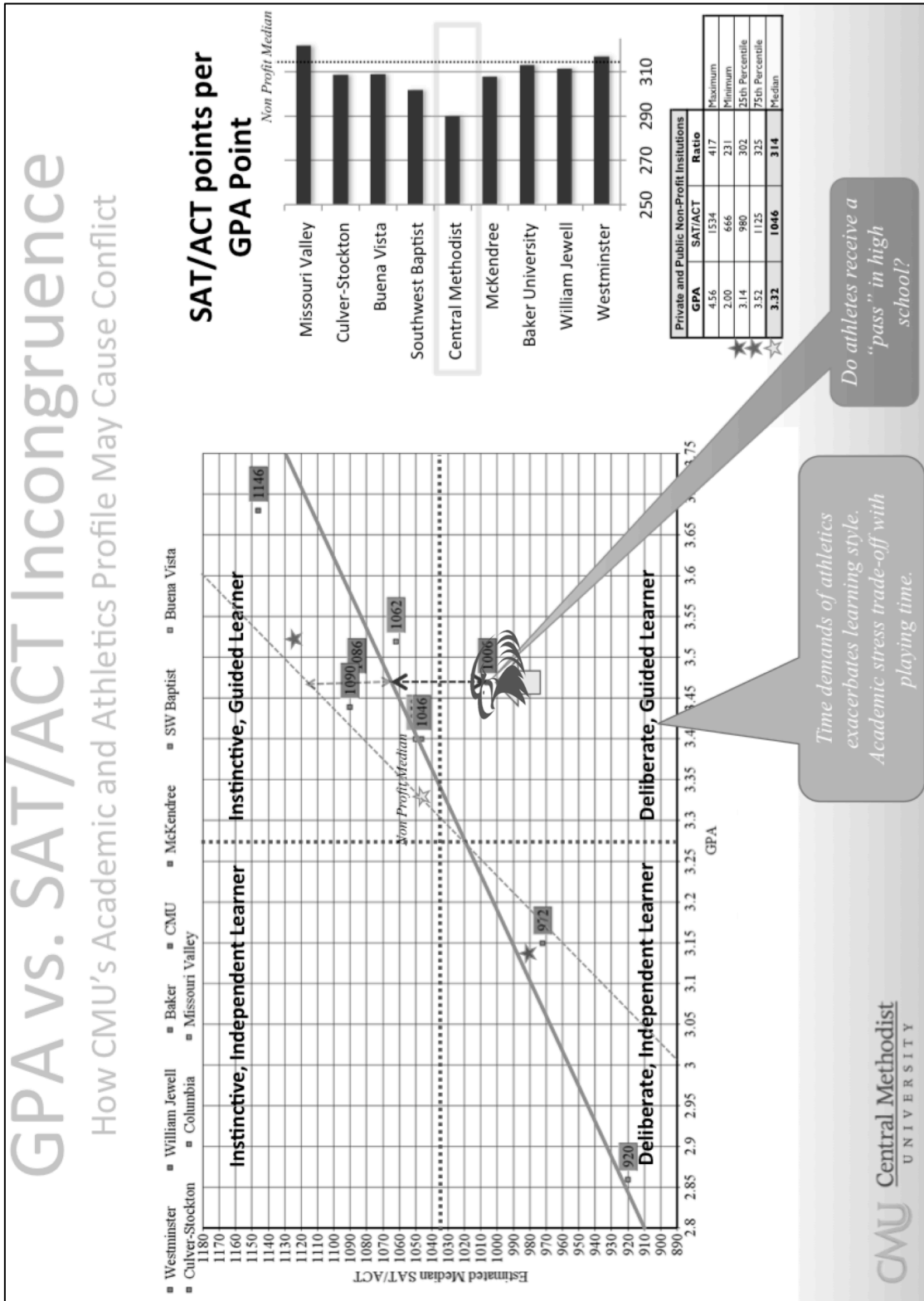


## APPENDIX B

### CMU Internal Data Collection

- Updated Strategic Plan
- Prior Peabody Cohort Study
- Facilities Overview (on site inspection)
- Demographic Studies
- IPEDs Data, Any Further Analysis (Institutional Effectiveness, etc.) re: persistence and attainment by segment
- Student Survey Results
- Faculty Survey Results
- Any other Stakeholder Results
- Enrollment Statistics over Time
- Feasibility Studies for Previously Proposed Initiatives
- Most recently available IRS 990 Form (2014)
- Most recent reports to the board of trustees (including financial reporting)
- Current Operating Budget / Reports
- Detail of Athletic Expenditures by Sport and Supporting Retention Analysis or NCAA reporting
- Summary of Enrollment, FTEs, Faculty (broken down) by Department
- Summary of Capital Expenditures by Year
- Organization Chart
- Summary of Existing Technology Investments
- Map of Recruitment Patterns and current and aspirational competing institutions (*requested; unable to generate*)
- Directory of key staff
- CMU 101 Retention Rates by Section
- Non-returning Student Email Addresses (*list provided included 44 names since July 2013. Survey not sent due to expected insufficient number of responses for analysis*).

APPENDIX C



## APPENDIX D

### PEABODY CAPSTONE PROJECT STUDENT INTERVIEW INSTRUMENT

INTERVIEWER:	INTERVIEWEE PSEUDONYM(s)		
DATE:	1.		
LOCATION:	2.		
CONTEXT NOTES:			
START TIME	END TIME:	DURATION:	minutes

#### Personal Background

- What year are you at CMU?
- Did you start CMU as a freshman or did you transfer to CMU?
- What is your major?
- Do you participate in any athletic activities at CMU?

#### Pre Enrollment

- What was your perception of CMU when you applied?
- What were your perceptions of CMU's social life when you applied?
- What was your perception of CMU Co-curriculars activities when you applied?
- What was your perception of CMU Athletics when you applied?
- What factors led you to select and enroll at CMU?
- Did you come to CMU with an expectation of playing on a varsity athletic team?

#### Athletes Only

- On average, how much playing time did you get in High School?
- Did you have offers to play at any other school? (If so, which one(s)?)
- When you enrolled, what were your expectations of playing time at CMU?

- Prior to enrollment, what was your perception of the coaching staff for (team)?

### **College Persistence**

- What influenced your decision to return to CMU after freshman year?
- How would you describe your college experience at CMU?
- Are you satisfied with the social environment at CMU? Why or why not?
- Have you been satisfied with your academic experience at CMU? Why or why not?
- Have you experienced challenges to completing your degree in the time you expected? If so, please describe the challenges.
- How committed are you to CMU?

### **Student Involvement**

- Do you live on campus?
- How do you spend your free time?
- How would you describe your in class participation? Has it changed since your first year?
- What has influenced your participation inside the classroom?
- How would you describe your interaction with professors outside the classroom?
- What has influenced you to interact with faculty outside the classroom?
- What academic or student support services are you aware of on campus? Have you utilized these services? If so, which ones?
- Describe the nature of your experience using on-campus support services.
- Have faculty and staff been supportive during your college experience?
- Are there student organizations on campus that relate to your interests? If so, are you involved in those organizations?
- Do you find the activities and organizations on campus to be engaging? If so, why? If not, why not?
- Would you recommend others get involved in student clubs and activities? Why or why not?

- Has this experience been positive or negative for you?
- What have you gained from your experiences on campus (benefits, leadership skills, communication skills, etc.)?

Athletes Only

- What has been the level of your playing time at CMU?
- Are you satisfied with your playing time?
- Are you satisfied with the coaching you've received at CMU? Why or why not?
- Do you participate in activities outside of athletics?

**Departure**

- Have you thought about leaving CMU?
- If so, why?
- If not, what would make consider leaving CMU?
- Have you had teammates or friends that left?
- If so, why do you believe they left?
- Is there anything you would like to see CMU do differently to better serve students?
- Is there anything else that you would like to add to help me understand your experience here at CMU?

**PEABODY CAPSTONE PROJECT**  
FACULTY AND STAFF INTERVIEW INSTRUMENT

INTERVIEWER:	INTERVIEWEE PSEUDONYM(s)		
DATE:	1.		
LOCATION:	2.		
CONTEXT NOTES:			
START TIME	END TIME:	DURATION:	minutes

**Personal Background**

- What is your role at CMU?
- How long have you been at CMU?
- Why did you choose to work at CMU?
- How does your role relate to students?

**Enrollment**

- How would you describe the students CMU seeks to attract?
- How would you describe the evolution of the student body over the last few years?
- In your opinion, what makes students choose CMU?

Athlete Centric

- A large percentage of students are involved in athletics in particular. Why do you believe that is the case?
- Do you feel student athlete expectations are any different than other students? If so, how?

**College Persistence**

- What is the role of the university in providing support to students to ensure college completion?
- What support mechanisms does CMU have in place to support student persistence? (academic support, assimilation, early identification and intervention strategies)
- How would you describe the level of academic preparedness of incoming students?
- What do you perceive to be CMU's strengths from the student's perspective?

- In your opinion, how committed are students to CMU?
- What challenges do you believe CMU students face?
- What expectations do you believe CMU students have when they arrive on campus?
- Do you believe students come to CMU looking for a traditional four-year college experience?

#### Athletes Centric

- How do you feel student athletes respond to attending CMU?
- How do you feel student athletes relate to other students?

#### **Student Involvement**

- How would you describe student involvement at CMU?
- If a faculty member, how often do students participate in class?
- How would you describe your interaction with students outside the classroom?
- What benefits have you observed of student involvement?
- Why do you believe some students get involved and others do not?
- What role do you play in any co-curricular activities?
- Are you satisfied with the level of student involvement at CMU?

#### Athletes Centric

- How do athletes integrate into the university?

#### **College Departure**

- When students leave CMU, what do you perceive to be the driving factors?
- What do you believe CMU can or should do to increase student persistence and graduation rates?
- Is there anything you would like to see CMU change to better serve and retain students?
- Is there anything I didn't ask that you would like to add?

## APPENDIX D

### Consent for Participation in Interview Research

I volunteer to participate in a research project conducted by Colin Coyne and Alexis Stokes, doctoral candidates from Vanderbilt University . I understand that the project is designed to gather information 1. My participation in this project is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty. If I decline to participate or withdraw from the study, no one on my campus will be told.

2. I understand that most interviewees in will find the discussion interesting and thought-provoking. If, however, I feel uncomfortable in any way during the interview session, I have the right to decline to answer any question or to end the interview.

3. Participation involves being interviewed by researchers from Vanderbilt University. The interview will last approximately 30-45 minutes. Notes will be written during the interview. An audio tape of the interview and subsequent dialogue will be made. If I don't want to be taped, I will not be able to participate in the study.

4. I understand that the researcher will not identify me by name in any reports using information obtained from this interview, and that my confidentiality as a participant in this study will remain secure. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions.

5. Faculty and administrators from my campus will neither be present at the interview nor have access to raw notes or transcripts. This precaution will prevent my individual comments from having any negative repercussions.

6. I understand that this research study has been reviewed and approved by the Institutional Review Board (IRB) for Studies Involving Human Subjects: Behavioral Sciences Committee at the Vanderbilt University. For research problems or questions regarding subjects, the Institutional Review Board may be contacted through [information of the contact person at IRB office of Central Methodist University].

7. I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.

8. I have been given a copy of this consent form.

\_\_\_\_\_ My Signature

\_\_\_\_\_ My Printed Name

For further information, please contact:

Colin Coyne, researcher, Peabody College of Education and Human Development, Vanderbilt University

\_\_\_\_\_ Date

\_\_\_\_\_ Signature of the Investigator



## APPENDIX E

An Explanatory Model of First Year Retention at Central...  
IRB #161564

### FALL 2016 SURVEY CODE BOOK:

Q1.1 The following information is provided to inform you about the research project and your participation in it. Please read this form carefully and feel free to contact us with any questions you may have about this study and the information given below. Your participation in this research study is voluntary and you are free to withdraw from this survey at any time. Purpose of the study: You are asked to complete this survey as part of a study being conducted by doctoral candidates of Education Leadership and Policy at Peabody College, Vanderbilt University. The purpose of the project is to examine perceptions related to college student experiences and how these experiences compare between certain institutions. You are being asked to participate in a research study because you have knowledge about, and experiences with, the practices and policies of your school. Procedures to be followed: If you choose to participate, you will be redirected to an online survey and asked to respond to a series of question. This survey should take about 2 minutes and asks questions about your own background, the background of your school, and your experiences. This study is anonymous and information gathered during the course of this study will be kept in the strictest professional confidence. You will receive a follow up reminder, to which you may also choose not to respond. Following the study, aggregate findings will be reported to your school, which may be useful to guide decisions affecting students. To thank you for participating and only if you choose to do so, you will be entered into a drawing to win a \$50 American Express Gift Card to use as you wish. Contact Information. If you have any questions or concerns about the research, please contact the investigators: Colin Coyne (colin.m.coyne@vanderbilt.edu) and Alexis Stokes (alexis.stokes@vanderbilt.edu). For additional information about giving consent or your rights as a participant in this study, please feel free to contact the Vanderbilt University Institutional Review Board Office at (615) 322-2918 or toll free at (866) 224-8273. Confidentiality: Your responses are confidential. If you choose to enter the drawing for the American Express Gift Card, your name will never be used in either data entry or research products that result from the study. By clicking "I agree" and completing the survey, you acknowledge that you have read, understand, and agree to the confidentiality procedures and freely and voluntarily choose to participate in the survey.

- I agree (1)
- I do not agree (0)

If I do not agree Is Selected, Then Skip To End of Survey

Q1.2 Navigating this Survey Thank you for participating in this survey. While taking the survey, you can move forward and backward by using the arrows located at the bottom of each screen. Depending on viewing area of your device, the list of responses provided in some questions may extend beyond bottom of your screen. If this is the case, the screen should automatically advance as you provide each response or you can move up and down using your device's scrolling option. You will know you've reached the end of the series when the arrows like the ones below appear on your screen. Please proceed when you are ready.

Q2.1 What is your race? Please check all that apply

- Black or African American (1)
- White (2)
- Hispanic / Latino (3)
- Asian (4)
- Pacific Islander (5)
- Middle Eastern (6)
- Native American and/or Alaskan Native (7)
- Multi-Racial (8)
- Other (9)
- Prefer not to Say (10)

Q2.2 What is your Gender?

- Male (1)
- Female (2)
- Trans or Transgender (3)
- Other (please specify) (4) \_\_\_\_\_

Q2.3 What is your current age?

- 17 or younger (1)
- 18 (2)
- 19 (3)
- 20 (4)
- 21 (6)
- 22 (7)
- 23 (8)
- 24 (9)
- 25 or Older (10)

Q2.4 Are you currently married?

- Yes (1)
- No (0)

Q2.5 Are you a US citizen?

- Yes (1)
- No (0)

Q2.6 What is your current enrollment status?

- Full Time Student (1)
- Part Time Student (2)
- Not Currently Taking Classes (3)

Q2.7 What was your high school grade point average (based on a 4.0 scale)?

- 4.0 or above (1)
- 3.75 to 3.99 (2)
- 3.50 to 3.74 (3)
- 3.25 to 3.49 (4)
- 3.0 to 3.24 (5)
- 2.75 to 2.99 (6)
- 2.50 to 2.74 (7)
- 2.25 to 2.49 (8)
- 2.0 to 2.24 (9)
- 1.75 to 1.99 (10)
- 1.50 to 1.74 (11)
- Below 1.50 (12)

Q2.8 What is your present grade point average (based on a 4.0 scale)?

- 4.0 or above (1)
- 3.75 to 3.99 (2)
- 3.50 to 3.74 (3)
- 3.25 to 3.49 (4)
- 3.0 to 3.24 (5)
- 2.75 to 2.99 (6)
- 2.50 to 2.74 (7)
- 2.25 to 2.49 (8)
- 2.0 to 2.24 (9)
- 1.75 to 1.99 (10)
- 1.50 to 1.74 (11)
- Below 1.50 (12)

Q2.9 How many semesters have you completed at this institution, not including one-month special terms such as a January or May term?

- 0 (0)
- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)
- 8 (8)

Q2.10 Did you attend college before enrolling in this institution?

- Yes, but only while I attended high school (1)
- Yes, other (2)
- No (0)

Q2.11 Where do you currently reside?

- On campus in a residence hall (1)
- Fraternity or sorority house / residence hall (2)
- Other on campus housing (3)
- Off campus with family (4)
- Off Campus without family (5)

Q2.12 In which state is your school located?

- Alabama (1)
- Alaska (2)
- Arizona (3)
- Arkansas (4)
- California (5)
- Colorado (6)
- Connecticut (7)
- Delaware (8)
- District of Columbia (9)
- Florida (10)
- Georgia (11)
- Hawaii (12)
- Idaho (13)
- Illinois (14)
- Indiana (15)
- Iowa (16)
- Kansas (17)
- Kentucky (18)
- Louisiana (19)
- Maine (20)
- Maryland (21)
- Massachusetts (22)
- Michigan (23)
- Minnesota (24)
- Mississippi (25)
- Missouri (26)
- Montana (27)
- Nebraska (28)
- Nevada (29)
- New Hampshire (30)
- New Jersey (31)
- New Mexico (32)
- New York (33)
- North Carolina (34)
- North Dakota (35)
- Ohio (36)
- Oklahoma (37)
- Oregon (38)
- Pennsylvania (39)
- Puerto Rico (40)
- Rhode Island (41)
- South Carolina (42)
- South Dakota (43)
- Tennessee (44)

- Texas (45)
- Utah (46)
- Vermont (47)
- Virginia (48)
- Washington (49)
- West Virginia (50)
- Wisconsin (51)
- Wyoming (52)
- I do not reside in the United States (53)

Q2.13 How many miles is your university from your permanent home?

- 5 or fewer (1)
- 6 to 10 (2)
- 11 to 50 (3)
- 51 to 100 (4)
- 101 to 500 (5)
- Over 500 (6)

Q2.14 Was this University your:

- First Choice? (1)
- Second Choice? (2)
- Third Choice? (3)
- Fourth Choice or More? (4)

Q2.15 Since entering your college or university, have you taken a course or seminar specifically designed to help first-year students adjust to college (e.g. freshman seminar, student success program, etc.)?

- Yes (1)
- No (0)

Q2.16 Please identify your religious preference, that of your mother and that of your father. If your parent is deceased, please indicate his or her last affiliation.

	Yourself (3)	Mother (2)	Father (1)
Baptist (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Buddhist (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eastern Orthodox (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Episcopal (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hindu (5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Islam (12)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jewish (13)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LDS Mormon (14)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lutheran (15)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
United Methodist (16)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Methodist (6)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Presbyterian (7)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quaker (8)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Roman Catholic (9)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seventh Day Adventist (10)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
United Church of Christ (11)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Christian (17)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Religion (18)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None (19)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q2.17 Do you consider yourself to be a "born again" Christian?

- Yes (1)  
 No (0)

Q2.18 Are one or both of your parents a member of the clergy?

- Yes (1)  
 No (0)

Q2.19 What is your best estimate of your parent's total income last year? (Consider from all sources before taxes.)

- Less than \$6,000 (1)
- \$6,000 - \$9,999 (2)
- \$10,000 - \$19,999 (3)
- \$20,000 - \$29,999 (4)
- \$30,000 - \$39,999 (5)
- \$40,000 - \$49,999 (6)
- \$50,000 - \$59,999 (7)
- \$60,000 - \$69,999 (8)
- \$70,000 - \$79,999 (9)
- \$80,000 - \$89,999 (10)
- \$90,000 - \$99,999 (11)
- \$100,000 - \$149,999 (12)
- \$150,000 - \$199,999 (13)
- 200,000 or more (14)

Q2.20 Please identify your parents' highest level of education.

	Father (1)	Mother (2)
Grammar school or less (1)	<input type="checkbox"/>	<input type="checkbox"/>
Middle School (20)	<input type="checkbox"/>	<input type="checkbox"/>
Some High School (21)	<input type="checkbox"/>	<input type="checkbox"/>
High School Graduate (22)	<input type="checkbox"/>	<input type="checkbox"/>
Postsecondary school other than college (23)	<input type="checkbox"/>	<input type="checkbox"/>
Some college (2)	<input type="checkbox"/>	<input type="checkbox"/>
College degree - AA (24)	<input type="checkbox"/>	<input type="checkbox"/>
College degree - Bachelors (3)	<input type="checkbox"/>	<input type="checkbox"/>
Some graduate school (4)	<input type="checkbox"/>	<input type="checkbox"/>
Graduate degree (5)	<input type="checkbox"/>	<input type="checkbox"/>
Unsure (12)	<input type="checkbox"/>	<input type="checkbox"/>



Q2.21 What percentage of your FIRST YEAR's education expense (Room, Board, Tuition and Fees) is/was met by the following sources: (Please note that the total must add up to 100%.)

- Parents, other relatives or friends (1)
- Spouse (2)
- Cash or Savings (3)
- Pell Grant (4)
- Supplemental Educational Opportunity Grant (5)
- State Scholarship or Grant (6)
- College Work Study Grant (7)
- College Grant / Scholarship (other than above) (8)
- Other Private Grant (9)
- Other Government Aid (ROTC, BIA, GI/Military Benefits, etc.) (10)
- Stafford Loan (GSL) (11)
- Perkins Loan (12)
- Other Loan (13)
- College Loan (14)
- Other than above (15)

Q2.22 What percentage of your MOST RECENT YEAR'S education expense (Room, Board, Tuition and Fees) is/was met by the following sources: (Please note that the total must add up to 100%.)

- Parents, other relatives or friends (1)
- Spouse (2)
- Savings (3)
- Pell Grant (4)
- Supplemental Educational Opportunity Grant (5)
- State Scholarship or Grant (6)
- College Work Study Grant (7)
- College Grant / Scholarship (other than above) (8)
- Other Private Grant (9)
- Other Government Aid (ROTC, BIA, GI/Military Benefits, etc.) (10)
- Stafford Loan (GSL) (11)
- Perkins Loan (12)
- Other Loan (13)
- College Loan (14)
- Other than above (15)

Q2.23 Do you have any concern about your ability to finance your college education?

- None (I am confident that I will have sufficient funds) (0)
- Some (but I probably will have enough funds) (1)
- Major (not sure I will have enough funds to complete college) (2)



Q2.24 Do you participate in an extracurricular activity at your institution? (If yes, please specify.)

- Yes (1) \_\_\_\_\_  
 No (0)

Q2.25 Do you participate in inter-collegiate activities as a student athlete at your school?

- Yes (1)  
 No (0)

Answer If Yes Is Selected

Q2.26 Please indicate the sport(s) in which you participate.

- Baseball (1)  
 Men's Basketball (2)  
 Women's Basketball (3)  
 Cheerleading (4)  
 Men's Cross Country (5)  
 Women's Cross Country (6)  
 Football (7)  
 Men's Golf (8)  
 Women's Golf (9)  
 Men's Soccer (10)  
 Women's Soccer (11)  
 Softball (12)  
 Men's Tennis (13)  
 Women's Tennis (14)  
 Men's Track (15)  
 Women's Track (16)  
 Volleyball (17)  
 Other (18) \_\_\_\_\_

Answer If Yes Is Selected

Q2.27 To the best of your recollection, what has been your team's winning percentage during the course of your participation? (Number of Wins / Total Games Played)

\_\_\_\_\_ Winning Percentage (1)

Answer If Yes Is Selected

Q2.28 Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Agree (1)	Somewhat Agree (2)	Somewhat Disagree (3)	Strongly Disagree (4)
Participating in intercollegiate athletics at this institution has been a rewarding experience. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participation in intercollegiate athletics was a major factor in my decision to attend this school. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taking into account the skills and abilities of my teammates, I am satisfied with the amount of playing time I receive. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relative to my expectations when I chose to attend this school as an athlete, I am satisfied with the amount of playing time I receive. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The size of the team roster is appropriate to the athletic activity in which I participate. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with the level and expertise of coaching I have received. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with the level of academic support I receive from faculty as an athlete. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with the level of academic support I receive from my coaches and/or the athletics department. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with the quality of facilities provided for athletic competition in my sport. (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The degree of playing time I might expect was fairly and accurately conveyed to me as a recruit. (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I no longer participated in intercollegiate athletics, I would continue my education at this institution (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3.1 Following is a list of statements characterizing various aspects of the academic and social life in the residence halls. Please indicate the level of your agreement or disagreement with each statement, as it applies to your experiences. If you do not live in a campus residence hall, please skip to the next question.

	Strongly Agree (1)	Somewhat Agree (2)	Somewhat Disagree (3)	Strongly Disagree (4)
I think my residence hall floor is a good place to live. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People on my residence hall floor share the same values. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My neighbors and I want the same thing for our residence hall floor. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can recognize all of the people who live on my residence hall floor. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel at home on my residence hall floor. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
× Most of my neighbors on my residence hall floor know me. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I care about what my neighbors on my residence hall floor think about my actions. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have influence over what my residence hall floor is like. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If there is a problem on my residence hall floor, people who live there can get it solved. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is very important for me to live on my particular residence hall floor. (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People on my residence hall floor generally get along with each other (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident that my resident advisor/assistant (RA) knows my name. (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My resident advisor/assistant (RA) encourages academic success. (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My neighbors on my residence hall floor encourage academic success. (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can study in my room. (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can study in my residence hall somewhere besides my room. (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would consider talking with my resident advisor/assistant (RA) about an academic difficulty I have. (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would consider talking with my resident advisor/assistant (RA) about a social problem I have. (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would consider talking with another student (other than the RA) on my floor about an academic difficulty I have. (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I would consider talking with another student (who is not the RA) on my floor about a social problem I have. (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Residence hall programs offer opportunities to interact with faculty members. (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4.1 During the course of last school year, indicate how often you have engaged in the following activities:

	Very Often (1)	Often (2)	Occasionally (3)	Never (4)
Discussed course content with other students outside of class. (30)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been a guest in a professor's home. (35)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Met with faculty during their office hours. (36)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attended campus movies, plays, concerts, and/or recitals. (31)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Studied with other students. (32)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participated in social activities with members of the Greek system. (33)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gone out on a date with another student. (34)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drank beer, wine, or liquor. (37)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Missed a class or appointment because I overslept. (38)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discussed religion/spirituality with another student. (39)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discussed religion/spirituality with a professor. (40)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participated in an on-campus student religious club/group. (41)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participated in an off-campus student religious club/group. (42)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spent time in a prayer or meditation. (43)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attended a religious service. (44)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Read or meditated on sacred or religious writings. (45)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had lunch or dinner with faculty member. (46)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Talked with classmates out of class. (47)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Socialized with friends. (48)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Talked with faculty outside of class. (49)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Socialized with faculty. (50)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5.1 Following is a list of statement characterizing various aspects of academic and social life in general. Please indicate the level of your agreement or disagreement with each statement, as it applies to your experiences at your college or university.

	Strongly Agree (1)	Somewhat Agree (2)	Somewhat Disagree (3)	Strongly Disagree (4)
I am satisfied with my academic experience here. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with the extent of my intellectual development since enrolling here. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My interest in ideas and intellectual matters has increased since coming to this institution. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My academic experience here has had a strong positive influence on my intellectual growth and interest in ideas. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My interpersonal relationships with other students have had a positive influence on my intellectual growth and interest in ideas. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Since coming to this institution, I have developed close personal relationships with other students. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My interpersonal relationships with other students have had a positive influence on my personal growth, values, and attitudes. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It has not been difficult for me to meet and make friends with other students. (37)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The student friendships I have developed here have been personally satisfying. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Many of the students I know would be willing to listen to me and help me if I had a personal problem. (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Few students here have values and attitudes which are different from my own. (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most of the faculty members I have had contact with are genuinely outstanding or superior teachers. (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most of the faculty members I have had contact with are genuinely interested in teaching. (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most faculty members I have had contact with are genuinely interested in students. (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most student services staff (e.g. registrar, student accounts, financial aid, etc.) I have had contact with are genuinely interested in students. (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most other college/university staff (e.g. registrar, student accounts, financial aid, etc.) I have had contact with are genuinely interested in students. (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most of the faculty I have had contact with are interested in helping students grow in more than just academic areas. (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Most of the campus religious leaders (e.g. chaplain, priest, rabbi, etc.) I have had contact with are genuinely interested in students. (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have not experienced negative interactions with faculty members. (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have not experienced negative interactions with student services staff. (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have not experienced negative interactions with other college/university staff. (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, faculty members treat students with respect. (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, student services staff treat students with respect. (26)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, other college/university staff treat students with respect. (27)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In most cases, students at my university behave in ways that I feel are appropriate. (28)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, my beliefs about how college students should behave are shared by most other students at my school. (29)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, I know where to go if I need more information about a policy. (30)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The actions of the administration are consistent with the stated mission of this institution. (31)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My institution almost always does the right thing. (32)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The values of my institution are communicated clearly to the campus community. (33)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Since I have been a student, the rules of this institution appear in harmony with the values the institution espouses. (34)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Since I have been a student, the decisions made at this institution rarely conflict with the values it espouses. (35)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6.1 Following is a list of more statements characterizing various aspects of academic and social life at your college or university. Please indicate the level of your agreement or disagreement with each statement, as it applies to your experiences this academic year.

	Strongly Agree (1)	Somewhat Agree (2)	Somewhat Disagree (3)	Strongly Disagree (4)
I have observed discriminatory words, behaviors or gestures directed at minority students here. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have observed discriminatory words, behaviors or gestures directed at majority students here. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel there is a general atmosphere of prejudice among students. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have encountered racism while attending this institution. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have heard negative words about people of my own race or ethnicity while attending classes. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel there is a general atmosphere of prejudice among academic staff here. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel there is a general atmosphere of prejudice among nonacademic staff here. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have been singled out in class and treated differently than other students because of my race. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My personal relationships with other students have had a positive influence on my spiritual growth and/or religious beliefs. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attending college has caused me to seriously question my spiritual/religious beliefs and convictions. (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Since entering college, my spiritual/religious beliefs have been strengthened. (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The religious affiliation of this institution is communicated clearly to the campus community. (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Since entering college my involvement in religious activities has increased. (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Since entering college my spiritual/religious devotional practices have increased. (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Q7.1 In your opinion, are each of the following things done fairly at this institution?

	To a Very Great Extent (1)	To a Great Extent (2)	To Some Extent (3)	To a Small Extent (4)	Not at All (5)
Enforcement of academic rules (e.g. against cheating) (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enforcement of social rules (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Grading (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Awarding scholarships (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assigning housing to students (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assigning office/activity space to student groups (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q8.1 Since enrolling, indicate how often you have engaged in the following activities at your school.

	Very Often (1)	Often (2)	Occasionally (3)	Never (4)
Instructors engagement me in classroom discussion or debate of course ideas and concepts. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instructors' questions in class ask me to show how a particular course concept could be applied to an actual problem or situation. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instructors' questions in class focus on my knowledge of facts. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instructors' questions in class ask me to print out any fallacies in basic ideas, principles, or points of view presented in the course. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instructors' questions in class ask me to argue for or against a particular point of view. (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most exam questions are limited to my knowledge of facts. (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Few exams require me to use course content to address a problem not presented in the course. (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most exams require me to compare or contrast dimensions of course content. (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most exams require me to compare or contrast dimensions of course content. (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Few exams require me to argue for or against a particular point of view and defend my argument. (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Course papers or research projects require me to argue for or against a particular point of view and defend my argument. (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Course papers require me to propose a plan for a research project or experiment. (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q9.1 For each of the questions below, please use the following satisfaction categories when formulating your responses. When compared to how satisfied I thought I would be when I decided to attend this institution, my satisfaction is now:

	Much Better than I Thought (1)	Better than I Thought (2)	About What I Thought it Would Be (3)	Worse than I Thought (4)	Much Worse than I Thought (5)
The day-to-day personal relations I would have with other students is... (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My social life is... (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The degree to which other students would share my views about life is... (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The opportunity for athletic, recreational, and outside activities is... (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall the degree to which I feel that I fit into the social environment here is... (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The quality of the faculty I would have for my courses is... (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The number of students in my classes is... (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The quality of courses in the fields that I want is... (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The opportunities for religious/spiritual development is... (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, how faculty treat students... (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, how student services staff (e.g. dean of student's office, student activities, housing, etc.) treat students... (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, how other staff (e.g. registrar, student accounts, financial aid) treat students is... (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10.1 Before you finish, are there any other thoughts you would like to share about your institution?

Q11.1 As a small way of saying thank you for your time and insight, we would like to enter your name in a drawing for a \$100 American Express Gift Card. The drawing will be held upon conclusion of this study. Please enter me in the drawing for a \$100 American Express Gift Card

- Yes (1)
- No (0)

Answer If As a small way of saying thank you for your time and insights, we would like to enter your name in a drawing for one of two \$50 American Express Gift Cards. These will be awarded upon conclusion of... Yes Is Selected

Q11.2 If you would like to be entered into our drawing, please include your name and email address below. Your information will not be shared with anyone or used for any other purpose. Your name and email address will not be associated with your responses.

Name (1)

Email: (8)

Q12.1 Thank you for participating in our research; your survey is now complete. If you would like to revise any answers, please feel free to do so at this time by clicking on the backward arrow. To exit the survey, please click on the forward arrow.

## APPENDIX F



Vanderbilt University

Institutional Review Board

504 Oxford House Nashville, Tennessee 37232-4315  
(615) 322-2918 Fax: (615) 343-2648  
www.mc.vanderbilt.edu/irb

September 28, 2016

Colin Coyne, Masters in Management  
Leadership Policy Organization

**RE: IRB# 161564 "An Explanatory Model of First Year Retention at Central Methodist University"**

Dear Colin Coyne, Masters in Management:

A designee of the Institutional Review Board reviewed the Request for Exemption application identified above. It was determined the study poses minimal risk to participants. This study meets 45 CFR 46.101 (b) category (2) and (4) for Exempt Review.

Any changes to this proposal that may alter its exempt status should be presented to the IRB for approval prior to implementation of the changes. In accordance with IRB Policy III.C, amendments will be accepted up to one year from the date of approval. If such changes are requested beyond this time frame, submission of a new proposal is required.

**Please note**, the federal regulations do not require updates to key study personnel for exempt research. As such, effective **October 15, 2012**, the Vanderbilt Human Research Protection Program will no longer ask for OR require administrative amendments to update KSP for those studies that qualify for an exemption under any of the categories for 45 CFR 46.101(b) (1-6).

**DATE OF IRB APPROVAL: September 28, 2016**

Sincerely,

A handwritten signature in black ink, appearing to read 'James G. Arrington'.

James G. Arrington, BA, CIP, Regulatory Compliance Analyst IV  
Behavioral Sciences Committee

JGA/jga

**Electronic Signature:** James G Arrington/VUMC/Vanderbilt : (DA940DE3F527973C92620ED132FBA34D)

**Signed On:** 09/28/2016 10:43:15 AM CDT



COYNECM01302017170506

PI: Coyne, Colin

An Explanatory Model of First Year Retention at Central Methodist University

IRB #161564

Last updated: 1/30/2017

## Submission Details

<b>Study Title</b>	An Explanatory Model of First Year Retention at Central Methodist University
<b>Type</b>	AMENDMENT
<b>Status</b>	SUBMITTED
<b>Principal Investigator</b>	COYNECM
<b>Study Coordinator</b>	BRAXTOJM
<b>IRB Number</b>	161564
<b>Description</b>	Pursuant to Braxton, Doyle, et al.(2014), student persistence is sensitive to subsequent institutional commitment. In their original research, Braxton, Doyle followed up their fall survey with a second instrument administered during the spring semester. Given the integral role of subsequent institutional commitment on our research question, we seek to isolate six questions from their Spring Collegiate Experiences survey that address this area specifically. The survey will take approximately two minutes to complete and will be administered in the same manner as previously (i.e.: via anonymous email link).

## Amendment Information

<b>Amendment Number</b>	1
<b>Amendment Date</b>	1/30/2017

## Signature History

<b>Principal Investigator</b>	Signed by <b>Coyne, Colin M</b> on 1/30/2017 at 5:41pm
<b>Faculty Advisor</b>	Signed by <b>Braxton, John M</b> on 1/30/2017 at 6:38pm



VANDERBILT UNIVERSITY

Institutional Review Board

Date of Approval: 2/8/2017

1 / 3

IRB Chair/Designee Signature: Erin L Hutchins/VUMC/Vanderbilt : (806F9C80B5EFE3CF281478F3A1615582)



[High Retention Institution]

INSTITUTIONAL REVIEW BOARD

### Project Approval Form

Identification and Certification of Research Projects Involving Human Subjects

The Institutional Review Board (IRB) must complete this form for all applications for research and training grants, program projects and center grants, demonstration grants, fellowships, traineeships, awards, and other proposals which might involve the use of human research subjects independent of source of funding.

This form does not apply to applications for grants limited to the support of construction, alterations and renovations, or research resources.

**PRINCIPAL INVESTIGATOR:** Colin Coyne [redacted]

**PROJECT TITLE:** [redacted] Student Experiences Survey 2016

**CHECK ALL THAT APPLY:**

- This is a training grant. The Institutional Review Board (IRB) must review each research project involving human subjects proposed by trainees separately.
- This application includes research involving human subjects.
- The IRB has reviewed and approved this application on 10/27/16 in accordance with [redacted] University's assurance approved by the United States Public Health Service. The project will be subject to annual continuing review as provided in that assurance.
  
- This project received expedited review.
- This project received full board review.
- This application may include research involving human subjects. Review is pending by the IRB as provided by Samford's assurance. Completion of review will be certified by issuance of another APPROVAL FORM as soon as possible.
- Exemption from subject informed consent based on number(s): 1 2 3 4 5 6

10/27/16

Date

  
IRB Committee Member

EXMT- O-16-F-1

IRB Application #

## APPENDIX G

An Explanatory Model of First Year Retention at Central...  
IRB #161564  
AMENDMENT 1

### SPRING 2017 SURVEY CODE BOOK:

Q1.1 The following information is provided to inform you about the research project and your participation in it. Please read this form carefully and feel free to contact us with any questions you may have about this study and the information given below. Your participation in this research study is voluntary and you are free to withdraw from this survey at any time. Purpose of the study: You are asked to complete this survey as part of a study being conducted by doctoral candidates of Education Leadership and Policy at Peabody College, Vanderbilt University. The purpose of the project is to examine perceptions related to college student experiences and how these experiences compare between certain institutions. You are being asked to participate in a research study because you have knowledge about, and experiences with, the practices and policies of your school. Procedures to be followed: If you choose to participate, you will be redirected to an online survey and asked to respond to a series of question. This survey should take about 2 minutes and asks questions about your own background, the background of your school, and your experiences. This study is anonymous and information gathered during the course of this study will be kept in the strictest professional confidence. You will receive a follow up reminder, to which you may also choose not to respond. Following the study, aggregate findings will be reported to your school, which may be useful to guide decisions affecting students. To thank you for participating and only if you choose to do so, you will be entered into a drawing to win a \$50 American Express Gift Card to use as you wish. Contact Information. If you have any questions or concerns about the research, please contact the investigators: Colin Coyne (colin.m.coyne@vanderbilt.edu) and Alexis Stokes (alexis.stokes@vanderbilt.edu). For additional information about giving consent or your rights as a participant in this study, please feel free to contact the Vanderbilt University Institutional Review Board Office at (615) 322-2918 or toll free at (866) 224-8273. Confidentiality: Your responses are confidential. If you choose to enter the drawing for the American Express Gift Card, your name will never be used in either data entry or research products that result from the study. By clicking "I agree" and completing the survey, you acknowledge that you have read, understand, and agree to the confidentiality procedures and freely and voluntarily choose to participate in the survey.

- I agree (1)
- I do not agree (0)

If I do not agree Is Selected, Then Skip To End of Survey

Q1.2 Navigating this Survey Thank you for participating in this survey. While taking the survey, you can move forward and backward by using the arrows located at the bottom of each screen. Depending on viewing area of your device, the list of responses provided in some questions may extend beyond bottom of your screen. If this is the case, the screen should automatically advance as you provide each response or you can move up and down using your device's scrolling option. You will know you've reached the end of the series when the arrows like the ones below appear on your screen. Please proceed when you are ready.



Q2.1 What is your race? Please check all that apply

- Black or African American (1)
- White (2)
- Hispanic / Latino (3)
- Asian (4)
- Pacific Islander (5)
- Middle Eastern (6)
- Native American and/or Alaskan Native (7)
- Multi-Racial (8)
- Other (9)
- Prefer not to Say (10)

Q2.2 What is your Gender?

- Male (1)
- Female (2)
- Trans or Transgender (3)
- Other (please specify) (4) \_\_\_\_\_

Q2.3 What is your current age?

- 17 or younger (1)
- 18 (2)
- 19 (3)
- 20 (4)
- 21 (6)
- 22 (7)
- 23 (8)
- 24 (9)
- 25 or Older (10)

Q2.5 Are you a US citizen?

- Yes (1)
- No (0)

Q2.6 What is your current enrollment status?

- Full Time Student (1)
- Part Time Student (2)
- Not Currently Taking Classes (3)

Q2.9 How many semesters have you completed at this institution, not including one-month special terms such as a January or May term?

- 0 (0)
- 1 (1)
- 2 (2)
- More than 2 (32)

Q2.10 Did you attend college before enrolling in this institution?

- Yes, but only while I attended high school (1)
- Yes, other (2)
- No (0)

Q2.11 Where do you currently reside?

- On campus in a residence hall (1)
- Fraternity or sorority house / residence hall (2)
- Other on campus housing (3)
- Off campus with family (4)
- Off Campus without family (5)

Q2.14 Was this University your:

- First Choice? (1)
- Second Choice? (2)
- Third Choice? (3)
- Fourth Choice or More? (4)

Q40 What do you think you will be doing in Fall 2017?

- Attending CMU (1)
- Attending another college or university (2)
- Not attending any college or university (3)
- Not attending any college or university because I will have graduated from CMU (4)

Q2.24 Do you participate in an extracurricular activity at your institution? (If yes, please specify.)

- Yes (1) \_\_\_\_\_
- No (0)

Q2.25 Do you participate in inter-collegiate activities as a student athlete at your school?

- Yes (1)
- No (0)

Display This Question:  
If Yes Is Selected

Q2.26 Please indicate the sport(s) in which you participate.

- Baseball (1)
- Men's Basketball (2)
- Women's Basketball (3)
- Cheerleading (4)
- Men's Cross Country (5)
- Women's Cross Country (6)
- Football (7)
- Men's Golf (8)
- Women's Golf (9)
- Men's Soccer (10)
- Women's Soccer (11)
- Softball (12)
- Men's Tennis (13)
- Women's Tennis (14)
- Men's Track (15)
- Women's Track (16)
- Volleyball (17)
- Other (18) \_\_\_\_\_

Q43 Following is a list of statements characterizing aspects of academic and social life at your college or university. Please indicate the level of your agreement or disagreement with each statement as it applies to your experience this academic year.

	Strongly Agree (1)	Somewhat Agree (2)	Somewhat Disagree (3)	Strongly Disagree (4)
It is important to me to earn a college degree. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is important to me to graduate from this college/university. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident that I made the right decision in choosing to attend this institution. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is likely that I will register here next Fall semester. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My family approves of my attending this college/university. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My family encourages me to continue attending this institution. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My family encourages me to get a college degree. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q47 Thank you for participating in our research; your survey is now complete. If you would like to revise any answers, please feel free to do so at this time by clicking on the backward arrow. To exit the survey and record your responses, please click on the forward arrow.

**APPENDIX H: Means and Standard Deviations for Variables Used in Braxton, et al.'s Testing of the Revised Theory of Student Persistence in Residential Colleges and Universities**

as revised by Coyne & Stokes: Central Methodist University

Variable Name	Central Methodist University																		
	All Responses			All Students		Athletes		Non-Athletes		Co-Curricular Students		Non Co-Curriculars		Non Athlete and Non Co-Curriculars		First Year Students		Non-First Year Students	
	Mean	Standard Deviation		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Gender	0.72	0.45		0.62	0.47	0.57	0.48	0.65	0.48	0.62	0.49	0.62	0.49	0.69	0.47	0.59	0.49	0.63	0.48
Race/Ethnicity	0.85	0.35		0.86	0.35	0.86	0.35	0.86	0.35	0.87	0.34	0.85	0.36	0.84	0.37	0.88	0.33	0.85	0.36
Parental Education Level	11.58	3.05		9.60	3.07	9.99	3.29	9.26	2.84	9.73	2.93	9.28	3.34	8.14	2.80	9.18	3.14	9.78	3.03
Parental Income	10.06	3.41		7.88	3.29	8.39	3.30	7.47	3.24	8.23	3.25	7.16	3.28	6.14	3.39	7.56	3.52	8.02	3.19
Average grades in high school	8.39	1.66		8.07	1.74	8.16	1.74	8.02	1.75	8.21	1.69	7.88	1.83	8.09	1.67	8.15	1.64	8.04	1.79
On-campus residence	0.73	0.45		0.67	0.47	0.70	0.46	0.65	0.48	0.70	0.46	0.63	0.49	0.84*	0.37	0.88	0.33	0.58	0.50
Initial institutional commitment	3.64	0.74		3.52	0.78	3.37	0.90	3.62	0.68	3.45	0.80	3.57	0.76	3.75	0.62	3.61	0.76	3.48	0.79
Ability to pay	1.69	0.64		1.84	0.64	1.86	0.64	1.83	0.64	1.87	0.66	1.78	0.59	1.76	0.62	1.83	0.64	1.85	0.64
Proactive social engagement	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Psychosocial engagement	2.18 w/ C.A. = 0.69	0.54		2.23	0.58	2.19	0.47	2.32	0.65	2.09	0.54	2.53	0.57	2.51	0.56	2.33	0.50	2.19	0.61
Communal potential	1.83 w/ C.A. = 0.83	0.52		1.80	0.51	1.69	0.45	1.90	0.53	1.76	0.47	1.88	0.57	1.73	0.48	1.69	0.49	1.85	0.51
Institutional integrity	1.57 w/ C.A. = 0.91	0.59		1.60	0.61	1.58	0.60	1.62	0.62	1.60	0.61	1.61	0.60	1.40	0.44	1.39	0.42	1.70	0.65
Commitment of the institution to student welfare	1.66 w/ C.A. = 0.89	0.53		1.65	0.53	1.59	0.50	1.71	0.55	1.64	0.63	1.67	0.52	1.39*	0.48	1.43	0.44	1.75	0.54
Social integration	1.62 w/ C.A. = 0.86	0.55		1.63	0.56	1.52	0.51	1.72	0.59	1.55	0.48	1.79	0.67	1.59	0.54	1.56	0.51	1.66	0.58
Subsequent institutional commitment	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1st Year Average Retention	66.40%	0.83		316				107-190		90-188		23-128		59-100		132-215			
Valid N Range =																			
<b>New Variables</b>																			
Faith & Psychosocial Engagement	2.33 w/ C.A. = 0.90	0.86		2.96	0.86	2.90	0.88	3.01	0.85	2.84	0.9	3.20	0.73	3.15	0.80	2.64	0.96	2.96	0.82
Athletes & Psychosocial Engagement	1.69 w/ C.A. = 0.85	0.64				1.83	0.74			1.83	0.73	1.85	0.80			1.56		1.96	
Diversity Climate	3.33 w/0 C.A. = 0.90	0.67		3.42	0.72	3.32	0.75	3.50	0.68	3.40	0.7	3.45	0.76	3.66	0.71	3.54	0.76	3.36	0.69
Faculty Engagement	2.22 w/ C.A. = 0.82	0.44		2.19	0.47	2.15	0.46	2.22	0.48	2.15	0.49	2.27	0.43	2.15	0.50	2.16	0.43	2.20	0.49

**APPENDIX I: Significant Mean Differences Within Institutions as Identified by Independent Samples T-Tests**  
Central Methodist University

Variable Name	Central Methodist University													
	All Students		Athletes		Non-Athletes		Co-Curricular Students		Non Co-Curriculars		First Year Students		Non-First Year Students	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Gender	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Race/Ethnicity														
Parental Education Level					<b>0.015</b>		<b>0.015</b>		0.015					
Parental Income														
Average grades in high school														
On-campus residence														
Initial institutional commitment														
Ability to pay			<b>.005</b>											
Proactive social engagement														
Psychosocial engagement														
Communal potential														
Institutional integrity			<b>.002</b>											
Commitment of the institution to student welfare														
Social integration														
Subsequent institutional commitment														
1st Year Average Retention														
<b>New Variables</b>														
Faith & Psychosocial Engagement														
Athletics & Psychosocial Engagement														
Diversity Climate			0.050											
Faculty Engagement														

**Bold** = Difference is favorable; non-bold = unfavorable

**APPENDIX J: Comparison of Dataset Means:**  
Fall 2016 vs. Spring 2017 Datasets

Descriptive Statistics	Spring 2017 Dataset			Fall 2016 Dataset			p value	Comment
	N	Mean	Std. Deviation	N	Mean	Std. Deviation		
First Year Status	172	0.262	0.441	316	0.317	0.466	0.205	
<b>Race (White = 1; Non White = 0)</b>	172	0.920	0.265	316	0.860	0.347	0.049*	Fewer students of color responded in Spring. Potentially problematic if students of color have higher departure rates.
Gender	172	0.568	0.497	315	0.620	0.486	0.265	Student body has aged by 0.33 years between surveys. Adjusting the mean by .33 removes any significant variation (p= .2477)
Age	172	5.090	2.185	313	4.460	2.185	0.003**	All students currently taking classes in the fall dataset; 6 students in Spring dataset are not enrolled. After controlling for those students, p = 1.000
US Citizen?	172	0.970	0.168	316	0.950	0.226	0.309	
What is your current enrollment status?	170	1.090	0.396	311	1.020	0.126	0.004**	
Did you attend college before enrolling in this institution?	171	0.680	0.772	314	0.670	0.782	0.893	
<b>Where do you currently reside?</b>	172	0.558	0.498	314	0.672	0.470	0.013*	More students living off campus in the spring semester. Potentially problematic if off campus retention rates are lower than on campus rates.
Initial institutional commitment	172	3.593	0.690	314	3.522	0.784	0.320	
Do you participate in an extracurricular activity at your institution?	170	0.750	0.436	274	0.690	0.465	0.177	
Do you participate in inter-collegiate activities as a student athlete at your school?	172	0.400	0.492	278	0.450	0.499	0.300	

\*p<.05, \*\*p<.01, \*\*\*p<.001

**APPENDIX K: Cronbach's Alpha for Spring Survey Scales:**  
*Based on CMU Only*

<i>Variable Name</i>	<i>Braxton, et al. Cronbach's Alpha</i>	<i>Study Cronbach's Alpha</i>
Subsequent Institutional Commitment	0.36	0.14
Revised Subsequent Institutional Commitment	NA	0.75



**APPENDIX L: Significant Variations in the Means within Sub-Populations:**  
 Subsequent Institutional Commitment Inputs and Stated Intent  
 Central Methodist University – Athletics, Co-Curricular Activity, Class Standing

**Questions Used for Scale Variable "Revised Subsequent Institutional Commitment"**

Comparison Set	It is important to me to earn a college degree.		It is important to me to graduate from this college/university.		I am confident that I made the right decision in choosing to attend this institution.		It is likely that I will register here next Fall semester.		My family approves of my attending this college/university.		My family encourages me to continue attending this institution.		My family encourages me to get a college degree.		Intent to Return
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	
Class Standing	Non-First Year	1.04	0.24	1.31	0.76	1.39	0.73	1.75*	1.19	1.32	1.07	0.88			
	First Year	1.21	0.20	1.20	0.66	1.21	0.66	1.17	1.21	1.20	1.18	0.91			
Co Curricular	Non-Participant	1.05	0.21	1.77***	0.73	1.74**	0.73	1.71	1.40**	1.70***	1.19*	0.80*			
	Participant	1.05	0.21	1.24***	0.66	1.35***	0.66	1.13	1.14**	1.21***	1.04*	0.93*			
Athletics	Non Athlete	1.06	0.24	1.38	0.73	1.44	0.73	1.60	1.19	1.35	1.11	0.90			
	Athlete	1.03	0.17	1.37	0.68	1.46	0.69	1.63	1.22	1.31	1.03	0.89			

Scale: 1=Strongly Agree; 4=Strongly Disagree  
 \*p<.05, \*\*p<.01, \*\*\*p<.001

Central Methodist University

**APPENDIX M: OLS Regression Results removing Social Integration with Communal Potential  
As the Dependent Variable:**

Central Methodist University – Athletics, Co-Curricular Activity, Class Standing

Variables	Central Methodist University												
	Athletics				Co-Curricular Activity				Class Standing				
	Athletes		Non Athletes		Participants		Non Participants		Non Athlete Non Participants		First Year Students		Non First Year Students
(Constant)	0.04		0.374		0.293		-0.07		-0.042		-0.093		0.34
Psychosocial Engagement	0.398**	0.379	0.202*	0.342***	0.317	0.335**	0.343	0.351*	0.352	0.277*	0.304	0.380***	0.337
Institutional Integrity	0.233	0.175	0.453***	0.173	0.131	0.550***	0.489	0.564***	0.461	0.077	0.09	0.359***	0.265
Commitment to Student Welfare	0.172	0.143	-0.002	0.222*	0.191	0.036	0.037	0.076	0.076	0.265	0.291	0.069	0.062
Faculty Engagement	0.118	0.104	0.237	0.158	0.147	0.111	0.135	0.106	0.121	0.234	0.263	0.127	0.123
Athletic Experience	0.136	0.082											
Adjusted R-Squared	0.488***		0.527***	0.487***		0.541***		0.557***		0.397***		0.543***	
N	90		93	127		56		35		62		121	

\*p<0.05, \*\*p<0.01, \*\*\*p<0.001

**APPENDIX N: Means and Standard Deviations for Variables Used in Braxton, et al.'s Testing of the Revised Theory of Student Persistence in Residential Colleges and Universities**  
*as revised by Coyne & Stokes: High Retention Institution*

Variable Name	High Retention Institution (Samford University)													
	All Students		Athletes		Non-Athletes		Co-Curricular Students		Non Co-Curriculars		First Year Students		Non-First Year Students	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Gender	0.75	0.43	0.59	0.50	0.77	0.52	0.78	0.42	0.71	0.45	0.79	0.41	0.72	0.45
Race/Ethnicity	0.85	0.43	0.77	0.42	0.86	0.35	0.88	0.32	0.79	0.41	0.87	0.34	0.85	0.36
Parental Education Level	12.18	2.78	12.03	2.76	12.20	2.78	12.46	2.50	11.37	3.35	12.64	2.67	11.56	2.99
Parental Income	10.68	3.19	10.74	3.02	10.67	3.21	10.90	3.05	9.98	3.51	10.69	3.04	10.13	3.34
Average grades in high school	8.49	1.62	8.42	1.37	8.47	1.67	8.72	1.29	8.06	2.05	8.69	1.36	8.34	1.72
On-campus residence	0.75	0.44	0.81	0.39	0.74	0.44	0.81	0.40	0.62	0.49	0.93	0.26	0.66	0.47
Initial institutional commitment	3.67	0.72	3.38	0.96	3.71	0.68	3.68	0.73	3.66	0.71	3.66	0.73	3.63	0.74
Ability to pay	1.65	0.64	1.45	0.61	1.67	0.63	1.64	0.62	1.66	0.67	1.70	0.65	1.68	0.64
Proactive social engagement	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Psychosocial engagement	2.16	0.51	2.18	0.51	2.16	0.52	2.06	0.45	2.45	0.57	2.31	0.52	2.13	0.53
Communal potential	1.85	0.52	1.85	0.59	1.84	0.52	1.79	0.50	2.04	0.56	1.85	0.51	1.84	0.52
Institutional integrity	1.56	0.58	1.56	0.58	1.56	0.59	1.54	0.56	1.64	0.65	1.41	0.52	1.63	0.61
Commitment of the institution to student welfare	1.67	0.53	1.66	0.50	1.67	0.53	1.66	0.53	1.69	0.52	1.44	0.45	1.74	0.53
Social integration	1.61	0.55	1.59	0.55	1.62	0.55	1.53	0.51	1.85	0.60	1.70	0.59	1.60	0.55
Subsequent institutional commitment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1st Year Average Retention	88.70%													
Valid N Range =	1019		80-102		584-955						159-247		626-987	
<b>New Variables</b>														
Faith & Psychosocial Engagement	2.13	0.89	2.29	0.82	2.1	0.79	2.01	0.77	2.48	0.77	2.13	0.81	2.31	0.87
Athletics & Psychosocial Engagement			1.53	0.45			1.53	0.72	1.54	0.52	1.56		1.73	
Diversity Climate	3.30	0.66	3.28	0.71	3.3	0.65	3.29	0.63	3.35	0.73	3.65	0.64	3.27	0.66
Faculty Engagement	2.23	0.43	2.28	0.42	2.22	0.43	2.19	0.43	2.34	0.41	2.25	0.35	2.22	0.46



**APPENDIX O: Significant Mean Differences Within Institutions as Identified by Independent Samples T-Tests:**  
*High Resolution Institution*

Variable Name	High Retention Institution													
	All Students		Athletes		Non-Athletes		Co-Curricular Students		Non Co-Curriculars		First Year Students		Non-First Year Students	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Gender	NA	NA	.016	NA	.016	NA	0.018	NA	0.018	NA	.026	NA	.026	NA
Race/Ethnicity	NA	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA
Parental Education Level	NA	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA
Parental Income	NA	NA	<b>0.001</b>	NA	<b>0.001</b>	NA	<b>0.001</b>	NA	<b>0.001</b>	NA	<b>.003</b>	NA	<b>.003</b>	NA
Average grades in high school	NA	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA
On-campus residence	NA	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA
Initial institutional commitment	NA	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA
Ability to pay	NA	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA
Proactive social engagement	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Psychosocial engagement	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Communal potential	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Institutional integrity	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Commitment of the institution to student welfare	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Social integration	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Subsequent institutional commitment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1st Year Average Retention	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>New Variables</b>														
Faith & Psychosocial Engagement	NA	NA	.025	NA	<b>.025</b>	NA	<b>&lt;.001</b>	NA	<b>&lt;.001</b>	NA	<b>.025</b>	NA	<b>.025</b>	NA
Athletics & Psychosocial Engagement	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diversity Climate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Faculty Engagement	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**Bold** = Difference is favorable; non-bold = unfavorable

**APPENDIX P: Tested Variables Against Social Integration as the Dependent Variable:  
High Resolution Institution**

Variables	Model 1		Model 2		Model 3		Model 4	
	Standardized Coefficients	Un-Standardized	Standardized Coefficients	Un-Standardized	Standardized Coefficients	Un-Standardized	Standardized Coefficients	Un-Standardized
(Constant)		-0.348		-0.353		-0.337		-0.284
High School GPA+	0.005	0.002	0.005	0.002	0.010	0.004	-0.001	0.000
On-Campus Residence++	0.013	0.023	0.013	0.023	0.020	0.036	-0.006	-0.011
Instinal Institutional Commitment++	-0.035	-0.027	-0.035	-0.027	-0.033	-0.025	-0.029	-0.023
Ability to Pay++	-0.004	-0.003	-0.004	-0.004	-0.003	-0.003	-0.007	-0.006
Psychosocial Engagement	0.198***	0.224	0.199***	0.225	0.190***	0.216	0.171***	0.194
Communal Potential	0.543***	0.557	0.542***	0.558	0.540***	0.555	0.542***	0.556
Institutional Integrity	0.147***	0.134	0.147***	0.134	0.150***	0.139	0.149***	0.136
Commitment to Student Welfare	-0.004	-0.004	-0.003	-0.003	-0.007	-0.006	0.031	0.031
Faculty Engagement	0.103**	0.127	0.103**	0.126	0.105**	0.129	0.084**	0.102
Athletic Status			0.000	0.001	0.001	0.002		
Co-Curricular Participation					-0.032	-0.044		
First Year Class Status							0.111***	0.136
Adjusted R-Squared	0.604***		0.604***		0.607***		0.614***	
N	550		549		545		550	

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

++ Bivariate analysis on numeric variable indicates significant correlation with Social Integration at the .01 Level

+ Bivariate analysis on numeric variable indicates significant correlation with Social Integration at the .05 Level

**APPENDIX Q: OLS Regression Results removing Social Integration with Communal Potential  
As the Dependent Variable:**

High Resolution Institution – Athletics, Co-Curricular Activity, Class Standing

Variables	HRI		Non Athletes		Athletes		Non Athletes		Participants		Non Participants		Non Athlete/Non Participants		First Year Students		Non First Year Students		
	Standardized	Un-Standardized	Standardized	Un-Standardized	Standardized	Un-Standardized	Standardized	Un-Standardized	Standardized	Un-Standardized	Standardized	Un-Standardized	Standardized	Un-Standardized	Standardized	Un-Standardized	Standardized	Un-Standardized	
(Constant)	0.248		-0.825		0.373		0.292		0.235		0.531		0.090		0.289		0.090		0.289
Psychosocial Engagement	0.406***	0.448	0.598***	0.756	0.378***	0.408	0.399***	0.455	0.319**	0.346	0.290**	0.346	0.283***	0.297	0.412***	0.449	0.283***	0.297	0.412***
Institutional Integrity	0.30***	0.267	0.255	0.241	0.314***	0.276	0.273***	0.259	0.366**	0.318	0.357**	0.294	0.489***	0.518	0.277***	0.229	0.489***	0.518	0.277***
Commitment to Student Welfare	0.139**	0.133	0.044	0.051	0.153**	0.143	0.152*	0.138	0.179	0.195	0.154	0.161	-0.034	-0.039	0.169**	0.157	-0.034	-0.039	0.169**
Faculty Engagement	0.003	0.003	0.148	0.200	-0.024	-0.028	-0.011	-0.013	0.041	0.052	0.013	0.016	0.126	0.187	-0.008	-0.009	0.126	0.187	-0.008
Athletic Experience			0.065	0.080															
Adjusted R-Squared	0.362***		0.556***		0.345***		0.323***		0.397***		0.289***		0.439***		0.393***		0.439***		0.393***
N	557		62		494		448		109		86		142		536		142		536

\*p<0.05, \*\*p<.01, \*\*\*p<.001

**APPENDIX R: Summary of Significant Social Integration Antecedents:**  
Central Methodist University

	Athletes		Co-Curriculars		First Years	
	Athletes	Non-Athletes	Participants	Non-Participants	First Year	Non First Year
Primary Antecedents	Institution					
	Communal Potential	Communal Potential	Communal Potential	Communal Potential	Communal Potential	Communal Potential
	Commitment to Student Welfare	Psychosocial Engagement	Psychosocial Engagement	Psychosocial Engagement	Institutional Integrity	Psychosocial Engagement
Secondary Antecedents	Psychosocial Engagement					Commitment to Student Welfare
	Institutional Integrity					
Non-Redundant Antecedents					Psychosocial Engagement	Institutional Integrity

Central Methodist University

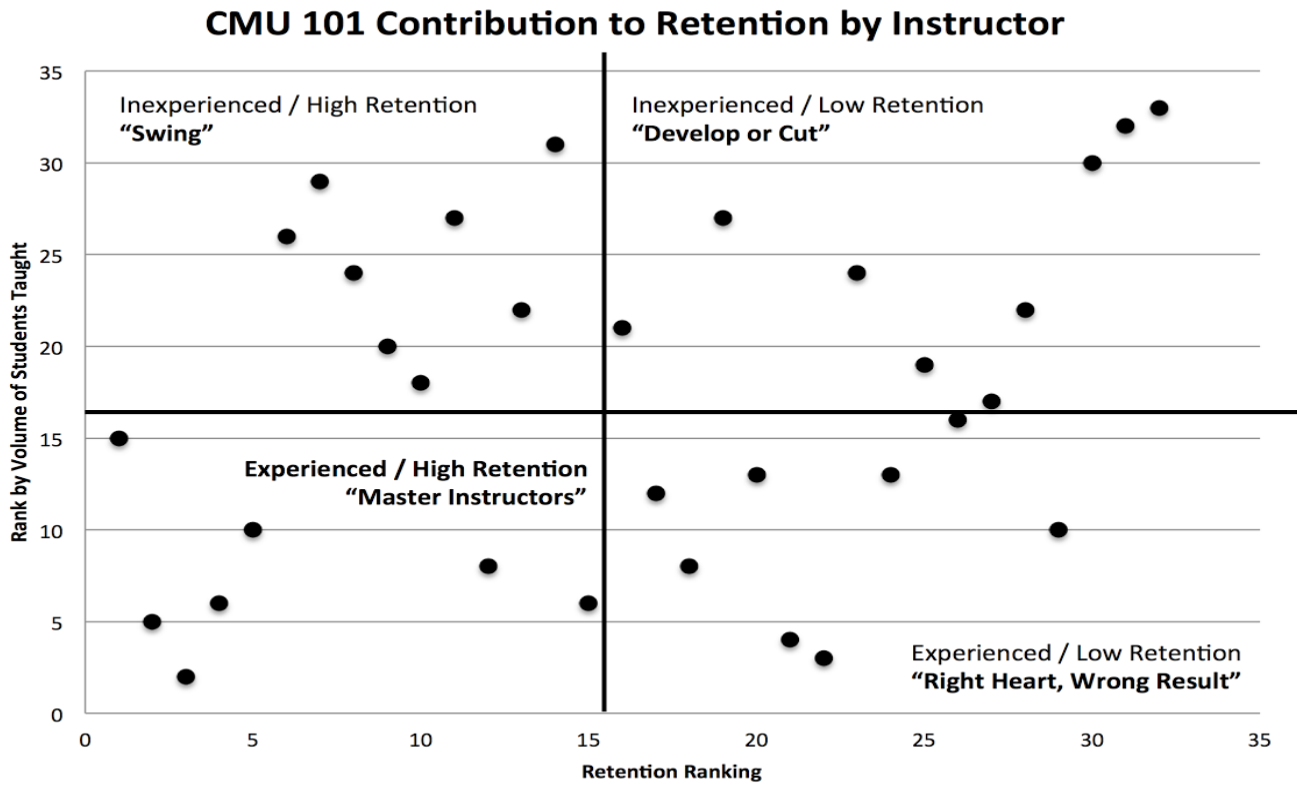


**APPENDIX S: Summary of Significant Social Integration Antecedents:**  
*High Retention Institution*

	Athletes		Co-Curriculars		First Years	
	Athletes	Non-Athletes	Participants	Non-Participants	First Year	Non First Year
<i>Primary Antecedents</i>	Institution					
	Communal Potential	Communal Potential	Communal Potential	Communal Potential	Communal Potential	Communal Potential
	Psychosocial Engagement	Athletic Experience	Psychosocial Engagement	Psychosocial Engagement	Psychosocial Engagement	Psychosocial Engagement
	Institutional Integrity	Institutional Integrity	Psychosocial Engagement		Institutional Integrity	Institutional Integrity
	Faculty Engagement	Faculty Engagement	Faculty Engagement		Faculty Engagement	Faculty Engagement
<i>Secondary Antecedents</i>	Commitment to Student Welfare	Commitment to Student Welfare	Commitment to Student Welfare		Institutional Integrity	Commitment to Student Welfare
						Psychosocial Engagement
<i>Non-Redundant</i>						



APPENDIX T









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# **An Explanatory Model of First Year Retention**

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*In fulfillment of the requirements for the degree of*  
Doctor of Education in Higher Education Leadership and Policy  
Peabody College of Education and Human Development  
Vanderbilt University

*Dr. John M. Braxton, Capstone Director*

**Colin M. Coyne**  
*ccoyne@samford.edu*

**Alexis J. Stokes**  
*alexis.j.stokes@gmail.com*