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Working And Providing Care: Increasing Student Engagement For Part-Time Community College Students

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WORKING AND PROVIDING CARE: INCREASING STUDENT ENGAGEMENT
FOR PART-TIME COMMUNITY COLLEGE STUDENTS

by

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Bachelor of Arts, Concordia College, 1992
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A Dissertation

Submitted to the Graduate Faculty

of the

University of North Dakota

in partial fulfillment of the requirements

for the degree of

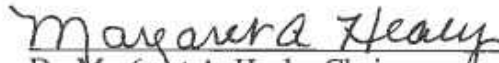
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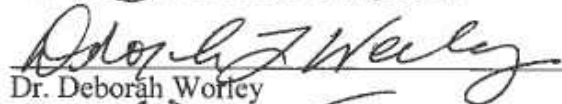
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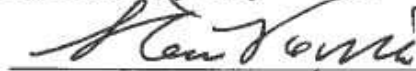
This dissertation, submitted by Daniel J. Leingang in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.




Dr. Margaret A. Healy, Chairperson



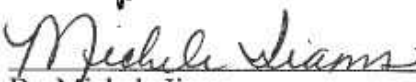
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Department Educational Leadership

Degree Doctor of Philosophy

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Daniel James Leingang
May 4, 2017

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ABSTRACT

The purpose of this study was to examine the relationship among external time obligations of work and care giving by part-time students, their participation within structured group learning experiences, and student engagement. The Structured Group Learning Experiences (SGLEs) explored within this study include community college programming activities of orientation, accelerated developmental education, first-year experience courses, student success courses, and learning communities. Student engagement was measured by the Community College Survey of Student Engagement (CCSSE) Benchmark values. The focus of this research was to explore how differing levels of time spent working for pay and in providing care for dependents impacted participation within structured group learning experiences and student engagement.

The data set used for this study was a random subset of the 2014 CCSSE Cohort with survey results from the CCSSE instrument and the CCSSE Special-Focus Items survey.

The study found significant relationships between SGLE participation and student engagement with a cumulative effect related to multiple SGLE participation and higher student engagement. The relationship between time spent working for pay and in providing care for dependents was found to have differing impacts on student engagement. The study found time spent working for pay was connected to lower student engagement scores while time spent providing care for dependents had mixed

results with some connection to higher engagement scores. This trend was also found in the participation within SGLEs of part-time students. Time spent working for pay was connected to lower participation within SGLEs for part-time students whereas time spent providing care for dependents had limited connections to higher participation within orientation, accelerated developmental education, and student success courses.

The key finding of this study showed that time spent providing care for dependents was associated with higher levels of student engagement and limited increases in SGLE participation as opposed to time spent working for pay. Community college professionals can learn from this result, and perhaps, pursue ways to support their students who are navigating these external time obligations.

Keywords: Student Engagement, Structured Group Learning Experiences, Community College Survey of Student Engagement, Work for Pay, Caregiving

CHAPTER I

INTRODUCTION

Community colleges have been presented in the literature as institutions with great capacity to increase postsecondary education access; however, this commitment to an accessible college education has its own challenges, as noted within a report sponsored by the American Association of Community Colleges (AACCC). Highlighting the challenge of providing relevant education today, the report calls for action stating, “if community colleges are to contribute powerfully to meeting the needs of 21st-century students and the 21st-century economy, education leaders must reimagine what these institutions are – and are capable of becoming” (AACCC, 2012, p.1). This challenge is further complicated by the limited research on effective programming offered by community colleges. In their analysis on this topic, Bailey and Alfonso (2005) offer four areas of improvement to address the current state of programming in community colleges:

First, the large majority of the research on program effectiveness in higher education is limited to studies of four-year colleges. Insights obtained from this research do not necessarily translate to effective practices for the part-time, working and adult population that characterizes community colleges. Second, the national data sets that allow comprehensive analysis of the experience of postsecondary students do not include data on the types of specific institutional practices and policies that colleges use to increase student success. Third, methodological problems thwart definitive conclusions about the

effectiveness of community college policies and practices. Fourth, the dissemination and discussion of research on community colleges is inadequate. Reports are difficult to obtain and usually include too little information to allow a judgment about the validity of the conclusions. (p. 2)

These issues are at the core of the motivation that drove this potential study. The potential questions related to the application of research focused on four-year college programming onto the community college environment have revealed an area in need of further study, especially as it relates to the part-time student with external time obligations.

Community College Student Demographics

Community colleges enrolled 46.7% of all students attending public postsecondary institutions during the fall of 2011 (Snyder & Dillow, 2013). The differences between students enrolled within public community and four-year colleges are noteworthy. A larger portion of the student population enrolled at two-year colleges is of age 25 or older (40.5%) as compared to those at four-year colleges (21.0%). Twenty percent of all students at four-year colleges enroll part-time but this rate is nearly sixty percent at two-year colleges. Additionally, students enrolled at two-year colleges more closely mirror the population diversity within our country, where in 1976, when the white population of the United States was 80.2%, 79.4% of the students attending two-year colleges were white in comparison to the 86.6% attending four-year colleges. Today, in a more racially diverse U.S. population where 56% of the population is white, 55.3% of two-year college students are white as compared to the 64.6% of the student population at four-year colleges. Simply put, “[m]ore so than in the universities, the community college student population tends to reflect the ethnic composition of the institution’s locale” (Cohen & Brawer, 2003, p.49).

Age

The relationship between the age of a student and their engagement within the college setting has received much attention, especially with community college settings. Generally, older undergraduates are more likely to be enrolled at part-time levels, more likely to be married, more likely to work full-time, and they are more likely to define themselves as a worker attending school instead of a student who happens to work (Choy & Premo, 1995). In fact, the “differences between backgrounds, family and job commitments, and consequent academic behavior and progress” of older community college students and those of traditional age have been noted as a reason to separate students by age (Adelman, 2005, p. xiv).

Gender

Studies related to student success and retention have a long history of classifying these outcomes across many inputs; however, gender has been and continues to be a common variable used to show differentiation. When gender is considered, students have been shown to require differing needs for collaboration within the classroom (Stump, Hilpert, Husman, Chung, & Kim, 2011; Terenzini & Pascarella, 1980a, 1980b), differing levels of engagement (Saenz, Hatch, Bukoski, Kim, Lee, & Valdez, 2011), and differing levels of achievement based on environmental factors (de Saintonge & Dunn, 2001). Gender differences have also been found in college graduation rates where females now outpace males (Buchmann & DiPrete, 2006), in transfer rates where females fall behind (Surette, 2001), and college enrollment levels where males have a more disruptive pathway through college (Ewert, 2010). However, it must be noted that while the use of gender as a demographic variable is a long held tradition, recent understandings of the complexities surrounding its definition may cloud the results of these past studies. Whether gender is used to define the biological sex of an individual, or the social

identity expressed by the individual, the use of a binary survey item may overly simplify the experiences of the individual respondent and researchers must appreciate these complexities and make considerations for these items within their research design (Wood & Eagly, 2015).

Marital Status

The marital status of a college student may indicate hidden levels of financial or familial responsibilities that are unknown through casual data collection; however, research has indicated it is an important consideration when reviewing community college students. More public community college students tend to be married as compared their colleagues at public four-year colleges (48.5% versus 39.9%) (Wei, Nevill, & Berkner, 2005). While marriage has been linked to lower female academic attainment (Anderson, 1988), more recent studies have actually shown that this trend has shifted within the past forty years (Goldin, 2006). In fact, the findings of a longitudinal study examining community college students found that marriage/cohabitation was not related to degree completion (Boswell & Passmore, 2013).

Part-Time Enrollment

Part-time student enrollments within community colleges have steadily increased over the years. In 1970, part-time students comprised 49.6% of the student population within community colleges but by 2011, this proportion grew to 60.7% (Snyder & Dillow, 2013). This higher rate of part-time enrollment is mirrored within the student populations of the institutions comprising the 2014 Community College Survey of Student Engagement (CCSSE) Cohort where 57% of their students enroll at levels less than full-time (CCSSE, 2015). These changing enrollment patterns should motivate all community college leaders to reexamine their institution's programming efforts focused on providing the necessary support of students seeking the achievement of their educational goals.

The trend of increasing part-time student enrollment patterns has been linked to a number of causes. Cohen and Brawer (2003) highlight three factors: “a decline of eighteen-year-olds as a percentage of the total population, an increase in students combining work and study, and an increase in women attending college for a variety of reasons” (p. 43). Another study supported the link to greater enrollments of older students but added two additional factors; an increase in the part-time enrollment levels of traditional aged students and the increased enrollment of minority students (O’Toole, Stratton, & Wetzel, 2003).

Completion and Retention Concerns

As a result of part-time students’ reduced time on campus, they have less access to college services established to support their work and they must overcome different barriers in order to engage with their campus staff and services. One example is students seeking financial aid; students must complete the Free Application for Student Financial Aid (FAFSA) as the first step in the process to receive financial aid in support of their educational goals. As Kantrowitz (2009) reported, the complexity of the FASFA was cited as a strong reason for non-completion; only 38% of part-time students at public 2-year colleges completed the 2007-08 form as compared to 62% of their full-time counterparts. Access to student counselors has significantly increased completion of the FASFA form, especially among students enrolled at for-profit institutions where extra emphasis is placed on their support (Kantrowitz, 2009).

Another barrier is related to the different classroom environment experienced by part-time students. One study of California community colleges found that student enrollment within classes taught by part-time faculty decreased the likelihood of associate’s degree completion; part-time students were more likely to be enrolled in these classes (Jaeger & Eagan, 2009).

An unsettling trend within postsecondary education is related to the high rate of non-completion among students (Crisp & Mina, 2012). This issue is of particular concern within community colleges where only 18.4% of part-time enrolled students complete a degree within six years (Shapiro, Dundar, Chen, Ziskin, Park, Torres, & Chiang, 2013). Suggested course sequences leading to degree completion are often established using full-time enrollment timelines but, as Crosta (2013) found, the varying enrollment patterns of community college students rarely align to these prescribed plans. Other priorities or life circumstances have presented challenges to college student completion. For instance, there has been a long-held belief that the number of hours spent by students working off-campus negatively impacts a students' ability to actively and effectively engage within their academic work (Astin, 1993). However, the impact of work on student success has been shown to be more complicated within the past twenty years. Conflicting results have been found for students enrolled at four-year and community colleges where some positive impacts have been recorded.

As college administrators address these concerns in pursuit of improved student success, additional stakeholder pressures placed on improved performance metrics often complicate the decision making process. Indeed, the increasing state accountability demands and funding changes focused on student completion as placed on public community colleges by their stakeholders have forced campus leaders to seek a better awareness of their student populations and the programming that supports these students (CCCSE, 2013).

Theoretical Background

Considering the current literature and its early focus on four-year colleges and universities, understanding the factors leading to the success of community college students requires a conceptual framework that is grounded within the study of four-year college students

and yet transferable to the examination of community and technical college students. In fact, Pascarella (2006) challenged researchers focused on the impact of college activities and their improvement of student success to follow their companions within the natural sciences to focus on the replication of findings, especially from the four-year sector to the two-year sector, in order to solidify the trustworthiness of the results. It is through this challenge that this study is framed.

Student involvement theory sets the foundation of discussions surrounding student engagement. Astin (1984) described student involvement as the “quality and quantity of the physical and psychological energy that students invest in the college experience” (p. 528). These investments of energy encompass a variety of interactions between the student and the college; however, the basic premise of the theory states that an increase in a student’s involvement within the college leads to an increase in student learning and personal development. Furthermore, Astin claims that the success of all educational policies and practices should be measured against how well they increase student involvement.

Tinto’s Student Departure Theory (1993) balances Astin’s work but adds an altered component to the environmental conditions by splitting them into ones focused on academic and social circumstances. It is through these social interactions that colleges look to define policies and practices that positively impact the student’s interactions with the college. These positive interactions lead to greater student involvement and retention.

Student involvement theory and student departure theory form the foundation for student engagement literature and it is through this lens that the survey tool used by this study was established. A 1997 study by Kuh, Pace, and Vesper connected these two theories and highlighted student behaviors leading to positive academic outcomes of which many could be influenced by college staff. This study led to the development of the National Survey of Student

Engagement (NSSE). Although much of the early literature was focused on four-year college students, this work led to the development of the Community College Survey of Student Engagement (CCSSE). The validity of the CCSSE instrument and its student engagement benchmarks has been shown to effectively predict success indicators for community college students (McClenney & Marti, 2006; Marti, 2008).

Purpose of the Study

The purpose of this study was to examine the relationship among external time obligations of work and care giving by part-time students, their participation within structured group learning experiences, and student engagement. Structured group learning experiences, as defined by CCCSE, are institutional programs connected to practices leading to greater student success and completion (Delving into data, 2013). Due to the high proportion of students enrolled at part-time levels within community colleges, understanding the factors leading to their success is critically important to institutional leaders. External obligations, especially employment, can lead to increased competition of the time available for a student to dedicate to their academic pursuits (Kulm & Cramer, 2006). Certainly, the part-time working student with other caregiving responsibilities may have greater time requirements pulling them away from their academic work. As such, this study specifically examined the relationship between participation in CCCSE defined structured group learning experiences and student engagement for the part-time student with external work and caregiving responsibilities. Using Astin's Input, Environment, Output (I-E-O) Model, Figure 1 illustrates the framework of this study.

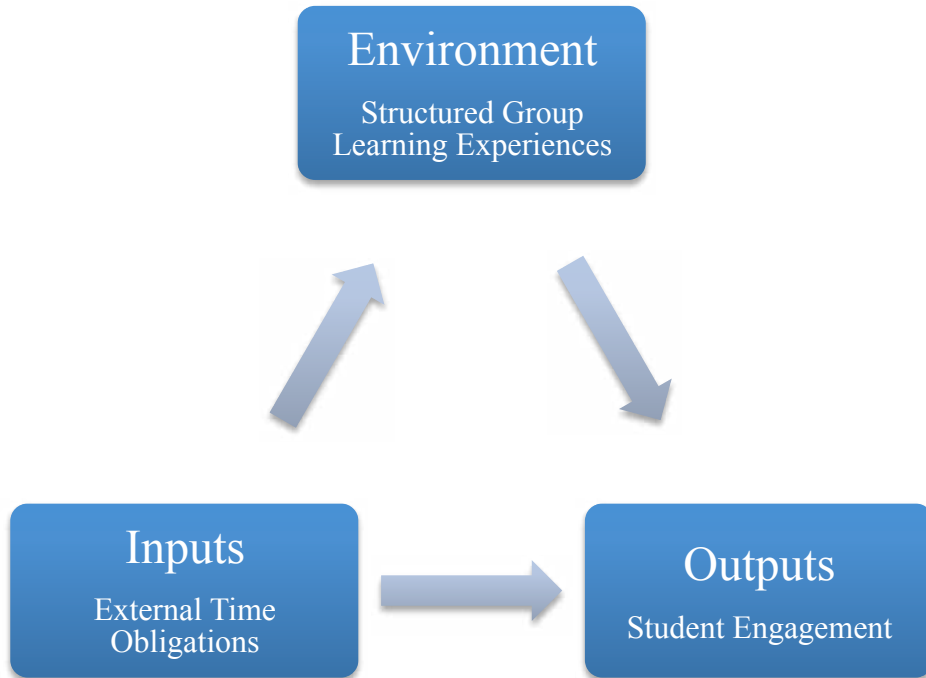


Figure 1. Framework for study.

Research Questions

The research questions were derived from the theoretical framework provided by Astin's (1993) work on student engagement with the environmental elements consisting of the CCSSE defined Structured Group Learning Experiences (SGLEs).

1. What is the relationship between participation within structured group learning experiences and student engagement?
 - a. If there is a relationship, to what extent does the cumulative effect impact student engagement?
2. What is the relationship between student engagement and students' various external time obligations?

3. To what extent do student's various external time obligations impact participation within SGLEs?
 - a. Is there an interaction effect between reported hours of work and caregiving?

Significance of the Study

This study identified the impact of SGLEs as possible interventions provided by community colleges used to enhance student engagement for part-time students with external time obligations. The results can help institutions understand the extent to which these activities impact part-time students at differentiated levels of time given to working and/or providing care for dependents. Many college functions are still modeled under assumptions of full-time student enrollment; however, part-time enrollments are common at most community colleges and they are an option “for many students who must work and/or raise families but still want to pursue a college education” (Tuttle, 2005, p. 2). Understanding how to maximize student engagement for these part-time students can inform campus decision makers in their considerations of campus programming for these high-risk populations.

Limitations of the Study

This study was limited to the 2014 CCSSE cohort from which the random sample was generated and provided by the Center for Community College Student Engagement (CCCSE). Additionally, this study was limited to self-reported student data collected from students enrolled in an on-campus community college course. Self-reported results lacked the accuracy desired for research; however, literature supports the use of vague quantifiers as contained in this survey tool since respondents are selected from a homogenous population (community college environments) and they select responses by relative comparisons instead of detailed recall (Wänke, 2002). Also, the part-time enrollment status for many students can change from

semester to semester and identification of enrollment status at the time of survey completion did not wholly represent the individual enrollment journey of the student (Crostra, 2013). Finally, the study collected information provided from respondents about their experiences and participation within programs from different community colleges where undoubtedly these programs take on different forms from one institution to the next.

Definition of Terms

The following definitions were used for this study:

Center for Community College Student Engagement (CCCSE): An organization established by the College of Education at The University of Texas focused on improving student engagement and success through research impacting community and technical colleges (CCCSE, n.d.).

Community College Survey of Student Engagement (CCSSE): A survey tool administered by CCCSE intended to inform leaders within community and technical colleges on best practices leading to improved student success (CCSSE, n.d.).

CCSSE Benchmark: Groupings from the CCSSE survey tool of conceptually related questions focused on various areas of student engagement (CCCSE, 2013).

Full-time Student: An undergraduate student enrolled in 12 or more semester or quarter credits or 24 or more contact hours a week per term (IPEDS, 2014).

Part-time Student: An undergraduate student enrolled in less than 12 semester or quarter credits or less than 24 contact hours a week per term (IPEDS, 2014).

Structured Group Learning Experiences (SGLE): A collection of five educational practices (First-Year Experience, Learning Community, Orientation, Student Success Course,

Accelerated Developmental Education) shown to be connected to higher student retention and degree completion (Delving in data, 2013).

Student Engagement: “[T]he time and energy students devote to educationally sound activities inside and outside of the classroom” (Kuh, 2003, p. 25).

Organization of Research

This study is structured into five chapters within the following manner. Chapter I served as an overview of the study. Chapter II presents a review of the relevant literature surrounding part-time students and the impact of their external time obligations on student engagement. Chapter III describes the methodology used in this study, the variables, and information related to the survey instrument used to generate the sample. Chapter IV presents the results of the tests used to explore the research questions of this study. Finally, Chapter V presents the findings as they relate to each research question along with recommendations for practice and future study.

CHAPTER II

LITERATURE REVIEW

The purpose of this chapter is to examine the literature and research relating to student engagement of community college students. To provide a foundation to this chapter, the material has been divided into the following sections: community college student demographics including part-time enrollment, Astin's I-E-O Model, external time obligations for part-time students, structure group learning experiences, and the Community College Survey of Student Engagement (CCSSE). These sections and the literature contained within provide the basis for this study.

Introduction

Community colleges have provided access to higher education for many students to whom traditional pathways were not an option; however, student completion rates leave much room for improvement (AACC, 2012; AACC, 2014a). Because of the diversity of the student populations enrolled at these institutions, especially with those students enrolled at part-time levels, the literature suggests that institutions focused on student success must seek a better understanding of the impact of their programs on students with competing demands on their time (Pascarella & Terenzini, 1979; McCormick, Geis, & Vergun, 1995; Horn, 1998; Nelson Laird & Cruce, 2009).

Traditionally, research on topics pertaining to higher education is considered through the lens of students enrolled within four-year institutions and the work related to part-time students

have been grounded within the four-year sector. As one study of this phenomenon suggests, the use of four-year college lenses to study community colleges should leave few wondering why “2-year institutions are almost invariably found lacking because they do not fit 4-year models” (Townsend, Donaldson, & Wilson, 2005, p. 133). As such, it is important to remain focused on the literature that understands this difference and attempts to fully understand the nature of community college enrollment.

The focus of this study examined student engagement of part-time students reporting time obligations given to work and caregiving responsibilities. The literature is sparse with respect to these two variables; however, “work schedules and family responsibilities prevent most adult students from attending college full-time” (Spellman, 2007, p. 72). As a consequence, it makes sense to examine how varying levels of time obligations given to these two items are related to student engagement for part-time students.

Community College Survey of Student Engagement

The Community College Survey of Student Engagement (CCSSE) originated through the efforts of the Community College Leadership Program at the University of Texas at Austin. Created in 2001, the survey tool was designed by modifying many of the student engagement components of the National Survey of Student Engagement (NSSE), used to measure student engagement within four-year colleges, into the new instrument used for community college students (Marti, 2004). The survey is designed to collect information through items focused on a wide-range of experiences as reported by community college students. The casting of such a wide net may create limitations or barriers to certain research based inquiries; however, the survey’s focus on community college experiences makes it a strong instrument for data collection used for this study.

High Impact Practices

Student and academic services, especially those that transition students to college and support their academic pursuits, have emerged as some key mediators to student success. Institutions need to be aware of the impact of their policies and programs on positive student outcomes, especially in student persistence (Pascarella & Terenzini, 1979). The Center for Community College Student Engagement (CCCSE) has evaluated educational practices at community colleges that make a positive impact on student engagement. Through their work in gathering information from millions of college students represented by a majority of public community colleges, CCCSE has developed research focused on college interventions leading to greater student success. Grounded in the work of Chickering and Gamson (1987), this focus led to the classification of thirteen promising practices from which research indicated growing student success as measured by a variety of success metrics (CCCSE, 2012). Data representing the perspectives of faculty, student, and college leaders were used to highlight practices leading to student success. They include the Survey of Entering Student Engagement (SENSE), the Community College Survey of Student Engagement (CCSSE), the Community College Faculty Survey of Student Engagement (CCFSSE), and the Community College Institutional Survey (CCIS). Successful practices, as supported by analysis of these four surveys, were classified as the promising practices as listed in Table 1.

Although evidence supporting the use of these promising educational practices in providing greater student success was highlighted through the review of the survey results, what remained unclear was the level of implementation necessary by an institution to ensure project success (CCCSE, 2012). It was understood that these practices, in their implementation at

Table 1. Promising Practices.

Activity Goal	Activity
Planning for Success	Assessment and Placement Orientation Academic Goal Setting and Planning Registration before Classes Begin
Initiating Success	Accelerated or Fast-Track Developmental Education First-Year Experience Student Success Course Learning Community
Sustaining Success	Class Attendance Alert and Intervention Experiential Learning beyond the Classroom Tutoring Supplemental Instruction

different colleges participating within each survey, most likely function at different levels across institutions. As such, CCCSE continued their research with closer examination of student participation within certain activities.

In CCCSE’s second publication on this matter, further exploration was made in connecting participation within a particular promising practice to a student’s benchmark scores on CCSSE and/or SENSE (CCCSE, 2013). When participation in one of these practices was shown to make a notable difference in student engagement, the practice was defined as a high-impact activity. All but one of the promising practices (registration before classes begin) were found to be highly impactful with respect to student engagement (CCCSE, 2013).

In CCCSE’s third and final publication, a focus was given to the implementation of promising practices. In particular, the report identified the educational practices that could lead

to the greatest impact for all students enrolled within community colleges through the creation of balanced academic and career pathways leading to student success (CCCSE, 2014). Although not central to this study, the final document connected to CCCSE's exploration of these promising practices provided a strongly researched roadmap for community college leaders to follow as they move their institutions to service of students enrolled today.

The Center for Community College Student Engagement (CCCSE) has defined five of the promising practices as Structured Group Learning Experiences (SGLE): orientation, accelerated or fast-track developmental education, first-year experience, student success course, and learning community (CCCSE, 2013). These five activities were emphasized by CCCSE for their "promising potential" to improve student retention and degree/certificate completion (Delving into data, 2013). Since retention and degree/certificate completion exist at lower rates for part-time students, these activities are the central focus of this study.

Student Involvement Theory

Alexander Astin, in response to higher education administrators' focus on student recruitment as a solution to declining enrollments within the 1970s, countered with a student development theory focused on causes for student departure. With a new focus on minimizing student dropout rates, student involvement theory was born. Astin (1975) initiated his Student Involvement Theory within a longitudinal study of over 240,000 freshmen enrolled in both 2-year and 4-year colleges. During the fall of 1968, these students were asked to provide demographic/educational information and four years later, a follow-up questionnaire was sent to a subsample of approximately 100,000 students. Data from these two collections was matched to student placement scores and degree completion information provided by the sample's institutions. Astin's multistep analysis began with an investigation of student background

information as an indicator of the likelihood of the student dropping out of college. Next, Astin analyzed environmental experiences that were connected to a student dropping out or remaining in college. Astin (1975) found that most indicators leading to lower dropout rates were ones related to student involvement and interaction with the college campus.

After nearly a decade of active research by many in the field, Astin proposed Student Involvement Theory as a way to bring “some order into the chaos of the literature” surrounding studies examining student development (Astin, 1984, p. 297). In particular, he noted four reasons why he was excited to propose student involvement theory as a new framework of describing student development. As summarized, they include:

1. The model is simple and does not require complicated, interconnected model diagrams used to show multiple interactions between variables.
2. The model had the capacity to account for the environmental impacts on student development observed by previous research.
3. The model’s structure was flexible enough to allow researchers to imbed widely diverse components from multiple theories.
4. The model was useful to researchers and college personnel, the first as a way to frame future student development studies and the second as a way to create better learning environments for their students.

Astin’s enthusiasm towards this new theory, as expressed by these four items, is further emphasized by the change it provides by focusing on the efforts of students placed onto to the learning process. Within student involvement theory, Astin emphasized the impact of institutional policies and practices on students’ time and effort towards their academics which is

critical since the theory “acknowledges that the psychological and physical time and energy of students is finite” (p. 301)

The continued work surrounding student involvement theory has advanced our understanding of the multiple ways in which individuals develop and succeed as college students (Bean & Metzner, 1985; Horn, 1998; Pascarella, Bohr, Nora, & Terenzini, 1996; Pascarella & Terenzini, 2005; Ullah & Wilson, 2007). Along with this work, Astin refined his theory by focusing on the interplay between what students bring to college, their interactions with the college, and the results of these interactions.

Astin’s I-E-O Model

American higher education has historically been called upon to contribute to the prosperity of the nation and the increasing role of community colleges set to meet this challenge is being reexamined (AACC, 2012). In particular, the 21st Century Commission on the Future of Community Colleges has challenged college leaders to reimagine their institutional priorities through a variety of ways including the shift of a focus in student access to one of student success (AACC, 2012). This recent focus on improving the function of postsecondary institutions has a precedent. During the last twenty years of the past century, higher education faced increased accountability from their stakeholders demanding evidence of student success. These demands led to a new focus on assessment of student success and learning requiring postsecondary institutions to reevaluate their core functions (Astin, 1991). With this new focus on the assessment of student learning and the factors leading to their success, Astin introduced his Input – Environment – Output (I-E-O) model.

The I-E-O model was designed to measure the impact of competing variables within the assessment of student success. Within this model, input measures are those associated with the

student at the time of their entrance into the postsecondary institution; environment measures are associated to institutional interactions with the student throughout their time at the institution; and outcome measures are related to the measurable changes of the student at the completion of their time at the institution (Astin, 1991).

The strengths of the I-E-O model lies within its three levels measuring the competing interactions of variables. Other models of assessment of student success, as described by Astin, may only take into consideration one or two of the variable groups defined through the I-E-O model. These include: outcome-only assessments, environment-outcome assessments, input-outcome assessments, and environment- or input-only assessments (Astin, 1991). Since the I-E-O model considers additional interactions between all three variable groups, it serves the current study well. According to Astin (1993), “The basic purpose of the model is to assess the impact of various environmental experiences by determining whether students grow or change differently under varying environmental conditions” (p.7). In the case of this study, consideration is given to the impact of SGLEs on the change in student engagement for part-time students with competing time obligations.

Inputs for This Study

This study focused on the experiences of part-time students enrolled at community colleges. The inputs for this study include the external time obligations reported by students completing the survey. These external time obligations include hours spent working for pay and in providing care for dependents.

Working for pay. Much of the conversation surrounding the impact of postsecondary institutional environments on the student success is influenced by traditional definitions springing from a historical view of college life. Under these long held assumptions, “students”

are of traditional age (18-23), enrolled at full-time levels, and are living on campus. These perceptions are especially problematic since they represent a small slice of the student population enrolled within community colleges today (Bailey & Alfonso, 2005). In order to better understand the student characteristics central to this study, special attention must be given to the conditions surrounding and impact of undertakings leading to increased external time obligations experienced by community college students.

The connection of employment by students to their academic outcomes is of high interest to this study, especially as it is connected to student engagement. Since there are many variables impacting student success, perhaps it is not too surprising that the literature provides a contradictory view of the influence of work on educational outcomes. Older studies present a generally negative view of student employment's impact on student success. In his work with four-year college students, Astin (1993) found a widely negative association between full-time work and most educational outcomes, except as discussed later, when the job location was considered. Tinto (1993) found that work limited the ability of a student to interact with faculty and students leading to negative impacts on academic performance. However, perhaps as an early indication to the extremely complex nature of the impact of work on academic activities, Tinto found that when work was connected to a student's career plan, it actually had a strong positive impact on retention. Another study of undergraduates from mostly four-year colleges found that work limited campus involvement; however, it did not negatively impact student learning (Lundberg, 2004). Later, in a longitudinal study looking for the impact of full- or part-time work, on or off campus negatively impacted cognitive development of four-year students, researchers found mixed results (Pascarella, Edison, Nora, Hagedorn, & Terenzini, 1998). And finally, in a recent study of the literature surrounding student employment, the authors reported

“considerable inconsistency and even contradiction in the empirical literature regarding the impact of work on the college experience” (Riggert, Boyle, Petrosko, Ash, & Rude-Parkins, 2006, p. 88). There has been a transition from early views of work providing a negative impact on educational outcomes to a realization that the impact of work is more complex. George Kuh perhaps illustrated this issue the best when he declared, “that some of the shibboleths and conclusions about the negative effects of work on student achievement from earlier studies may no longer hold” (Kuh, 2009, p. 694). If work, as a competing activity of the limited time resources available to college students for use towards their academic studies, may not be a negative influence then what about time given to care?

A student’s grade-point-average (GPA) is an often used, quantifiable measure of student success within post-secondary research. While there is most definitely a measure of variance between reported GPAs of students across courses and campuses, one recent study found that the use of overall, self-reported GPA reliably measures student ability (Bacon & Bean, 2006). The literature exploring the relationship between hours worked and GPA can be best described as contradictory. A study by the National Center for Education Statistics (1994) found that students working more than sixteen hours a week had a lower GPA than those working at lower levels. An earlier longitudinal study, one that tracked high school students into college, found no statistical relationship between hours worked at any level and GPA except for the subgroup consisting of two-year college students where the effect was very small (Ehrenberg & Sherman, 1987). In addition to these contradicting results, further studies have simply found no relationship between hours of work and GPA (Furr & Elling, 2000).

From a student persistence or retention perspective, student work at varying levels has been shown to provide different outcomes. Providing a negative view of the impact of work,

literature has found a negative direct effect on bachelor's degree attainment for both full- and part-time enrolled students if the work was off campus (Astin, 1975; Ehrenberg & Sherman, 1987). However, a particularly interesting aspect of Astin's findings was related to the location of the student's job. If the student worked at part-time levels and the work was completed on campus, then there was a positive effect towards the student's degree completion and the net effect was found to be positive towards bachelor's degree completion.

A study of community college students found that working at full-time levels was a strong factor creating a barrier to degree completion, especially if the student was also enrolled at part-time levels (Coley, 2000; Spellman, 2007). In contrast to these results, a recent study found no relationship between hours worked and degree completion for community college students (Boswell & Passmore, 2013).

Overall, the impact of work on academic success has been shown to be quite complex in light of the mixed results found within the literature, both for students at four-year and community colleges. This should be an important consideration for any study looking to determine the impact of this activity and researchers with this awareness should seek to gather additional demographic information about the type and location of student work.

Time given to caregiving. The literature related to care giving responsibilities is noticeably small and not surprisingly, these studies seem to be limited to adult learners. An early study found that loved ones do provide a unique motivation towards student retention (Cabrera, Nora, & Castaneda, 1993). There might be time spent away from college based on these relationships but they can provide a positive influence on the student learner. Around the same time, Tinto (1993) described the difficulties experienced by students with family obligations. He

found these responsibilities were a barrier to their ability to interact with faculty and students leading to a lower social and academic involvement at the college.

In a review of part-time enrollment patterns during the 1989-90 academic year, one report found that 46.2% of all part-time students were married as compared to only 14.0% of their full-time counterparts (McCormick, Geis, & Vergun, 1995). One might expect that marital status indicates care giving responsibilities for dependents, this relationship does not provide enough information as at least one study found no relationship between degree completion and marital or cohabitation status (Boswell & Passmore, 2013). If, on the other hand, community college students report dependent relationships, they were found to be at risk of lower degree completion, especially in conjunction to part-time enrollment (Coley, 2000) and transfer to four-year colleges (Surette, 2001).

Environmental Factors for This Study

In 2012, the Center for Community College Student Engagement (CCCSE) began a journey of exploration through which they attempted to identify educational practices leading to greater success for all students. These educational practices, or promising practices, were highlighted due to evidence of “research from the field and from multiple colleges with multiple semesters of data showing improvement on an array of metrics, such as course completion, retention, and graduation” (CCCSE, 2012, p. 3). Within their first report, thirteen promising practices were highlighted and classified within three groups; planning for success, initiating success, and sustaining success. These practices are listed within Table 1. The Center’s second report focused on these thirteen practices to determine which engage students most effectively so that college leaders would better be able to use their resources to provide the greatest impact (CCCSE, 2013). It was within this second report that the Center highlighted five practices as

structured group learning experiences (SGLEs). These five SGLs: First-Year Experience, Learning Communities, Orientation, Student Success Course, and Accelerated Developmental Education were the focus of closer examination due to the recent research indicating their potential for greater student retention and degree completion (Delving into data, 2013). In an attempt to gather deeper information about the entire group of thirteen promising practices, the Community College Institutional Survey (CCIS) was created and offered to colleges completing the CCSSE instrument. This recent work by the CCCSE continues as they examine the elements comprising the outcomes of these activities and how they may overlap within the five SGLs; however, what follows is an examination of the literature connected to each experience.

Orientation. The transition into the educational environment provided by a college or university can be an early, defining moment impacting the future success for each and every student enrolled at the institution (Mullendore & Banahan, 2005). Whether the student is making this transition directly from high school, another college, or the work force, nearly all of them will experience some difficulties with this passage (Tinto, 1993). With a focus on these early connections, colleges and universities seek to create programming activities leading to the formation of positive educational trajectories for their incoming students.

Orientation programs have a long history within higher education; however, their structure varies and the literature surrounding their effectiveness is light (Zeidenberg, Jenkins, & Calcagno, 2007). Generally, the role of orientation programming is to describe the expectations placed on students, to provide information about college policies and programs, to share information on available college services, to provide an introduction to the campus community, and to provide an opportunity for interactions with other students, faculty, and staff (Mullendore & Banahan, 2005). While there are a wide range of structures used to provide orientation

programming for incoming students and despite their often missed opportunities in relating the social and intellectual communities on campus (Tinto, 1993), they function best when they are used to inform students of the levels of involvement necessary for success at the institution (Astin, 1985).

The research on the effectiveness of orientation programs, especially in light of the wide range of structures used in their offering, is mixed at best. Programs offered over multiple days to four-year college students have been shown to increase social integration and institutional commitment (Pascarella, Terenzini, & Wolfle, 1986). However, short-term programs were found to have minimal impact on persistence when pre-college characteristics were taken into account (Pascarella & Terenzini, 2005). Community college orientation programming has been shown to impact student success by increasing retention rates, GPA, and degree completion within the traditional two-year timeframe (Derby & Smith, 2004; Zeidenberg et al., 2007); however, at least one study found no connection to increased retention (Ellis-O'Quinn, 2012). In another report focused on community college students, the Center for Community College Student Engagement found a notable difference in the adjusted CCSSE Support for Learners student engagement benchmark score, one of the five benchmarks used to calculate CCSSE student engagement, for students attending orientation programs as opposed to those who did not (54 versus 47) (CCCSE, 2014).

Accelerated or fast-track developmental education. An important function served by community colleges is related to the preparation of underprepared students for entrance into higher education. Developmental or remedial coursework within English, writing, and mathematics are available at most community colleges; however, the perception exists that they are barriers to degree completion (Bailey, 2009). As a solution to this long-standing concern,

community colleges have implemented accelerated or fast-track developmental education programs through redesign efforts. The objective of these programs is to provide success to the student but within a shorter timeframe. The literature related to the effectiveness of these programs continues to emerge; however, a recent study of students enrolled within accelerated English coursework found that students performed at equal rates of success as those enrolled directly into college level courses (Cho, Kopko, Jenkins, & Jagers, 2012). Another study by the Center for Community College Student Engagement found a notable difference in the adjusted CCSSE Support for Learners student engagement benchmark score for students participating within accelerated developmental education courses as opposed to those who did not (57% versus 50%) (CCCSE, 2014).

First-year experience. First-year experience programs are experiences by which newly enrolled students are able connect with other students, faculty, and staff. Structurally, no set model exists but Barefoot and Fidler (1996) provided the following components that research indicates should form the backbone of a first-year experience program: greater student interaction, greater interaction with faculty outside of the classroom, greater student involvement on campus, a better understanding of curricular and cocurricular activities, greater academic engagement, and increased support for students with academic shortfalls. These interactions were found to make a notable difference in the adjusted CCSSE Support for Learners student engagement benchmark for students reporting participation within first-year experience programs as opposed to those who did not (57% versus 49%) (CCCSE, 2014).

Connecting students to the college, faculty, and their peers has been shown to improve persistence, especially when these interactions occur early within their college experience (Pascarella & Terenzini, 1977; Milem & Berger, 1997). In fact, non-involvement by students

during their first fall semester has been shown to lead to lower perceptions of institutional support, lower integration into the college environment, and lower persistence (Berger & Milem, 1999).

Student success course. Students transitioning to college may not have the background or skills necessary to understand their new environment and succeed within their new setting. Colleges and universities have increasingly addressed this situation by providing programs designed to empower students throughout their transition. Some of these programs, like orientation, occur prior to their first day in class while others, like student success courses, are designed to help students throughout their first year.

Student success courses may take on many forms but they generally are designed to “teach skills and strategies to help students succeed in college (e.g., time management, study skills, and test-taking skills)” (CCCSE, 2014, p. 4). A study of California community college students found higher degree completion among students completing a college success course versus those who did not, especially among those classified as part-time students (Offenstein, Moore, & Shulock, 2010). A later study found a notable difference in the adjusted CCSSE Support for Learners student engagement benchmark score for students reporting participation within student success courses as opposed to those who did not (57% versus 49%) (CCCSE, 2014).

Learning community. Learning communities have a traditional structure of involving a group of students within a set of linked courses. Their impact on student satisfaction and success has been well documented within four-year and community colleges, however, they are less likely to be offered within community colleges (Habley, Bloom, & Robbins, 2012). Within the four-year college setting, participation within learning communities have been linked to positive

educational outcomes including higher student engagement (Zhao & Kuh, 2004; Kuh et al., 2010; Pike, Kuh, McCormick, 2011). These connections were also found within community colleges (Tinto, Russo, & Kadel, 1994; Matthews, 1996; Tinto, 1997a, 1997b).

When learning communities have been adapted to the community college setting, there is evidence that the success of the learning model follows. The Center for Community College Student Engagement found a notable difference in three of the five adjusted CCSSE student engagement benchmark scores. In particular, they found differences in student engagement for students reporting participation within learning communities as opposed to those who did not participate in these activities. The differences were found in the Active and Collaborative Learning Benchmark (59% versus 50%), the Student-Faculty Interaction Benchmark (59% versus 51%), and the Support for Learners Benchmark (59% versus 50%) (CCCSE, 2014). Finally, even when the learning community model is modified for the community college setting with a developmental course linked to another course, the model has been shown to create positive learning perceptions by the participants (R. Smith, 2010).

Outputs for This Study

Positive student educational outcomes have long been the goal of college leaders as they develop programming within their institutions; however, what measure can be used to determine these outcomes? George D. Kuh, founder of Indiana University's Center for Postsecondary Research and NSSE, defined student engagement as, "the time and energy students devote to educationally sound activities inside and outside of the classroom" (Kuh, 2003, p. 25). These efforts (time and energy) are more predictive of the attainment of positive educational outcomes than other student or institutional variables and campus staff should be thoughtful in the

construction of the educational environment in order to capitalize on this interaction (Kuh et al., 2010).

Scholars have investigated the question of student engagement as an intermediary between student involvement and positive student educational outcomes (Astin, 1977, 1993; Chickering & Reisser, 1993; Kuh et al., 2010; Kuh, Pace, & Vesper, 1997; Pascarella & Terenzini, 1991, 2005, Price & Tovar, 2014). The focus on the engagement of students within their educational environment was initially centered on the interaction that all students shared, their time within the college classroom. Chickering and Gamson (1987) provided guidance to college educators with a listing of seven practices which lead to greater engagement. They provided that teaching and learning in undergraduate education:

1. Encourages contracts between students and faculty;
2. Develops reciprocity and cooperation among students;
3. Uses active learning techniques;
4. Gives prompt feedback;
5. Emphasizes time on task;
6. Communicates high expectations;
7. Respects diverse talents and ways of learning (1987, p. 2).

Beyond the classroom interactions advocated by Chickering and Gamson, researchers explored the impact of other college programming activities on positive student educational outcomes (Astin, 1977, 1993; Kuh et al., 2010; Kuh, Pace, & Vesper, 1997; Pascarella & Terenzini, 1991, 2005).

Gathering information of the entire student college experience, both inside and outside of the classroom, to determine the measure of how they engage students is the primary function of

two well-known engagement surveys. The National Survey of Student Engagement (NSSE) was created to provide four-year campus leaders multiple measurements of self-reported student engagement (Kuh, 2001; Kinzie, McCormick, & Gonyea, 2016). The survey instrument originally contained questions organized around five conceptually related benchmarks which included:

- Level of Academic Challenge;
- Active and Collaborative Learning;
- Student-Faculty Interaction;
- Supportive Campus Environment;
- Enriching Educational Experiences (NSSE, 2016).

The survey was reorganized in 2013 with the five benchmarks transformed into four engagement themes (Academic Challenge, Learning with Peers, Experiences with Faculty, and Campus Environment) containing multiple engagement indicators and a separate section containing *High-Impact Practices* (Learning Community, Service-Learning, Research with a Faculty Member, Internship or Field Experience, Study Abroad, and Culminating Senior Experience) focused on institutional initiatives linked to higher student learning and retention (NSSE, 2016). As the construction progressed to the development of the NSSE survey tool for the four-year college sector, researchers focused on community college students began a similar project in search of a similar student engagement tool for the two-year sector. The success of this new project paved the way to a better understanding of community college students over the past two decades.

The Community College Survey of Student Engagement (CCSSE) was created through the adaptation of the National Survey of Student Engagement's instrument, the College Student Report (CSR), which was originally developed to measure student engagement of students

enrolled within four-year colleges and universities (McClenney, 2007; Marti, 2008). It was designed to provide community college leaders information about student engagement as reported within their institutions. The survey instrument, the Community College Survey Report (CCSR), provides data used to measure internal, longitudinal changes across the institution or information regarding comparisons to national norms (Marti, 2004; McClenney, 2006). During the most recent three-year cohort consisting of colleges completing the spring administration of the CCSR, over 438,000 students representing 684 colleges completed the survey (CCSSE, 2014e). Although collected data are used to inform decision makers, another value to the administration of the instrument across campuses has been described as its ability to “catalyze conversations on campus among faculty, administrators, and students” (McCormick & McClenney, 2012, p. 310).

The Community College Survey Report (CCSR) is a 38-item paper and pencil survey administered internationally to students enrolled at participating community colleges (CCSSE, 2014a). The survey’s construction was completed through a three-part process designed to generate a tool focused on community college student populations. The first step in the creation of the CCSR was centered on a list of factors related to student engagement. Through the use of confirmatory factor analysis, a best-fit model was created where a student engagement structure for the CCSR was developed “to separate the under-lying latent constructs” (Marti, 2008, p.5). Nine constructs were found: faculty interactions, class assignments, collaborative learning, information technology, mental activities, exposure to diversity, academic preparation, school opinions, and student services. These items were evaluated using the Root Mean Square Error of Approximation (RMSEA) and Standardized Root Mean Residual (SRMR) tests with cutoff

scores of RMSEA $< .06$ and SRMR $< .09$ (Marti, 2008). Completion of this work indicated that the constructs formed a model of good fit.

The next step in the creation of the CCSR was related to the construction of survey benchmarks found through the reduction of the nine constructs “to a practically useful number of constructs that could be used as performance measures of institutional effectiveness” (Marti, 2008, p. 5). Members of CCSSE’s Technical Advisory Panel, through the review and assignment of items, established the five CCSSE Benchmarks:

- Active and Collaborative Learning;
- Student Effort;
- Student-Faculty Interaction;
- Academic Challenge;
- Support for Learners.

The goal of this process was to “create benchmarks that are reliable, useful, and intuitively compelling to community college educators (Marti, 2008, p.10). Again, these items were evaluated and found to be of good fit (RMSEA = $.060$ and SRMS = $.062$).

The final step in the creation of the CCSR was related to the examination of “measurement invariance across subgroups within the sample” (Marti, 2008, p.10). This analysis was completed through the review of three subgroups: data collected over three different years (2003, 2004, and 2005), data collected from males and females, and data collected from part-time and full-time students. Across all three subgroups, equivalent fit was determined for the original nine constructs and the five benchmarks.

Conclusion

As community colleges continue to refocus their programming in an attempt to better serve their students, it is critical for campus leaders to fully understand the unique characteristics of these populations. Part-time student populations continue to rise within postsecondary institutions and college programs designed to create positive educational outcomes for all students may not impact this subpopulation the same as those enrolled at full-time levels.

Students with part-time enrollment status have been shown to have differing educational experiences. Add to the mix the possibility of the student working for pay or providing care to others. Identifying programs offered by community colleges with the capacity of providing a positive impact on student engagement is essential for institutions seeking to meet the needs of students.

Given the supporting research described in this section, I moved forward with the exploration of hours spent working and/or in providing care for dependents, student engagement, and participation within activities defined as Structured Group Learning Experiences. Chapter 3 explains the methods used to answer the research questions.

CHAPTER III

METHODS

Review of Research Purpose and Research Questions

This chapter describes the study design and research methods and procedures developed to collect and analyze data for this study. As discussed in Chapter 1, the purpose of this study was to examine the relationship among work and caregiving time obligations of part-time students, their participation within structured group learning experiences, and student engagement. Specifically, this study examined the significance that community college Structured Group Learning Experiences (SGLEs) have as an academic socialization mediator on student engagement factors for part-time students who report work and caregiving obligations.

To fully appreciate the impact of structured group learning experiences as an academic mediator of student engagement for students with external time requirements, several levels of inquiry were completed. As such, the following research questions guided this study:

1. What is the relationship between participation within structured group learning experiences and student engagement?
 - a. If there is a relationship, to what extent does the cumulative effect impact student engagement?
2. What is the relationship between student engagement and students' various external time obligations?

3. To what extent do student's various external time obligations impact participation within SGLEs?
 - a. Is there an interaction effect between reported hours of work and caregiving?

Data Collection

This study used data from a secondary data source provided by the Center for Community College Student Engagement (CCCSE) in the College of Education at The University of Texas at Austin. This data set, a random subset of the Community College Survey of Student Engagement (CCSSE) 2014 Cohort Data Set, was collected through the administration of the CCSSE survey at participating colleges over the years 2012, 2013, and 2014. After approval was obtained through the Institutional Review Board at the University of North Dakota, a request for the data set was sent to the director of the CCCSE. Approval was gained and the data set was made available for use within this study.

Survey Instrument and Administration

Community colleges typically administer the CCSSE instrument every second year by following a standard protocol guided by CCCSE. The survey instrument is provided in Appendix A. Participating colleges may also administer, in conjunction to the CCSSE instrument, a supplemental group of survey item focused on topics related to student engagement and success. During the years comprising the 2014 CCSSE Cohort, the supplemental survey given was the CCSSE Special-Focus Items: Promising Practices for Community College Student Success. This supplemental survey is provided in Appendix B.

Survey administrators from each participating college, prior to the administration of the instrument, complete a data verification form by submitting college course information to CCCSE including information related to face-to-face, for credit coursework highlighting details

such as start/end times, meeting days, enrollments, and a variety of other course specific information (CCCSE, 2015). Upon review, a CCCSE liaison for each college returns a data collection plan recommending the courses to be used for the local administration of the instrument (CCSSE, 2014c). This approach is designed to ensure survey results can be generalizable to the local college's student demographics and used to compare to national cohort results (Marti, 2004). One drawback to this approach, one particularly of interest to this study, is related to the under sampling of part-time students. Since the survey is administered to students enrolled in face-to-face courses with equal distribution of starting times, fewer part-time students are likely to participate because of their lower course load and their differential enrollment patterns which typically see them enrolled in more online or evening courses (Marti, 2004; McClenney, 2003). Although this issue is resolved with statistical weighting procedures designed to allow a local campus to compare student engagement results across enrollment levels, the sample part-time student population proportions always is understated in comparison to the population. This study was primarily interested in the student engagement of part-time students and did not employ comparisons to full-time student populations within the analysis. The under representation of part-time students did not pose a problem to the investigation.

Validity

The Community College Survey Report (CCSR) collects information used to formulate the benchmark factors demonstrating community college student engagement. The validity of a survey is summarized as the degree by which the tool measures what it is suppose to measure (Warner, 2013). A validation study by McClenney and Marti (2006) of the CCSR was completed through which the relationship between the CCSSE benchmarks and student outcomes was examined over three separate data sets. The results indicated strong links between

CCSSE benchmarks and “external outcomes such as persistence, course completion, credit hour accumulation, grade-point average, and certificate or degree completion” (McClenney, 2007, p. 140). Furthermore, the psychometric properties of the survey were explored and found to be reliable (Marti, 2004).

Variables

The variables explored through this study are connected to the three components of Astin’s I-E-O student engagement model and interactions between each component were explored.

Input Variables

The variable of work for pay (WORK) consisted of respondent information collected from CCSR survey item 10c, which reads, “About how many hours do you spend in a typical 7-day week doing the following? Working for pay?” The question includes six responses: None, 1-5, 6-10, 11-20, 21-30, and More than 30.

The variable of time spent providing care for dependents (CARE) consisted of respondent information collected from CCSR survey item 10d, which reads, “About how many hours do you spend in a typical 7-day week doing the following? Providing care for dependents living with you (parents, children, spouse, etc.)?” The question includes six responses: None, 1-5, 6-10, 11-20, 21-30, and More than 30.

Table 2 helps organize and clarify the input variables used in this study.

Environment Variables

The variables connected to the environment elements associated with Astin’s model as applied to this study consisted of participation with the five structured group learning

Table 2. Input Variable List.

Variable Name	Data Type	Values	Source
WORK	Interval	1 – None 2 – 1-5 3 – 6-10 4 – 11-20 5 – 21-30 6 – More than 30	CCSR
CARE	Interval	1 – None 2 – 1-5 3 – 6-10 4 – 11-20 5 – 21-30 6 – More than 30	CCSR

experiences (SGLEs). They are defined by CCSSE as: (1) orientation, (2) accelerated or fast-track developmental education, (3) first-year experience, (4) student success course, and (5) learning community.

The independent variable for participation within an orientation program was measured through the use of a dummy variable: NO OR and OR. The information used to build this variable was collected from survey item 2 of the CCSSE Special-Focus Items: Promising Practices for Community College Student Success, which reads, “The one response that best describes my experience with orientation when I first came to this college is:” The survey item includes five responses:

1. I took part in an online orientation prior to the beginning of classes;
2. I attended an on-campus orientation prior to the beginning of classes;
3. I enrolled in an orientation course as part of my course schedule during my first term at this college;

4. I was not aware of a college orientation;
5. I was unable to participate in orientation due to scheduling or other issues.

Since the study examined, in part, the effects of past participation within orientation programs, respondents selecting the first three choices were classified as OR and those selecting either of the last two choices were classified as NO OR.

The independent variable for participation with an accelerated or fast-track developmental education experience was measured through the use of a dummy variable: NO ADE and ADE. The information used to build this variable was collected from survey item 6 of the CCSSE Special-Focus Items: Promising Practices for Community College Student Success, which reads, “At this college, I participated in one or more accelerated courses/fast-track programs to help me move through developmental/basic skills/college prep requirements more quickly.” The survey item contains four responses:

1. Yes, in my first term at this college;
2. Yes, in my first and in at least one other term at this college;
3. Yes, but not in my first term at this college;
4. No, I did not.

Since the study examined, in part, the effects of past participation within accelerated developmental coursework, respondents selecting the first three choices were classified as ADE and those selecting the last option were classified as NO ADE.

The independent variable for participation within a first-year experience program was measured through the use of a dummy variable: NO FYE and FYE. The information used to build this variable was collected from survey item 3 of the CCSSE Special-Focus Items: Promising Practices for Community College Student Success, which reads, “During my first

term at this college, I participated in a structured experience for new students (sometimes called a freshman seminar or first-year experience).” The survey item includes four responses:

1. Yes, in my first term at this college;
2. Yes, in my first AND in at least one other term at this college;
3. Yes, but NOT in my first term at this college;
4. No, I did not.

Since the study examined the effects of participation within these structured group learning experiences, respondents selecting any of the first three choices were classified as FYE and those selecting the last choice were classified as NO FYE.

The independent variable for participation within a student success course program was measured through the use of a dummy variable: NO SSC and SSC. The information used to build this variable was collected from survey item 5 of the CCSSE Special-Focus Items: Promising Practices for Community College Student Success, which reads, “During my first term at this college, I enrolled in a student success course (such as a student development, extended orientation, student life skills, or college success course).” The survey item includes four responses:

1. Yes, in my first term at this college;
2. Yes, in my first AND in at least one other term at this college;
3. Yes, but NOT in my first term at this college;
4. No, I did not.

Since the study examined, in part, the effects of participation within these structured group learning experiences, respondents selecting any of the first three choices were classified as SSC and those selecting the last choice were classified as NO SSC.

The independent variable for participation within a learning community program was measured through the use of a dummy variable: NO LC and LC. The information used to build this variable was collected from survey item 4 of the CCSSE Special-Focus Items: Promising Practices for Community College Student Success, which reads, “During my first term at this college, I enrolled in an organized learning community (two or more courses that a group of students take together).” The survey item includes four responses:

1. Yes, in my first term at this college;
2. Yes, in my first AND in at least one other term at this college;
3. Yes, but NOT in my first term at this college;
4. No, I did not.

Since the study examined, in part, the effects of participation within these structured group learning experiences, respondents selecting any of the first three choices were classified as LC and those selecting the last choice were classified as NO LC.

Table 3 helps organize and clarify the environment variables used in this study.

Outcome Variables

The variables connected to the outcome elements associated with Astin’s model as applied to this study consist of the five CCSSE benchmarks: (1) Active and Collaborative Learning, (2) Student Effort, (3) Academic Challenge, (4) Student-Faculty Interaction, and (5) Support for Learners. What follows is a breakdown of the survey questions related to each benchmark and the associated response scale.

Active and collaborative learning (A&CL-B) encompasses student activities connected to the classroom in which they engage in the content and collaborate with their peers both inside

Table 3. Environment Variable List.

Variable Name	Data Type	Values	Source
OR	Nominal	0 – NO OR 1 – OR	CCSSE
ADE	Nominal	0 – NO ADE 1 – ADE	CCSSE
FYE	Nominal	0 – NO FYE 1 – FYE	CCSSE
SSC	Nominal	0 – NO SSC 1 – SSC	CCSSE
LC	Nominal	0 – NO LC 1 – LC	CCSSE

and outside of class (CCSSE, 2014b). Accordingly, the active and collaborative learning benchmark is calculated from seven survey questions as shown in Table 4. Each question consists of the same four-item response scale with greater responses indicating higher engagement.

The student effort benchmark (SE-B) represents the individual’s learning encounters and behaviors as connected to their enrollment and completion of coursework (CCSSE, 2014b). This benchmark is calculated from eight survey questions as shown in Table 5. The questions contain four different item response scales where greater responses indicate higher student effort except in question 4e where reverse coding is necessary to indicate greater student effort.

Table 4. Active and Collaborative Learning Benchmark.

Item and Sub Question	Code	Responses
4. In your experiences at this college during the current year, about how often have you done each of the following?		
4a. Asked questions in class or contributed to class discussions.	CLQUEST	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
4b. Made a class presentation.	CLPRESEN	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
4f. Worked with other students on projects during class.	CLASSGRP	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
4g. Worked with classmates outside of class to prepare class assignments.	OCCGRP	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
4h. Tutored or taught other students (paid or voluntary).	TUTOR	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
4i. Participated in a community-based project as a part of a regular course.	COMMPROJ	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
4r. Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.).	OOCIDEAS	1 = Never 2 = Sometimes 3 = Often 4 = Very Often

Table 5. Student Effort Benchmark.

Item and Sub Question	Code	Responses
4. In your experiences at this college during the current year, about how often have you done each of the following?		
4c. Prepared two or more drafts of a paper or assignment before turning it in.	REWROPAP	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
4d. Worked on a paper or project that required integrating ideas or information from various sources.	INTEGRAT	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
4. Came to class without completing readings or assignments.	CLUNPREP	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
6. During the current school year, about how much reading and writing have you done at this college?		
6b. Number of books read on your own (not assigned) for personal enjoyment or academic enrichment.	READOWN	1 = None 2 = 1 to 4 3 = 5 to 10 4 = 11 to 20 5 = More than 20
10. About how many hours do you spend in a typical 7-day week doing each of the following?		
10a. Preparing for class (studying, reading, writing, rehearsing, doing homework, or other activities related to your program).	ACADPR01	0 = None 1 = 1-5 hours 2 = 6-10 hours 3 = 11-20 hours 4 = 21-30 hours 5 = More than 30 hours
13.1 How often do you use the following services at this college?		
13.1d. Peer or other tutoring.	USETUTOR	0 = Don't know/N.A. 1 = Rarely/Never 2 = Sometimes 3 = Often
13.1e. Skill labs (writing, math, etc.).	USELAB	0 = Don't know/N.A. 1 = Rarely/Never 2 = Sometimes 3 = Often
13.1h. Computer lab.	USECOMLB	0 = Don't know/N.A. 1 = Rarely/Never 2 = Sometimes 3 = Often

The academic challenge benchmark (AC-B) captures the level and types of academic classwork, the complexity of this work, and the evaluative standards used by faculty to measure student work (CCSSE, 2014b). This benchmark is calculated from ten survey questions as shown in Table 6. The questions contain four different item response scales where greater responses indicate higher academic challenge.

Table 6. Academic Challenge Benchmark.

Item and Sub Question	Code	Responses
4. In your experiences at this college during the current year, about how often have you done each of the following?		
4p. Worked harder than you thought you could to meet an instructor’s standards or expectations.	WORKHARD	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
5. During the current school year, how much has your coursework at this college emphasized the following mental activities?		
5b. Analyzing the basic elements of an idea, experience, or theory.	ANALYZE	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
5c. Synthesizing and organizing ideas, information, or experiences in new ways.	SYNTHESZ	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
5d. Making judgments about the value or soundness of information, arguments, or methods.	EVALUATE	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
5e. Applying theories or concepts to practical problems or in new situations.	APPLYING	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
5f. Using information you have read or heard to perform a new skill.	PERFORM	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much

Table 6 cont.

Item and Sub Question	Code	Responses
6. During the current school year, about how much reading and writing have you done at this college?		
6a. Number of assigned textbooks, manuals, books, or book-length packs of course readings.	READASGN	1 = None 2 = 1 to 4 3 = 5 to 10 4 = 11 to 20 5 = More than 20
6c. Number of written papers or reports of any length.	WRITEANY	1 = None 2 = 1 to 4 3 = 5 to 10 4 = 11 to 20 5 = More than 20
7. Mark the response that best represents the extent to which your examinations during the current school year have challenged you to do your best work at this college.	EXAMS	1 = (1) Extremely easy 2 = (2) 3 = (3) 4 = (4) 5 = (5) 6 = (6) 7 = (7) Extremely challenging
9. How much does this college emphasize each of the following?		
9a. Encouraging you to spend significant amounts of time studying.	ENVSCHOL	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much

The student-faculty interaction benchmark (SFI-B) captures the frequency and types of interactions between students and their instructors (CCSSE, 2014b). This benchmark is calculated from six survey questions as shown in Table 7. Each question consists of the same four-item response scale where greater responses indicate higher student-faculty interaction.

Table 7. Student-Faculty Interaction Benchmark.

Item and Sub Question	Code	Responses
4. In your experiences at this college during the current year, about how often have you done each of the following?		
4k. Used e-mail to communicate with an instructor.	EMAIL	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
4l. Discussed grades or assignments with an instructor.	FACGRADE	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
4m. Talked about career plans with an instructor or advisor.	FACPLANS	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
4n. Discussed ideas from your readings or classes with instructors outside of class.	FACIDEAS	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
4o. Received prompt feedback (written or oral) from instructors on your performance.	FACFEED	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
4q. Worked with instructors on activities other than coursework.	FACOTH	1 = Never 2 = Sometimes 3 = Often 4 = Very Often

The support for learners (SL-B) benchmark gathers information regarding the frequency of use and perceived emphasis by the college in providing appropriate support services to students (CCSSE, 2014b). This benchmark collects information from seven survey questions as shown in Table 8. The questions contain two different item response scales where greater responses indicate higher support for learners.

Table 8. Support for Learners Benchmark.

Item and Sub Question	Code	Responses
9. How much does this college emphasize each of the following?		
9b. Providing the support you need to help you succeed at this college.	ENVSUPRT	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
9c. Encouraging contact among students from different economic, social, and racial or ethnic backgrounds.	ENVDIVRS	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
9d. Helping you cope with your non-academic responsibilities (work, family, etc.).	ENVNACAD	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
9e. Providing the support you need to thrive socially.	ENVSOCAL	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
9f. Providing the financial support you need to afford your education.	FINSUPP	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much
13.1 How often do you use the following services at this college?		
13.1a. Academic advising/planning.	USEACAD	0 = Don't know/N.A. 1 = Rarely/Never 2 = Sometimes 3 = Often
13.1.b. Career counseling.	USECACOU	1 = Very little 2 = Some 3 = Quite a bit 4 = Very much

Table 9 helps organize and clarify the output variables used in this study.

Table 9. Output Variable List.

Variable Name	Data Type	Values	Source
A&CL-B	Ratio	0 – 1.0000000000	CCSSE
SE-B	Ratio	0 – 1.0000000000	CCSSE
AC-B	Ratio	0 – 1.0000000000	CCSSE
SFI-B	Ratio	0 – 1.0000000000	CCSSE
SL-B	Ratio	0 – 1.0000000000	CCSSE

Benchmark Calculations

The researcher used inferential statistics to answer the research questions proposed for this study; however, before this was completed, the data elements were manipulated to create the benchmark engagement score. Calculation of the individual respondent level benchmark scores were completed using the protocol defined by the CCCSE in which:

1. Reverse coding of response items is completed where appropriate,
2. Conversion of individual benchmark questions into a scaled score ranging between 0 and 1.0000000000,
3. Computation of the benchmark score by averaging the scaled score of the questions encompassing each of the five benchmarks (CCSSE, 2012).

The following diagram provides a visualization of the theoretical model with the variables of interest to this study.

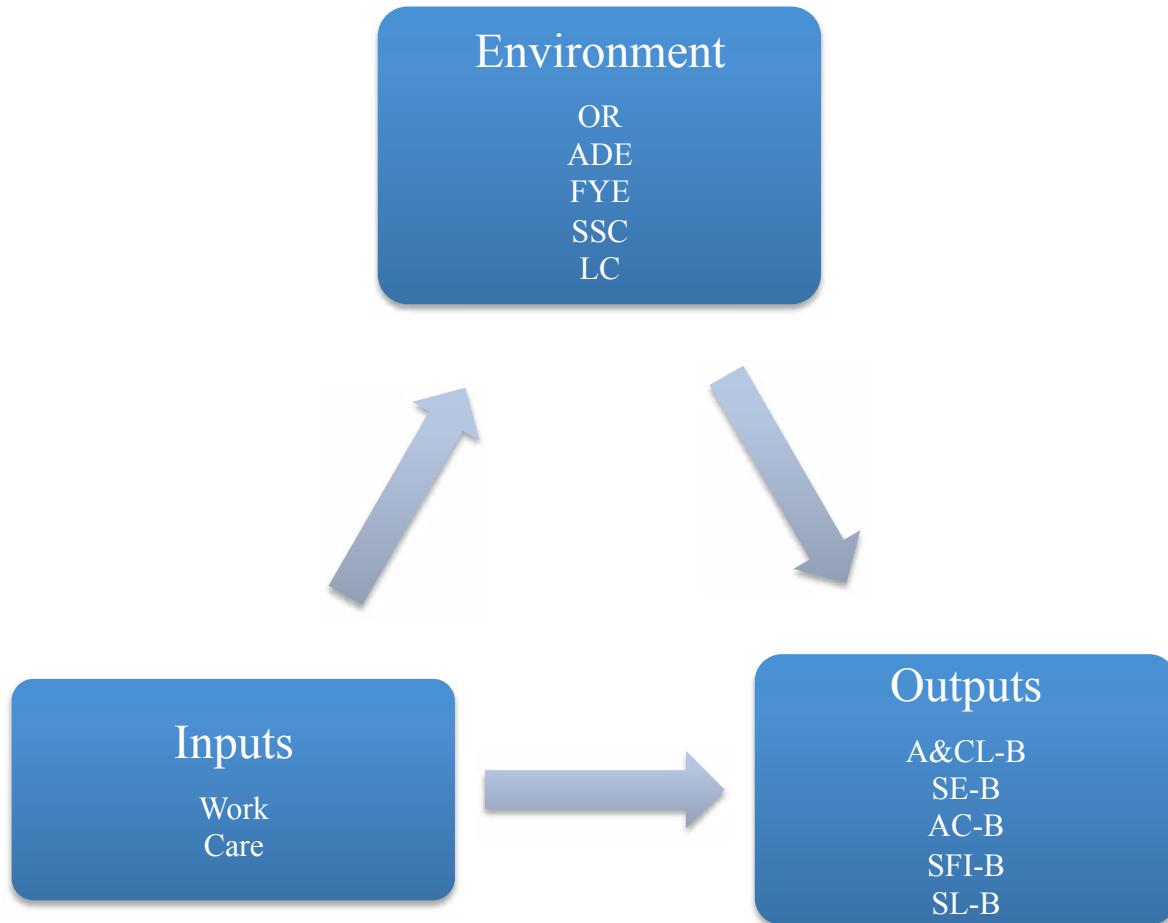


Figure 2. Proposed study framework with variables.

Data Analysis

The data for this study consists of information provided by the Center for Community College Student Engagement. The statistical analysis to be used in this study was completed with the Statistical Package for Social Sciences (SPSS) Version 23. Descriptive statistics were used to create a clearer picture of the population sample and inferential statistics were used to understand the general population of community colleges students through the analysis of the CCSSE data sample.

To answer the study's research questions, a series of statistical tests were completed.

Table 10 identifies the tests selected for each question.

Table 10. Data Analysis Plan.

Research Question	Independent Variable(s)	Dependent Variable(s)	Statistical Procedure
1.	OR ADE FYE SSC LC	A&CL-B SE-B AC-B SFI-B SL-B	Descriptive Statistics <ul style="list-style-type: none"> • Means • Standard Deviations Inferential Statistics <ul style="list-style-type: none"> • t-tests
1.a.	OR ADE FYE SSC LC	A&CL-B SE-B AC-B SFI-B SL-B	Descriptive Statistics <ul style="list-style-type: none"> • Means • Standard Deviations Inferential Statistics <ul style="list-style-type: none"> • ANOVA
2.	WORK CARE	A&CL-B SE-B AC-B SFI-B SL-B	Descriptive Statistics <ul style="list-style-type: none"> • Means • Standard Deviations Inferential Statistics <ul style="list-style-type: none"> • Multiple Linear Regression
3.	WORK CARE	OR ADE FYE SSC LC	Descriptive Statistics <ul style="list-style-type: none"> • Means • Standard Deviations Inferential Statistics <ul style="list-style-type: none"> • Binary Logistic Regression
3.a.	WORK CARE	OR ADE FYE SSC LC	Descriptive Statistics <ul style="list-style-type: none"> • Means • Standard Deviations Inferential Statistics <ul style="list-style-type: none"> • Binary Logistic Regression

In working with a large data set, as is the case with the one used for this study, special care must be given to the analysis and reporting of the results. Roger Kirk (1996) described the benefit of significance testing as having an objective basis; however, he further challenged researchers to also make a judgment about their findings and to report information connected to the practical usefulness of the results. “A result that is statistically significant may be too small to have much real-world value” (Warner, 2013, p. 103). Test results indicating significance, which is quite common with large data sets, should also be paired with effect size information to provide greater clarity of the full meaning of the results.

Summary

This chapter was organized to explain the research design, methods, and analyses of this study examining student engagement of part-time community college students with external time obligations and the impact on engagement through their participation within structured group learning experiences. The next chapter presents the results of the statistical tests used to answer the research questions of this study.

CHAPTER IV

RESULTS OF THE STUDY

Review of Research Purpose and Research Questions

The purpose of this study was to explore the relationship between external time obligations of work and caregiving as reported by part-time community college students, their participation within structured group learning experiences, and student engagement. The data received from 2014 Community College Survey of Student Engagement (CCSSE) cohort are presented and analyzed in this chapter. The chapter contains a review of the sample and subsets, the analysis for each research question presented in this study, and a summary of the chapter.

Characteristics of the Sample

The study utilized a data set obtained from the Center for Community College Student Engagement (CCCSE) at the University of Texas at Austin. This data set, as prepared by CCCSE, was a random sample of the 2014 CCSSE Cohort and contained responses from 110,896 community college students participating in the national survey over the years 2012, 2013, and 2014. Table 11 contains a demographic review of the entire data set sent from CCCSE.

The focus of this study was to evaluate the impact on student engagement through the participation within various campus programs of part-time students enrolled at community colleges. The data set provided by CCCSE contained survey responses from 30,813 part-time

Table 11. Demographic Characteristics of the Population (N = 110,896).

Characteristic	<i>n</i>	%
Sex		
Male	46,852	42.2
Female	61,649	55.6
Missing	2,395	2.2
Marital Status		
Married	18,674	16.8
Not Married	89,847	81.0
Missing	2,375	2.2
Enrollment		
Less than full-time	30,813	27.8
Full-time	80,083	72.2
Age		
18 to 19	29,660	26.7
20 to 21	25,872	23.3
22 to 24	15,595	14.1
25 to 29	13,388	12.1
30 to 39	12,941	11.7
40 to 49	6,721	6.1
50 to 64	3,646	3.3
65+	379	0.3
Missing	2,694	2.4

students defined by CCSSE as those enrolled at less than 12 credit hours per semester. Table 12 provides a break down of the differences between the part-time and full-time student subgroups.

Table 12. Demographics by Enrollment Status.

Characteristic	Part-Time Status N = 30,813		Full-Time Status N = 80,083	
	n	%	n	%
Sex				
Male	11,978	38.9	34,874	43.5
Female	18,048	58.6	43,601	54.4
Missing	787	2.6	1,608	2.0
Marital Status				
Married	7,027	22.8	11,647	14.5
Not Married	23,004	74.7	66,843	83.5
Missing	782	2.5	1,593	2.0
Age				
18 to 19	5,412	17.6	24,248	30.3
20 to 21	5,784	18.8	20,088	25.1
22 to 24	5,115	16.6	10,480	13.1
25 to 29	4,524	14.7	8,864	11.1
30 to 39	4,659	15.1	8,282	10.3
40 to 49	2,639	8.6	4,082	5.1
50 to 64	1,522	4.9	2,124	2.7
65+	239	0.8	140	0.2
Missing	919	3.0	1,775	2.2
Hours Working for Pay				
None	6,477	21.0	25,301	31.6
1-5 hours	1,691	5.5	5,796	7.2
6-10 hours	1,797	5.8	5,982	7.5
11-20 hours	3,209	10.4	12,039	15.0
21-30 hours	5,002	16.2	14,206	17.7
More than 30 hours	11,943	38.8	15,265	19.1
Missing	694	2.3	1,485	1.9
Hours Providing Care				
None	12,209	39.6	36,924	46.1
1-5 hours	4,765	15.5	12,603	15.7
6-10 hours	2,420	7.9	6,286	7.8
11-20 hours	1,889	6.1	4,604	5.7
21-30 hours	1,293	4.2	3,041	3.8
More than 30 hours	7,465	24.2	15,041	18.8
Missing	772	2.5	1,584	2.0

The part-time subset contained a higher percentage of female students as compared to the full-time subset (58.6% versus 54.4%) and more students were married as compared to their colleagues (22.8% versus 14.5%) which was consistent to prior research (Snyder & Dillow, 2013). Additionally, the students within the part-time subset were generally older than those within the full-time subset where more part-time students reported their age as 25 years or older (44.1% versus 29.4%). The differences between the students contained within the part-time and full-time subsets were consistent to prior research in relation to their hours given to work and caregiving activities. A larger percentage of full-time students reported no hours of work as compared to their part-time colleagues (31.6% versus 21.0%) while a larger percentage of part-time students reported working 30 hours or more per week, almost double their full-time colleagues (38.8% versus 19.1%) (Snyder & Dillow, 2013; Carnevale, Smith, Melton, & Price, 2015). This differential in time obligations for part-time and full-time students was present in time given to caregiving activities. A larger percentage of full-time students as compared to their part-time colleagues reported no hours given to caregiving activities (46.1% versus 39.6%) while a larger percentage of part-time students reported 30 or more hours given to this activity (24.2% versus 18.8%).

Not all part-time students participated within each Structured Group Learning Experience (SGLE). Some indicated participation and others may have not answered the question and were recorded as missing. Table 13 summarizes the participation within each SGLE for the part-time students reviewed in this study.

Table 13. Part-Time Student Participation Within SGLEs.

SGLE	Number of Students	Percent of Students
Orientation		
NO OR	12,088	39.2
OR	15,295	49.6
Missing	3,430	11.1
Advanced Developmental Education		
NO ADE	19,819	64.3
ADE	6,891	22.4
Missing	4,103	13.3
First-Year Experience		
NO FYE	19,819	64.3
FYE	6,891	22.4
Missing	4,103	13.3
Student Success Course		
NO SSC	20,191	65.5
SSC	6,385	20.7
Missing	4,237	13.8
Learning Community		
NO LC	23,065	74.9
LC	3,495	11.3
Missing	4,253	13.8

A quick review of the numbers for each SGLE indicates that participation within Orientation was highest among part-time students (49.6%) and participation within Learning Communities was the lowest (11.3%). In fact, more students had a missing answer (13.8%) for

Learning Community participation than actually attended making this the more rare experience obtained by part-time students in this study.

Research Question One

What is the relationship between participation within structured group learning experiences and student engagement?

To answer research question one, this researcher analyzed the data using an independent sample t-test for each structured group learning experience. Due to the large sample size and in conforming to the standards set forth by the CCCSE, all comparisons of means between groups uses an alpha value of 0.001 to measure significance and the Cohen's effect size must be 0.20 or greater (CCSSE, 2014d).

Comparison of Participation Within Orientation Programming vs. Student Engagement

Table 14 compares student engagement as measured by the CCSSE benchmarks for students reporting enrollment within college orientation programs.

The mean Active and Collaborative Learning Benchmark results for students indicating no participation within college orientation programming were lower than the results of students participating in orientation (0.330 vs. 0.355), $t(26,291) = -13.095$, $p < .001$. The mean effect size for these contributions did not meet the threshold level established by CCCSE for significance ($d = 0.159$).

The mean Student Effort Benchmark results for students indicating no participation within college orientation programming were lower than the results of students participating in orientation (0.426 vs. 0.464), $t(27,381) = -19.925$, $p < .001$. The mean effect size for these contributions exceeded the threshold level established by CCCSE for significance ($d = 0.243$).

Table 14. Differences Between Participants Based on Orientation Program Participation.

CCSSE Benchmark	NO Orientation		Orientation		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Active & Collaborative Learning	.330	.156	.355	.161	26,291	-13.095	.001*	.159
Student Effort	.426	.160	.464	.161	27,381	-19.925	.001*	.243
Academic Challenge	.537	.173	.570	.170	27,373	-16.120	.001*	.196
Student-Faculty Interaction	.368	.181	.411	.191	26,497	-19.198	.001*	.233
Support for Learners	.386	.213	.462	.222	26,278	-29.055	.001*	.353

* $p < .001$

The mean Academic Challenge Benchmark results for students indicating no participation within college orientation programming were lower than the results of students participating in orientation (0.537 vs. 0.570), $t(27,373) = -16.120$, $p < .001$. The mean effect size for these contributions did not meet the threshold level established by CCCSE for significance ($d = 0.196$).

The mean Student-Faculty Interaction Benchmark results for students indicating no participation within college orientation programming were lower than the results of students participating in orientation (0.367 vs. 0.411), $t(26,497) = -19.198$, $p < .001$. The mean effect size for these contributions exceeded the threshold level established by CCCSE for significance ($d = 0.233$).

The mean Support for Learners Benchmark results for students indicating no participation within college orientation programming were lower than the results of students participating in orientation (0.386 vs. 0.462), $t(26,278) = -29.055$, $p < .001$. The mean effect size for these contributions exceeded the threshold level established by CCCSE for significance ($d = 0.353$).

Part-time students participating within orientation programs at community colleges were found to have higher mean CCSSE student engagement benchmark scores within this study. Further, under CCSSE's guidelines of statistical significance, three CCSSE student engagement benchmarks (Student Effort, Student-Faculty Interaction, and Support for Learners) were found to have a significant change.

Comparison of Participation Within Accelerated Developmental Education vs. Student Engagement

Table 15 compares student engagement as measured by the CCSSE benchmarks for students reporting enrollment within college orientation programs.

The mean Active and Collaborative Learning Benchmark results for students indicating no participation within accelerated developmental education programming were lower than the results of students participating in these types of programs (0.334 vs. 0.385), $t(7,180) = -19.169$, $p < .001$. The mean effect size for these contributions exceeded the threshold level established by CCCSE for significance ($d = 0.308$).

The mean Student Effort Benchmark results for students indicating no participation within accelerated developmental education programming were lower than the results of students participating in these types of programs (0.437 vs. 0.487), $t(26,493) = -19.972$, $p < .001$. The

Table 15. Differences Between Participants Based on Accelerated Developmental Education (ADE) Program Participation.

CCSSE Benchmark	NO ADE		ADE		<i>df</i>	<i>t</i>	<i>p</i>	<i>Cohen's d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Active & Collaborative Learning	.334	.155	.385	.172	7,180	-19.169	.001*	.308
Student Effort	.437	.160	.487	.162	26,493	-19.972	.001*	.310
Academic Challenge	.548	.172	.586	.167	26,485	-14.429	.001*	.227
Student-Faculty Interaction	.378	.182	.446	.199	7,245	-22.157	.001*	.355
Support for Learners	.412	.216	.493	.228	7,392	-22.956	.001*	.364

* $p < .001$

mean effect size for these contributions exceeded the threshold level established by CCCSE for significance ($d = 0.310$).

The mean Academic Challenge Benchmark results for students indicating no participation within accelerated developmental education were lower than the results of students participating in these types of programs (0.548 vs. 0.586), $t(26,485) = -14.429$, $p < .001$. The mean effect size for these contributions exceeded the threshold level established by CCCSE for significance ($d = 0.227$).

The mean Student-Faculty Interaction Benchmark results for students indicating no participation within accelerated developmental education were lower than the results of students participating in these types of programs (0.378 vs. 0.446), $t(7,245) = -22.157$, $p < .001$. The mean

effect size for these contributions exceeded the threshold level established by CCCSE for significance ($d = 0.355$).

The mean Support for Learners Benchmark results for students indicating no participation within accelerated developmental education were lower than the results of students participating these types of programs (0.412 vs. 0.493), $t(7,392) = -22.956$, $p < .001$. The mean effect size for these contributions exceeded the threshold level established by CCCSE for significance ($d = 0.364$).

Part-time students participating within accelerated developmental education programs at community colleges were found to have higher mean CCSSE student engagement benchmark scores within this study and all five areas were significant under CCSSE's guidelines.

Comparison of Participation Within First-Year Experience Programming vs. Student Engagement

Table 16 compares student engagement as measured by the CCSSE benchmarks for students reporting enrollment within first-year experience programs.

The mean Active and Collaborative Learning Benchmark results for students indicating no participation within first-year experience programming were lower than the results of students participating in these types of programs (0.334 vs. 0.372), $t(11,370) = -16.135$, $p < .001$. The mean effect size for these contributions exceeded the threshold level established by CCCSE for significance ($d = 0.229$).

The mean Student Effort Benchmark results for students indicating no participation within first-year experience programming were lower than the results of students participating in these types of programs (0.436 vs. 0.478), $t(26,708) = -18.390$, $p < .001$. The mean effect size for these contributions exceeded the threshold level established by CCCSE for significance ($d = 0.257$).

Table 16. Differences Between Participants Based on First-Year Experience (FYE) Participation.

CCSSE Benchmark	NO FYE		FYE		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Active & Collaborative Learning	.334	.156	.372	.166	11,370	-16.135	.001*	.229
Student Effort	.436	.160	.478	.161	26,708	-18.390	.001*	.257
Academic Challenge	.547	.173	.577	.167	26,700	-12.430	.001*	.175
Student-Faculty Interaction	.376	.182	.435	.196	11,284	-21.989	.001*	.313
Support for Learners	.405	.214	.495	.226	11,427	-28.731	.001*	.408

* $p < .001$

The mean Academic Challenge Benchmark results for students indicating no participation within first-year experience programming were lower than the results of students participating in these types of programs (0.547 vs. 0.577), $t(26,700) = -12.430$, $p < .001$. The mean effect size for these contributions did not meet the threshold level established by CCCSE for significance ($d = 0.175$).

The mean Student-Faculty Interaction Benchmark results for students indicating no participation within first-year experience programming were lower than the results of students participating in these types of programs (0.376 vs. 0.435), $t(11,284) = -21.989$, $p < .001$. The mean effect size for these contributions exceeded the threshold level established by CCCSE for significance ($d = 0.313$).

The mean Support for Learners Benchmark results for students indicating no participation within first-year experience programming were lower than the results of students participating these types of programs (0.405 vs. 0.495), $t(11,427) = -28.731, p < .001$. The mean effect size for these contributions exceeded the threshold level established by CCCSE for significance ($d = 0.408$).

Part-time students participating within first-year experience programs at community colleges were found to have higher mean CCSSE student engagement benchmark scores within this study. Further, under CCSSE's guidelines of statistical significance, all but one of the five CCSSE student engagement benchmarks (Academic Challenge) were found to have a significant change.

Comparison of Participation Within Student Success Coursework vs. Student Engagement

Table 17 compares student engagement as measured by the CCSSE benchmarks for students reporting enrollment within student success coursework.

The mean Active and Collaborative Learning Benchmark results for students indicating no participation within student success coursework were lower than the results of students participating in these types of programs (0.335 vs. 0.373), $t(10,199) = -16.073, p < .001$. The mean effect size for these contributions exceeded the threshold level established by CCCSE for significance ($d = 0.234$).

The mean Student Effort Benchmark results for students indicating no participation within student success coursework were lower than the results of students participating in these types of programs (0.435 vs. 0.484), $t(26,574) = -21.377, p < .001$. The mean effect size for these contributions exceeded the threshold level established by CCCSE for significance ($d = 0.305$).

Table 17. Differences Between Participants Based on Student Success Coursework (SSC) Participation.

CCSSE Benchmark	NO SSC		SSC		<i>df</i>	<i>t</i>	<i>p</i>	<i>Cohen's d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Active & Collaborative Learning	.335	.156	.373	.161	10,199	-16.073	.001*	.234
Student Effort	.435	.159	.484	.162	26,574	-21.377	.001*	.305
Academic Challenge	.548	.173	.578	.168	26,566	-12.408	.001*	.179
Student-Faculty Interaction	.377	.182	.437	.197	10,056	-21.723	.001*	.318
Support for Learners	.405	.213	.501	.228	10,122	-29.756	.001*	.435

* $p < .001$

The mean Academic Challenge Benchmark results for students indicating no participation within student success coursework were lower than the results of students participating in these types of programs (0.548 vs. 0.578), $t(26,566) = -12.408$, $p < .001$. The mean effect size for these contributions did not meet the threshold level established by CCCSE for significance ($d = 0.179$).

The mean Student-Faculty Interaction Benchmark results for students indicating no participation within student success coursework were lower than the results of students participating in these types of programs (0.377 vs. 0.437), $t(10,056) = -21.723$, $p < .001$. The mean effect size for these contributions exceeded the threshold level established by CCCSE for significance ($d = 0.318$).

The mean Support for Learners Benchmark results for students indicating no participation within student success coursework were lower than the results of students participating these types of programs (0.405 vs. 0.501), $t(10,122) = -29.756$, $p < .001$. The mean effect size for these contributions exceeded the threshold level established by CCCSE for significance ($d = 0.435$).

Part-time students participating within student success programs at community colleges were found to have higher mean CCSSE student engagement benchmark scores within this study. Further, under CCSSE's guidelines of statistical significance, all but one of the five CCSSE student engagement benchmarks (Academic Challenge) were found to have a significant change.

Comparison of Participation Within Learning Communities vs. Student Engagement

Table 18 compares student engagement as measured by the CCSSE benchmarks for students reporting enrollment within learning communities.

The mean Student Effort Benchmark results for students indicating no participation within student learning communities were lower than the results of students participating in these types of programs (0.440 vs. 0.491), $t(26,558) = -17.503$, $p < .001$. The mean effect size for these contributions exceeded the threshold level established by CCCSE for significance ($d = 0.313$).

The mean Academic Challenge Benchmark results for students indicating no participation within learning communities were lower than the results of students participating in these types of programs (0.551 vs. 0.585), $t(26,550) = -10.967$, $p < .001$. The mean effect size for these contributions exceeded the threshold level established by CCCSE for significance ($d = 0.200$).

Table 18. Differences Between Participants Based on Learning Community (LC) Participation.

	NO LC		LC		<i>df</i>	<i>t</i>	<i>p</i>	<i>Cohen's d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Active & Collaborative Learning	.336	.155	.400	.176	4,351	-20.498	.001*	.389
Student Effort	.440	.160	.491	.166	26,558	-17.503	.001*	.313
Academic Challenge	.551	.172	.585	.170	26,550	-10.967	.001*	.200
Student-Faculty Interaction	.382	.183	.453	.206	4,367	-19.254	.001*	.365
Support for Learners	.416	.216	.510	.232	4,444	-22.460	.001*	.419

* $p < .001$

The mean Student-Faculty Interaction Benchmark results for students indicating no participation within learning communities were lower than the results of students participating in these types of programs (0.382 vs. 0.453), $t(4,367) = -19.254$, $p < .001$. The mean effect size for these contributions exceeded the threshold level established by CCCSE for significance ($d = 0.365$).

The mean Support for Learners Benchmark results for students indicating no participation within learning communities were lower than the results of students participating in these types of programs (0.416 vs. 0.510), $t(4,444) = -22.460$, $p < .001$. The mean effect size for these contributions exceeded the threshold level established by CCCSE for significance ($d = 0.419$).

Part-time students participating within learning communities at community colleges were found to have higher mean CCSSE student engagement benchmark scores within this study all five areas were significant under CCSSE’s guidelines.

Participation by part-time students within Structured Group Learning Experiences (SGLE) to the Community College Survey of Student Engagement (CCSSE) benchmark scores is better represented within Table 19. Since each tested relationship was significant at the $p < .001$ level, Table 19 displays the effect size for each relationship recalling that CCSSE guidelines hold significance when the effect size is 0.20 or higher (CCSSE, 2014d).

Table 19. Cohen’s d Effect Sizes for SGLE and CCSSE Benchmark Comparisons.

	Active & Collaborative Learning	Student Effort	Academic Challenge	Student-Faculty Interaction	Support for Learners
Orientation	.159	.243*	.196	.233*	.353*
Accelerated Developmental Education	.308*	.310*	.227*	.355*	.364*
First-Year Experience	.229*	.257*	.175	.313*	.408*
Student Success Course	.234*	.305*	.179	.318*	.435*
Learning Community	.389*	.313*	.200*	.365*	.419*

*Effect Size $\geq .200$

The results of these tests indicate a strong impact for participants within each SGLE. Mean student engagement as measured by CCSSE Benchmark scores in the three areas for Student Effort, Student-Faculty Interaction, and Support for Learners differed in all five SGLEs

for participants. Next, mean student engagement as measured by the CCSSE Active & Collaborative Learning Benchmark differed significantly for participants in four of the SGLEs (except Orientation). Finally, mean student engagement as measured by the CCSSE Academic Challenge Benchmark differed significantly only for Accelerated Developmental Education and Learning Community programs for participants.

Research Question One, Part A

If there is a relationship, to what extent does the cumulative effect impact student engagement?

To test the relationship between student engagement and participation within multiple Structured Group Learning Experiences (SGLEs), a one-way Analysis of Variance (ANOVA) was run for each Community College Survey of Student Engagement (CCSSE) Benchmark. The CCSSE student engagement score was the dependent value for each test and a new dummy variable, SGLETotal, was created indicating the total number of SGLEs in which each student reported participation. The range of possible values for this new variable was {0,1,2,3,4,5} and if a student's response was missing from any of the five SGLEs, then the results of this entry were not used within the analysis. Table 20 presents the information related to the number of students within each category of this new variable.

In the analysis of the results for this question, a p-value of 0.001 was used to measure statistical significance. The measure of effect size for the ANOVA tests employed by this study is the omega squared (ω^2). This effect size test reported less often as the more common eta squared test but it is useful in this study because it provides a more conservative estimate of the

Table 20. Part-Time Students Who Participated in Multiple SGLEs.

Number of SGLEs	Number of Students Participating	Percentage of Students Participating
0	8,159	26.5%
1	8,242	26.7%
2	4,970	16.1%
3	2,252	7.3%
4	1,265	4.1%
5	979	3.2%
Missing	4,946	16.1%

variance among group means and it tends to be less biased (Warner, 2013; Olejnik & Algina, 2003). Additionally, a post hoc test was used to compare the means of the six possible groups. In particular, the Tukey HSD test was employed to determine if the difference in paired group means is statistically significant.

Table 21 summarizes the results of the five ANOVAs for the CCSSE student engagement benchmark scores.

Multiple SGLE Participation’s Impact on CCSSE’s Active and Collaborative Learning Benchmark

The analysis set to explore the relationship between multiple SGLE participation and student engagement as measure by the CCSSE Active and Collaborative Learning Benchmark was completed with 25,865 valid entries. The results of the ANOVA revealed a statically

Table 21. ANOVA Results for the CCSSE Student Engagement Benchmarks.

	Sum of Squares	df	Mean Square	F	Sig.
Active and Collaborative Learning					
Between Groups	17.840	5	3.568	144.689	.000
Within Groups	637.690	25,859	.025		
Total	655.530	25,864			
Student Effort					
Between Groups	23.850	5	4.770	189.907	.000
Within Groups	649.562	25,861	.025		
Total	673.412	25,866			
Academic Challenge					
Between Groups	14.420	5	2.884	99.301	.000
Within Groups	750.869	25,853	.029		
Total	765.289	25,858			
Student-Faculty Interaction					
Between Groups	38.768	5	7.754	231.688	.000
Within Groups	865.024	25,848	.033		
Total	903.792	25,853			
Support for Learners					
Between Groups	86.005	5	17.211	379.178	.000
Within Groups	1,170.435	25,786	.045		
Total	1,256.490	25,791			

significant effect for student engagement on levels of participation within SGLEs, ($F(5, 25,859) = 144.689, p < .001$). The size effect, $\omega^2 = .027$ or $\omega = .164$ which indicates that 16.4% of the variance in student engagement is accounted by SGLE participation.

A Tukey’s HSD analysis was used to determine which of the group means of SGLE cumulative participation {0,1,2,3,4,5} were different. Table 22 shows all possible pairwise comparisons through the Tukey HSD test. Based on this test, it was found that the means for each level of SGLE participation differed significantly except for the students with a total of 2 or 3 SGLEs. In this case, the mean student engagement score did not differ significantly.

Table 22. Tukey HSD Statistically Significant Mean Comparison for the Active and Collaborative Learning Benchmark.

Subset for alpha = 0.05							
Number of SGLEs	N	1	2	3	4	5	6
0	8,159	0.3194743559					
1	8,241		0.3366814784				
2	4,970			0.3540867427			
3	2,251			0.3659861931			
4	1,265				0.3950724638		
5	979					0.4321173209	

Multiple SGLE Participation’s Impact on CCSSE’s Student Effort Benchmark

The analysis set to explore the relationship between multiple SGLE participation and student engagement as measure by the CCSSE Student Effort Benchmark was completed with 25,867 valid entries. The results of the ANOVA revealed a statically significant effect for student engagement on levels of participation within SGLEs, (F(5 , 25,861) = 189.907, p < .001). The size effect, $\omega^2 = .035$ or $\omega = .188$ which indicates that 18.8% of the variance in student engagement is accounted by SGLE participation.

A Tukey’s HSD analysis was used to determine which of the group means of SGLE cumulative participation {0,1,2,3,4,5} were different. Table 23 shows all possible pairwise

comparisons through the Tukey HSD test. Based on this test, it was found that the means for each level of SGLE participation differed significantly except for the students with a total of 3 or 4 SGLEs and 4 or 5 SGLEs. In these cases, the mean student engagement score did not differ significantly for students participating within 3 or 4 SGLEs nor did it for students participating within 4 or 5 SGLEs.

Table 23. Tukey HSD Statistically Significant Mean Comparison for the Student Effort Benchmark.

Subset for alpha = 0.05							
Number of SGLEs	N	1	2	3	4	5	6
0	8,159	0.4097657957					
1	8,242		0.4433325606				
2	4,970			0.4683594783			
3	2,252				0.4863606600		
4	1,265				0.4982994542	0.4982994542	
5	979					0.5055256214	

Multiple SGLE Participation’s Impact on CCSSE’s Academic Challenge Benchmark

The analysis set to explore the relationship between multiple SGLE participation and student engagement as measure by the CCSSE Academic Challenge Benchmark was completed with 25,859 valid entries. The results of the ANOVA revealed a statically significant effect for student engagement on levels of participation within SGLEs, (F(5 , 25,853) = 99.301, p < .001). The size effect, $\omega^2 = .019$ or $\omega = .137$ which indicates that 13.7% of the variance in student engagement is accounted by SGLE participation.

A Tukey’s HSD analysis was used to determine which of the group means of SGLE cumulative participation {0,1,2,3,4,5} were different. Table 24 shows all possible pairwise comparisons through the Tukey HSD test. Based on this test, it was found that the means for each level of SGLE participation differed significantly except for the students with a total of 2, 3, 4, or 5 SGLEs. In these cases, the mean student engagement score did not differ significantly for students participating within 3 or more SGLEs.

Table 24. Tukey HSD Statistically Significant Mean Comparison for the Academic Challenge Benchmark.

Subset for alpha = 0.05							
Number of SGLEs	N	1	2	3	4	5	6
0	8,157	0.5248605168					
1	8,238		0.5539514747				
2	4,969			0.5759114912			
3	2,252			0.5877705414			
4	1,264			0.5865793065			
5	979			0.5892757497			

Multiple SGLE Participation’s Impact on CCSSE’s Student-Faculty Interaction Benchmark

The analysis set to explore the relationship between multiple SGLE participation and student engagement as measure by the CCSSE Student-Faculty Interaction Benchmark was completed with 25,854 valid entries. The results of the ANOVA revealed a statically significant effect for student engagement on levels of participation within SGLEs, (F(5 , 25,848) = 231.688,

$p < .001$). The size effect, $\omega^2 = .043$ or $\omega = .207$ which indicates that 20.7% of the variance in student engagement is accounted by SGLE participation.

A Tukey’s HSD analysis was used to determine which of the group means of SGLE cumulative participation {0,1,2,3,4,5} were different. Table 25 shows all possible pairwise comparisons through the Tukey HSD test. Based on this test, it was found that the means for each level of SGLE participation differed significantly except for the students with a total of 2 or 3 SGLEs. In this case, the mean student engagement score did not differ significantly for students participating within 2 or 3 SGLEs.

Table 25. Tukey HSD Statistically Significant Mean Comparison for the Student-Faculty Interaction Benchmark.

		Subset for alpha = 0.05					
Number of SGLEs	N	1	2	3	4	5	6
0	8,155	0.3512153416					
1	8,239		0.3803522542				
2	4,967			0.4151589379			
3	2,250			0.4303950617			
4	1,264				0.4643196203		
5	979					0.5005107252	

Multiple SGLE Participation’s Impact on CCSSE’s Support for Learners Benchmark

The analysis set to explore the relationship between multiple SGLE participation and student engagement as measure by the CCSSE Support for Learners Benchmark was completed with 25,792 valid entries. The results of the ANOVA revealed a statistically significant effect for student engagement on levels of participation within SGLEs, $(F(5, 25,786) = 379.178, p <$

.001). The size effect, $\omega^2 = .068$ or $\omega = .261$ which indicates that 26.1% of the variance in student engagement is accounted by SGLE participation.

A Tukey’s HSD analysis was used to determine which of the group means of SGLE cumulative participation {0,1,2,3,4,5} were different. Table 26 shows all possible pairwise comparisons through the Tukey HSD test. Based on this test, it was found that the means for each level of SGLE participation differed significantly.

Table 26. Tukey HSD Statistically Significant Mean Comparison for the Support for Learners Benchmark.

Subset for alpha = 0.05							
Number of SGLEs	N	1	2	3	4	5	6
0	8,153	0.3638428406					
1	8,217		0.4169971855				
2	4,956			0.4641359840			
3	2,248				0.4975449076		
4	1,259					0.5328857622	
5	977						0.5724354600

The analysis of cumulative effect for multiple SGLE participation on student engagement was found to be statistically significant for each CCSSE Benchmark. In review of the effect size for each test, the measure of the magnitude of the impact of multiple SGLE participation ranges from the smallest impact ($\omega^2 = .019$) for the Academic Challenge Benchmark to stronger impacts ($\omega^2 = .027$) for the Active & Collaborative Learning Benchmark, ($\omega^2 = .035$) for the Student Effort Benchmark, ($\omega^2 = .043$) for the Student-Faculty Interaction Benchmark, and then with the strongest impact ($\omega^2 = .068$) for the Support for Learners Benchmark.

Research Question Two

What is the relationship between student engagement and students' various external time obligations?

To answer question two, the researcher analyzed data using regression techniques relating the various levels of self-reported hours of work and/or caregiving against each of the benchmark measures of student engagement. For this research question, work is coded as 0 = None, 1 = 1-5 hours, 2 = 6-10 hours, 3 = 11-20 hours, 4 = 21-30 hours, 5 = More than 30 hours, and care is coded as 0 = None, 1 = 1-5 hours, 2 = 6-10 hours, 3 = 11-20 hours, 4 = 21-30 hours, 5 = More than 30 hours.

In the analysis of the results for this question, a p-value of 0.001 was used to measure statistical significance. The measure of effect size for the multiple regression model, R^2 , is the proportion of the variance in student engagement predictable from hours of work and care combined (Warner, 2013).

External Time Obligations vs. Active and Collaborative Learning Engagement Measures

A multiple linear regression was calculated to predict student engagement as measured by the active and collaborative benchmark based on part-time students' reported hours of work and caregiving for dependents living with them. The results of this calculation are presented within Table 27.

A significant regression equation was found ($F(2, 29,898) = 138.604, p < .001$) with an R^2 of .009. That is, when both work and care giving were used as predictors, about 0.9% of the variance in engagement could be predicted.

Table 27. Results of Standard Multiple Regression to Predict Student Engagement (Active and Collaborative Learning [A&CL]) From Hours of Work and Hours of Caregiving.

Variable	B	SE B	β
Constant	0.334	0.002	
Work	-0.001	0.000	-0.013
Care	0.007*	0.000	0.096

$R^2 = .009$
 $F = 138.604^*$

* $p < .001$

Work was not significantly predictive of engagement when the variable for care giving was statistically controlled: $t(29,898) = -2.241, p = .025$.

Care giving was significantly predictive of engagement when the variable for work was statistically controlled: $t(29,898) = 16.612, p < .001$. The positive slope to predict engagement from care giving was approximately $B = +.007$; in other words, there was a .007 increase in engagement for each change in hours for care giving. The semipartial correlation, sr^2 , for care giving (controlling for work) was .000086. Thus, care giving uniquely predicted about .0086% of the variation of engagement when work was statistically controlled.

Students' predicted active and collaborative learning engagement benchmark is given by the predictive equation: $A\&CL = 0.334 - 0.001(WORK) + 0.007(CARE)$. Active and collaborative learning engagement benchmark decreased .001 units for each level increase of work and increased .007 units for each level increase of care provided. Only hours provided for care of dependents were a significant predictor of student engagement as measured by the active

and collaborative learning benchmark. Although the equation was found to be a statistically significant predictor for the model, the small R^2 value leaves little practical use of the results.

External Time Obligations vs. Student Effort Learning Engagement Measures

A multiple linear regression was calculated to predict student engagement as measured by the student effort benchmark based on part-time students’ reported hours of work and caregiving for dependents living with them. The results of this calculation are presented within Table 28.

Table 28. Results of Standard Multiple Regression to Predict Student Engagement (Student Effort [SE]) From Hours of Work and Hours of Caregiving.

Variable	B	SE B	β
Constant	0.442	0.002	
Work	-0.005*	0.000	-0.061
Care	0.011*	0.000	0.140
$R^2 = .022$			
$F = 341.204^*$			

* $p < .001$

A significant regression equation was found ($F(2, 29,899) = 341.204, p < .001$) with an R^2 of .022. That is, when both work and care giving were used as predictors, about 2.2% of the variance in engagement could be predicted.

Work was significantly predictive of engagement when the variable for care giving was statistically controlled: $t(29,899) = -10.701, p < .001$. The negative slope to predict engagement from work was approximately $B = -.005$; in other words, there was a .005 decrease in engagement for each change in hours of work. The semipartial correlation, sr^2 , for work

(controlling for care giving) was .00075. Thus, work uniquely predicted about .075% of the variation of engagement when care giving was statistically controlled.

Care giving was significantly predictive of engagement when the variable for work was statistically controlled: $t(29,899) = 24.499, p < .001$. The positive slope to predict engagement from care giving was approximately $B = +.011$; in other words, there was a .011 increase in engagement for each change in hours for care giving. The semipartial correlation, sr^2 , for care giving (controlling for work) was .0196. Thus, care giving uniquely predicted about 1.96% of the variation of engagement when work was statistically controlled.

Students' predicted student effort learning engagement benchmark is given by the predictive equation: $SE = 0.442 - 0.005(WORK) + 0.011(CARE)$. Student Effort learning engagement benchmark decreased .005 units for each level increase of work and increased .011 units for each level increase of care provided. Hours provided for care of dependents and hours spent working for pay were both significant predictors of student engagement as measured by the student effort benchmark. Although the equation was found to be a statistically significant predictor for the model, the small R^2 value leaves little practical use of the results.

External Time Obligations vs. Academic Challenge Learning Engagement Measures

A multiple linear regression was calculated to predict student engagement as measured by the academic challenge benchmark based on part-time students' reported hours of work and caregiving for dependents living with them. The results of this calculation are presented within Table 29.

Table 29. Results of Standard Multiple Regression to Predict Student Engagement (Academic Challenge [AC]) From Hours of Work and Hours of Caregiving.

Variable	B	SE B	β
Constant	0.526	0.002	
Work	0.001	0.000	0.015
Care	0.013*	0.000	0.157

$R^2 = .025$
 $F = 385.062^*$

* $p < .001$

A significant regression equation was found ($F(2, 29,899) = 385.062, p < .001$) with an R^2 of .025. That is, when both work and care giving were used as predictors, about 2.5% of the variance in engagement could be predicted.

Work was not significantly predictive of engagement when the variable for care giving was statistically controlled: $t(29,899) = 2.575, p = .01$.

Care giving was significantly predictive of engagement when the variable for work was statistically controlled: $t(29,899) = 27.395, p < .001$. The positive slope to predict engagement from care giving was approximately $B = +.013$; in other words, there was a .013 increase in engagement for each change in hours for care giving. The semipartial correlation, sr^2 , for care giving (controlling for work) was .0245. Thus, care giving uniquely predicted about 2.45% of the variation of engagement when work was statistically controlled.

Students' predicted academic challenge engagement benchmark is given by the predictive equation: $AC = 0.526 + 0.001(WORK) + 0.013(CARE)$. Academic Challenge learning engagement benchmark increased .001 units for each level increase of work and increased .013

units for each level increase of care provided. Hours provided for care of dependents was the only significant predictor of student engagement as measured by the academic challenge benchmark. Although the equation was found to be a statistically significant predictor for the model, the small R^2 value leaves little practical use of the results.

External Time Obligations vs. Student-Faculty Interaction Learning Engagement Measures

A multiple linear regression was calculated to predict student engagement as measured by the student-faculty interaction benchmark based on part-time students’ reported hours of work and caregiving for dependents living with them. The results of this calculation are presented within Table 30.

Table 30. Results of Standard Multiple Regression to Predict Student Engagement (Student-Faculty Interaction [SFI]) from Hours of Work and Hours of Caregiving.

Variable	B	SE B	β
Constant	0.377	0.002	
Work	0.000	0.001	-0.003
Care	0.008*	0.001	0.091
$R^2 = .008$			
$F = 124.163^*$			

* $p < .001$

A significant regression equation was found ($F(2, 29,891) = 124.163, p < .001$) with an R^2 of .008. That is, when both work and care giving were used as predictors, about 0.8% of the variance in engagement could be predicted.

Work was not significantly predictive of engagement when the variable for care giving was statistically controlled: $t(29,891) = -.537, p = .591$.

Care giving was significantly predictive of engagement when the variable for work was statistically controlled: $t(29,891) = 15.750, p < .001$. The positive slope to predict engagement from care giving was approximately $B = +.008$; in other words, there was a .008 increase in engagement for each change in hours for care giving. The semipartial correlation, sr^2 , for care giving (controlling for work) was .0082. Thus, care giving uniquely predicted about 0.82% of the variation of engagement when work was statistically controlled.

Students' predicted student-faculty interaction academic engagement benchmark is given by the predictive equation: $SFI = 0.377 + 0.000(WORK) + 0.008(CARE)$. Student-Faculty Interaction learning engagement benchmark increased .000 units for each level increase of work and increased .008 units for each level increase of care provided. Hours provided for care of dependents was the only significant predictor of student engagement as measured by the student-faculty interaction benchmark. Although the equation was found to be a statistically significant predictor for the model, the small R^2 value leaves little practical use of the results.

External Time Obligations vs. Support for Learners Learning Engagement Measures

A multiple linear regression was calculated to predict student engagement as measured by the support for learners benchmark based on part-time students' reported hours of work and caregiving for dependents living with them. The results of this calculation are presented within Table 31.

A significant regression equation was found ($F(2, 29,861) = 148.140, p < .001$) with an R^2 of .010. That is, when both work and care giving were used as predictors, about 1.0% of the variance in engagement could be predicted.

Table 31. Results of Standard Multiple Regression to Predict Student Engagement (Support for Learners [SL]) From Hours of Work and Hours of Caregiving.

Variable	B	SE B	β
Constant	0.443	0.003	
Work	-0.008*	0.001	-0.074
Care	0.008*	0.001	0.072
$R^2 = .010$			
$F = 148.140^*$			

* $p < .001$

Work was significantly predictive of engagement when the variable for care giving was statistically controlled: $t(29,861) = -12.735, p < .001$. The negative slope to predict engagement from work was approximately $B = -.008$; in other words, there was a .008 decrease in engagement for each change in hours of work. The semipartial correlation, sr^2 , for work (controlling for care giving) was .00538. Thus, work uniquely predicted about .538% of the variation of engagement when care giving was statistically controlled.

Care giving was significantly predictive of engagement when the variable for work was statistically controlled: $t(29,861) = 12.412, p < .001$. The positive slope to predict engagement from care giving was approximately $B = +.008$; in other words, there was a .008 increase in engagement for each change in hours for care giving. The semipartial correlation, sr^2 , for care giving (controlling for work) was .00511. Thus, care giving uniquely predicted about .511% of the variation of engagement when work was statistically controlled.

Students' predicted support for learners academic engagement benchmark is given by the predictive equation: $SL = 0.443 - 0.008(\text{WORK}) + 0.008(\text{CARE})$. Support for Learners learning

engagement benchmark decreased .008 units for each level increase of work and increased .008 units for each level increase of care provided. Hours provided for care of dependents and hours spent working for pay were both significant predictors of student engagement as measured by the support for learners benchmark. Although the equation was found to be a statistically significant predictor for the model, the small R^2 value leaves little practical use of the results.

In answering question 2, statistically significant regression equations were found for each CCSSE Benchmark indicating a relationship between hours of work and care to student engagement. However, the extremely small R^2 values for each model indicates limited practical use of the results.

Research Question Three

To what extent do student's various external time obligations impact participation within SGLEs? Is there an interaction effect between reported hours of work and caregiving?

To answer question three, the researcher employed binary logistic regression for each of the SGLEs focused in this study. The assumptions to be met for use of this model include a dichotomous output variable (participation within each SGLE) and scores on this variable must be statistically independent between values, the model must not include any irrelevant predictors, and each element is contained within exactly one category of the outcome variable (Warner, 2013).

In order to make sense of the output for this analysis, the data elements for hours of work for pay and hours given to caregiving of dependents was recoded to ensure equal interval lengths. As such, the variable WORK and CARE were coded as 0 = No hours, 1 = 1-10 hours, 2 = 11-20 hours, 3 = 21-30 hours, and 4 = More than 30 hours. Table 32 presents the recoded values for these variables.

Table 32. Total Students Within Recoded WORK and CARE Variables.

Hours	WORK	CARE
None	6,477	12,209
1-10 hours	3,488	7,185
11-20 hours	3,209	1,889
21-30 hours	5,002	1,293
More than 30 hours	11,943	7,465
Missing	694	772

In the analysis of the results for this question, a p-value of 0.001 was used to measure statistical significance. The measure of effect size for the binary logistic regression model uses two measures, the Cox and Snell's R^2 and Nagelkerke's R^2 . Both values are a way to measure the explained variance within the model (Warner, 2013).

External Time Obligations vs. Participation in Orientation Activities

Three variables were treated in exploration of the relationship between part-time student participation within orientation activities based on part-time students' reported hours of work and caregiving for dependents living with them. A binary logistic model was employed where the outcome variable was defined as participation within orientation activities (0 = NO OR, 1 = OR). Two predictor variables were used within the model; they included reported hours of work and caregiving for dependents living with them. Data from 26,790 respondents were included in this analysis.

The results of the full model with hours of work and care compared with a constant-only model were statistically significant $\chi^2(2) = 91.821, p < .001$. The strength of the association between hours for work, hours for care, and orientation participation was very weak with Cox

and Snell's $R^2 = .003$ and Nagelkerke's $R^2 = .005$. Table 33 summarizes the raw score binary logistic regression coefficients, Wald statistics, and the estimated change in odds of participation within orientation activities for those that work or provide care, along with a 95% confidence interval.

Table 33. Binary Logistic Regression Analysis: Prediction Participation Within Orientation Activities From Reported Hours of Work and Care.

Predictor Variable	B	Wald Chi-Square Test	P	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower	Upper
Work	-.074	91.360	.000*	.928	.914	.943
Care	.005	.419	.517	1.005	.990	1.020
Constant	.410	273.255	.000*	1.507		

* $p < .001$

The Wald ratio for the coefficient associated with hours provided for the care of dependents was not statistically significant, $\chi^2(1) = .419$, $p = .517$. Thus there was no significant difference in the odds of participating within orientation activities for different levels of care.

The Wald ratio for the coefficient associated with reported hours worked for pay was statistically significant, $B = -.074$, $\chi^2(1) = 91.360$, $p < .001$. The odds ratio for hours worked for pay was .928. This indicates that for each 10-hour increase in work, the predicted odds of participation within orientation activities decreased by 7.2%.

The results of the full model with hours of work, care, and the interaction between work and care compared with a constant-only model were statistically significant $\chi^2(3) = 98.457$, $p < .001$. The strength of the association between hours for work, hours for care, and orientation participation was very weak with Cox and Snell's $R^2 = .004$ and Nagelkerke's $R^2 = .005$. Table

34 summarizes the raw score binary logistic regression coefficients, Wald statistics, and the estimated change in odds of participation within orientation activities for those that work or provide care, along with a 95% confidence interval.

Table 34. Binary Logistic Regression Analysis: Prediction Participation Within Orientation Activities From Reported Hours of Work, Care, and Work x Care.

Predictor Variable	B	Wald Chi-Square Test	P	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower	Upper
Work	-.093	76.157	.000*	.911	.892	.930
Care	-.025	3.266	.071	.975	.949	1.002
Work x Care	.012	6.641	.010	1.012	1.003	1.021
Constant	.455	224.211	.000*	1.576		

*p < .001

The Wald ratio for the coefficient associated with hours provided for the care of dependents was not statistically significant, $\chi^2(1) = 3.266$, $p = .071$. Thus there was no significant difference in the odds of participating within orientation activities for different levels of care. The Wald ratio for the coefficient associated with reported hours worked for pay was statistically significant, $B = -.093$, $\chi^2(1) = 76.157$, $p < .001$. The odds ratio for hours worked for pay was .911. This indicates that for each 10-hour increase in work, the predicted odds of participation within orientation activities decreased by 8.9%. The Wald ratio for the coefficient associated with the interaction of hours worked for pay and for the care of dependents was not statistically significant, $\chi^2(1) = 6.641$, $p = .010$.

External Time Obligations vs. Participation in Accelerated Developmental Education

Three variables were treated in exploration of the relationship between part-time student participation within advanced developmental education activities based on part-time students’ reported hours of work and caregiving for dependents living with them. A binary logistic model was employed where the outcome variable was defined as participation within advanced developmental education activities (0 = NO ADE, 1 = ADE). Two predictor variables were used within the model; they included reported hours of work and caregiving for dependents living with them. Data from 25,936 respondents were included in this analysis.

The results of the full model with hours of work and care compared with a constant-only model were statistically significant $\chi^2(2) = 42.237, p < .001$. The strength of the association between hours for work, hours for care, and orientation participation was very weak with Cox and Snell’s $R^2 = .002$ and Nagelkerke’s $R^2 = .003$. Table 35 summarizes the raw score binary logistic regression coefficients, Wald statistics, and the estimated change in odds of participation within accelerated developmental education activities for those that work or provide care, along with a 95% confidence interval.

Table 35. Binary Logistic Regression Analysis: Prediction Participation Within Accelerated Developmental Education Activities From Reported Hours of Work and Care.

Predictor Variable	B	Wald Chi-Square Test	P	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower	Upper
Work	-.063	41.528	.000*	.939	.921	.957
Care	.014	2.014	.156	1.014	.995	1.033
Constant	-1.308	1,810.445	.000*	.270		

*p < .001

The Wald ratio for the coefficient associated with hours provided for the care of dependents was not statistically significant, $\chi^2(1) = 2.014$, $p = .156$. Thus there was no significant difference in the odds of participating within accelerated developmental courses for different levels of care. The Wald ratio for the coefficient associated with reported hours worked for pay was statistically significant, $B = -.063$, $\chi^2(1) = 41.528$, $p < .001$. The odds ratio for hours worked for pay was .939. This indicates that for each 10-hour increase in work, the predicted odds of participation within accelerated developmental courses decreased by 6.1%.

The results of the full model with hours of work, care, and the interaction of work and care compared with a constant-only model were statistically significant $\chi^2(3) = 47.789$, $p < .001$. The strength of the association between hours for work, hours for care, and accelerated developmental course participation was very weak with Cox and Snell's $R^2 = .002$ and Nagelkerke's $R^2 = .003$. Table 36 summarizes the raw score binary logistic regression coefficients, Wald statistics, and the estimated change in odds of participation within accelerated developmental education activities for those that work or provide care, along with a 95% confidence interval.

The Wald ratio for the coefficient associated with hours provided for the care of dependents was not statistically significant, $\chi^2(1) = 1.258$, $p = .262$. Thus there was no significant difference in the odds of participating within accelerated developmental courses for different levels of care. The Wald ratio for the coefficient associated with reported hours worked for pay was statistically significant, $B = -.085$, $\chi^2(1) = 39.659$, $p < .001$. The odds ratio for hours worked for pay was .919. This indicates that for each 10-hour increase in work, the predicted odds of participation within accelerated developmental courses decreased by 8.1%. The Wald

Table 36. Binary Logistic Regression Analysis: Prediction of Participation Within Accelerated Developmental Education Activities From Reported Hours of Work, Care, and Work x Care.

Predictor Variable	B	Wald Chi-Square Test	P	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower	Upper
Work	-.085	39.659	.000*	.919	.895	.943
Care	-.019	1.258	.262	.981	.949	1.014
Work x Care	.014	5.539	.019	1.014	1.002	1.025
Constant	-1.259	1,157.087	.000*	.284		

*p < .001

ratio for the coefficient associated with the interaction of hours worked for pay and for the care of dependents was not statistically significant, $\chi^2(1) = 5.539$, $p = .019$.

External Time Obligations vs. Participation in First-Year Experience Courses

Three variables were treated in exploration of the relationship between part-time student participation within first-year experience courses based on part-time students' reported hours of work and caregiving for dependents living with them. A binary logistic model was employed where the outcome variable was defined as participation within first-year experience courses (0 = NO FYE, 1 = FYE). Two predictor variables were used within the model; they included reported hours of work and caregiving for dependents living with them. Data from 26,136 respondents were included in this analysis.

The results of the full model with hours of work and care compared with a constant-only model were statistically significant $\chi^2(2) = 88.985$, $p < .001$. The strength of the association between hours for work, hours for care, and first-year experience courses was very weak with Cox and Snell's $R^2 = .003$ and Nagelkerke's $R^2 = .005$. Table 37 summarizes the raw score

binary logistic regression coefficients, Wald statistics, and the estimated change in odds of participation within first-year experience courses for those that work or provide care, along with a 95% confidence interval.

Table 37. Binary Logistic Regression Analysis: Prediction Participation Within First-Year Experience Courses From Reported Hours of Work and Care.

Predictor Variable	B	Wald Chi-Square Test	P	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower	Upper
Work	-.080	83.606	.000*	.923	.907	.939
Care	-.016	3.286	.070	.984	.968	1.001
Constant	-.846	945.652	.000*	.429		

*p < .001

The Wald ratio for the coefficient associated with hours provided for the care of dependents was not statistically significant, $\chi^2(1) = 3.286$, $p = .070$. Thus there was no significant difference in the odds of participating within first-year experience courses for different levels of care. The Wald ratio for the coefficient associated with reported hours worked for pay was statistically significant, $B = -.080$, $\chi^2(1) = 83.606$, $p < .001$. The odds ratio for hours worked for pay was .923. This indicates that for each 10-hour increase in work, the predicted odds of participation within first-year experience courses decreased by 7.7%.

The results of the full model with hours of work, care, and the interaction of work and care compared with a constant-only model were statistically significant $\chi^2(3) = 115.559$, $p < .001$. The strength of the association between hours for work, hours for care, and first-year experience courses was very weak with Cox and Snell's $R^2 = .004$ and Nagelkerke's $R^2 = .006$.

Table 38 summarizes the raw score binary logistic regression coefficients, Wald statistics, and

the estimated change in odds of participation within first-year experience courses for those that work or provide care, along with a 95% confidence interval.

Table 38. Binary Logistic Regression Analysis: Prediction Participation Within First-Year Experience Courses From Reported Hours of Work and Care.

Predictor Variable	B	Wald Chi-Square Test	P	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower	Upper
Work	-.123	104.149	.000*	.885	.864	.906
Care	-.081	27.340	.000*	.922	.895	.951
Work x Care	.027	26.446	.000*	1.027	1.017	1.038
Constant	-.750	522.242	.000*	.472		

*p < .001

The Wald ratio for the coefficient associated with reported hours worked for pay was statistically significant, $B = -.123, \chi^2(1) = 104.149, p < .001$. The odds ratio for hours worked for pay was .885. This indicates that for each 10-hour increase in work, the predicted odds of participation within first year experience courses decreased by 11.5%. The Wald ratio for hours provided for the care of dependents was statistically significant, $B = -.081, \chi^2(1) = 27.340, p < .001$. The odds ratio for hours providing care was .922. This indicates that for each 10-hour increase in care, the predicted odds of participation within first-year experience courses decreased by 7.8%. The Wald ratio for the coefficient associated with the interaction of hours worked for pay and for the care of dependents was statistically significant, $B = +.027, \chi^2(1) = 26.446, p < .001$.

External Time Obligations vs. Participation in Student Success Courses

Three variables were treated in exploration of the relationship between part-time student participation within student success courses based on part-time students' reported hours of work and caregiving for dependents living with them. A binary logistic model was employed where the outcome variable was defined as participation within student success courses (0 = NO SSC, 1 = SSC). Two predictor variables were used within the model; they included reported hours of work and caregiving for dependents living with them. Data from 26,007 respondents were included in this analysis.

The results of the full model with hours of work and care compared with a constant-only model were statistically significant $\chi^2(2) = 139.921, p < .001$. The strength of the association between hours for work, hours for care, and student success course participation was very weak with Cox and Snell's $R^2 = .005$ and Nagelkerke's $R^2 = .008$. Table 39 summarizes the raw score binary logistic regression coefficients, Wald statistics, and the estimated change in odds of participation within student success courses for those that work or provide care, along with a 95% confidence interval.

Table 39. Binary Logistic Regression Analysis: Prediction Participation Within Student Success Courses From Reported Hours of Work and Care.

Predictor Variable	B	Wald Chi-Square Test	P	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower	Upper
Work	-.106	137.781	.000*	.900	.884	.916
Care	.022	6.275	.012	1.022	1.005	1.040
Constant	-.939	1,117.714	.000*	.391		

*p < .001

The Wald ratio for the coefficient associated with hours provided for the care of dependents was not statistically significant, $\chi^2(1) = 6.275$, $p = .012$. The Wald ratio for the coefficient associated with reported hours worked for pay was statistically significant, $B = -.106$, $\chi^2(1) = 137.781$, $p < .001$. The odds ratio for hours worked for pay was .900. This indicates that for each 10-hour increase in work, the predicted odds of participation within student success courses decreased by 10.0%.

The results of the full model with hours of work, care, and the interaction of work and care compared with a constant-only model were statistically significant $\chi^2(3) = 152.033$, $p < .001$. The strength of the association between hours for work, hours for care, and student success course participation was very weak with Cox and Snell's $R^2 = .006$ and Nagelkerke's $R^2 = .009$. Table 40 summarizes the raw score binary logistic regression coefficients, Wald statistics, and the estimated change in odds of participation within student success courses for those that work or provide care, along with a 95% confidence interval.

Table 40. Binary Logistic Regression Analysis: Prediction Participation Within Student Success Courses From Reported Hours of Work and Care.

Predictor Variable	B	Wald Chi-Square Test	P	Exp(B)	95% Confidence Interval for exp(B)	
					Lower	Upper
Work	-.136	118.483	.000*	.873	.852	.895
Care	-.021	1.915	.166	.979	.950	1.009
Work x Care	.019	12.085	.001*	1.019	1.008	1.029
Constant	-.872	668.921	.000*	.418		

* $p < .001$

The Wald ratio for the coefficient associated with hours provided for the care of dependents was not statistically significant, $\chi^2(1) = 1.915$, $p = .166$. Thus there was no significant difference in the odds of participating within student success courses for different levels of care. The Wald ratio for the coefficient associated with reported hours worked for pay was statistically significant, $B = -.136$, $\chi^2(1) = 118.483$, $p < .001$. The odds ratio for hours worked for pay was .873. This indicates that for each 10-hour increase in work, the predicted odds of participation within accelerated developmental courses decreased by 12.7%. The Wald ratio for the coefficient associated with the interaction of hours worked for pay and for the care of dependents was statistically significant, $B = +.019$, $\chi^2(1) = 12.085$, $p = .001$.

External Time Obligations vs. Participation in Learning Communities

Three variables were treated in exploration of the relationship between part-time student participation within learning communities based on part-time students' reported hours of work and caregiving for dependents living with them. A binary logistic model was employed where the outcome variable was defined as participation within learning communities (0 = NO LC, 1 = LC). Two predictor variables were used within the model; they included reported hours of work and caregiving for dependents living with them. Data from 25,990 respondents were included in this analysis.

The results of the full model with hours of work and care compared with a constant-only model were statistically significant $\chi^2(2) = 76.744$, $p < .001$. The strength of the association between hours for work, hours for care, and learning communities was very weak with Cox and Snell's $R^2 = .003$ and Nagelkerke's $R^2 = .005$. Table 41 summarizes the raw score binary logistic regression coefficients, Wald statistics, and the estimated change in odds of participation

within learning communities for those that work or provide care, along with a 95% confidence interval.

Table 41. Binary Logistic Regression Analysis: Prediction Participation Within Learning Communities From Reported Hours of Work and Care.

Predictor Variable	B	Wald Chi-Square Test	P	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower	Upper
Work	-.099	76.543	.000*	.906	.886	.926
Care	-.005	.184	.668	.995	.973	1.017
Constant	-1.656	2,245.581	.000*	.191		

*p < .001

The Wald ratio for the coefficient associated with hours provided for the care of dependents was not statistically significant, $\chi^2(1) = .184$, $p = .668$. Thus there was no significant difference in the odds of participating within learning communities for different levels of care.

The Wald ratio for the coefficient associated with reported hours worked for pay was statistically significant, $B = -.099$, $\chi^2(1) = 76.543$, $p < .001$. The odds ratio for hours worked for pay was .906. This indicates that for each 10-hour increase in work, the predicted odds of participation within learning communities decreased by 9.4%.

The results of the full model with hours of work, care, and the interaction between work and care compared with a constant-only model were statistically significant $\chi^2(3) = 91.687$, $p < .001$. The strength of the association between hours for work, hours for care, and learning communities was very weak with Cox and Snell's $R^2 = .004$ and Nagelkerke's $R^2 = .007$. Table 42 summarizes the raw score binary logistic regression coefficients, Wald statistics, and the

estimated change in odds of participation within learning communities for those that work or provide care, along with a 95% confidence interval.

Table 42. Binary Logistic Regression Analysis: Prediction Participation Within Learning Communities From Reported Hours of Work and Care.

Predictor Variable	B	Wald Chi-Square Test	P	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower	Upper
Work	-.140	81.513	.000*	.869	.843	.896
Care	-.065	11.197	.001*	.937	.902	.973
Work x Care	.026	14.856	.000*	1.027	1.013	1.040
Constant	-1.567	1,446.500	.000*	.209		

*p < .001

The Wald ratio for the coefficient associated with reported hours worked for pay was statistically significant, $B = -.140, \chi^2(1) = 81.513, p < .001$. The odds ratio for hours worked for pay was .869. This indicates that for each 10-hour increase in work, the predicted odds of participation within learning communities decreased by 13.1%. The Wald ratio for the coefficient associated with hours provided for the care of dependents was statistically significant $B = -.065, \chi^2(1) = 11.197, p = .001$. The odds ratio for hours provided for the care of dependents was .937. This indicates that for each 10-hour increase in hours provided for the care of dependents, the predicted odds of participation with learning communities decreased by 6.3%. The Wald ratio for the coefficient associated with the interaction of hours worked for pay and for the care of dependents was statistically significant, $B = +.026, \chi^2(1) = 14.856, p < .001$.

In answering question 3, statistically significant logistic models were found for each SGLE indicating a relationship between hours of work and care to participation within these

activities. However, the weak Nagelkerke's R^2 values for each model indicate that caution must be given to the direct use of these results in practical applications.

This chapter presented the results of a number of different statistical analyses to determine the relationship between reported hours of work, hours spent in caregiving activities, and participation within Structured Group Learning Experiences as defined by the Community College Survey of Student Engagement. Within the next chapter, a summary of the findings, conclusions, and recommendations for further research are presented.

CHAPTER V

SUMMARY, DISCUSSION, AND RECOMMENDATIONS

The preceding chapters outlined the purpose of the study, the review of the literature, and the methodology used within the study, and the exploration of the data related to each question. This final chapter provides a summary of the research, a discussion of the findings, and the recommendations for future studies.

Summary

The purpose of this study was to examine the relationship among various external time obligations of part-time students, their participation within structured group learning experiences, and student engagement. In particular, how is the engagement of part-time students who report various levels of external time obligations impacted by participation within certain college programs?

The study used data provided by the Center for Community College Student Engagement (CCCSE) and consisted of a sample of the Community College Survey of Student Engagement (CCSSE) 2014 Cohort Data Set. This sample consisted of 110,896 survey results from individuals completing the survey over the years 2012, 2013, and 2014 of which 27.8% reported part-time enrollment status. As described earlier, the sampling procedures used for the annual administration of the CCSSE tool underrepresents part-time student populations so extra caution should be given to these results as the true effect of part-time enrollment may actually be greater than what was found in this or other studies (McClenney, 2003). Focusing on this part-time

subset, 58.6% of the respondents were female which is consistent with the literature suggesting females make up a majority of part-time community college enrollments (Snyder & Dillow, 2013). Generally, the part-time students were older as 45.4% were 25 years or older as compared to 30.0% of their full-time peers. In relation to their external time obligations, 38.8% of part-time students reported working more than 30 hours per week as compared to only 19.1% of their full-time colleagues and 24.2% of them reported more than 30 hours per week given to caregiving activities as compared to 18.8% of the full-time sample's full-time students.

The findings of this study indicate a positive impact to student engagement for part-time students with external time obligations through their participation within certain college activities designed to provide greater student success and completion. The level of impact these Structured Group Learning Experiences (SGLEs) provide was assessed for part-time students by each activity and type of external time obligation.

Findings and Discussion

This study was guided by three research questions exploring the relationship between participation within structured group learning experiences and the level of external time obligations required of students viewed through the lens of student engagement.

Research Question #1

What is the relationship between participation within structured group learning experiences and student engagement?

This study shows that there were relationships between part-time student participation within programs classified as SGLEs and higher student engagement scores as measured by the CCSSE instrument. Two SGLEs, Accelerated Developmental Education and Learning Communities, were related to higher scores across all five CCSSE student engagement

benchmarks. In a recent study by the Center for Community College Student Engagement (CCCSE), an analysis of covariance was used to investigate the relationship between participation within thirteen practices identified as promising practices (see Table 1) and student engagement as measured by CCSSE benchmarks. If the overall model R^2 exceeded 0.03 and if the variance explained by the practice was at least 1%, then the practice was considered as making a notable difference in engagement (CCCSE, 2013a). While this study found that part-time student participation within Accelerated Developmental Education was connected to higher student engagement scores across all five CCSSE benchmarks, the benchmark from this study with the largest effect size of .364 (Support for Learners) was consistent with the benchmark highlighted as having a notable difference in engagement through CCCSE's analysis of all students (CCCSE, 2013). A common design to many of these programs, especially if they are designed under the National Association for Developmental Education best practices, is an active, collaborative, and highly engaging environment in which students are encouraged to look at new methods to learn the content of the course (Boylan, 1999). It is not then surprising to find connections between participation within these programs and overall higher student engagement. Additionally, this study found that part-time student participation within Learning Communities was connected to higher student engagement scores across all five CCSSE benchmarks, the three benchmarks from this study with the largest effect sizes of .419 (Support for Learners), .389 (Active & Collaborative Learning), and .365 (Student-Faculty Interaction) was consistent with the three benchmarks highlighted as having a notable difference in engagement through CCCSE's analysis of all students (CCCSE, 2013).

The findings of this study also highlight the potential impact of participation within certain SGLEs on student engagement as measured by the CCSSE Academic Challenge

benchmark. The Center for Community College Student Engagement's 2013 study of all community college students did not find a significant connection between SGLE participation and student engagement for all community college students; however, this study of part-time students found significantly higher student engagement across all CCSSE Benchmarks through participation within Accelerated Developmental Education and Learning Communities. While the literature has a strong record relating the benefits of learning communities and student engagement (Zhao & Kuh, 2004; Kuh et al., 2010; Pike, Kuh, & McCormick, 2011), the connection of accelerated developmental education to overall student engagement is rather new. These findings provide strong motivation for community college leaders evaluating their remediation programs, especially since many feel these programs are of critical importance if community colleges are to fulfill to their role in higher education (Bailey & Alfonso, 2005; Beach, 2011).

These findings should provide encouragement to community college leadership concerned for the success of part-time students enrolled within their institutions. The multiple connections between participation in SGLEs and student engagement has been reported for some time when looking at the entire student population; however, it is reassuring to see these connections exist for the part-time student population navigating their more difficult college journey. Learning communities, not surprisingly, rise again to the top of successful college programming geared for student success. Perhaps of more interest, especially in the current environment of negative perceptions related to developmental education as a barrier to student completion, are the results indicating the benefits of Accelerated Developmental Education on student engagement and in particular, to student engagement as measured through the CCSSE Academic Challenge benchmark. Recent actions within some higher education state systems

have removed the required remediation programming for entering college students not achieving college readiness levels in mathematics and English even though after implementation, completion rates in these areas continued to decrease (A. Smith, 2015). Successful redesign efforts for these of programs have been made highlighting the benefits of the accelerated structure (Edgecombe, 2011). The results of this study confirm that the participation within Accelerated Developmental Education courses has positive outcomes related to student engagement.

Research Question #1a

If there is a relationship, to what extent does the cumulative effect impact student engagement?

The impact of multiple SGLE participation was found to benefit some students within a recent study by the CCCSE. In particular, they found that participation within multiple SGLEs for all students improved the likelihood of the completion of a required developmental math or English course and an institutionally defined gatekeeper course (CCCSE, 2014). The results of this study also reveal positive benefits related to participation within multiple SGLEs for part-time students, in this case within respect to a relationship with higher student engagement scores. Participation within each SGLE is linked to increased student engagement, as is the participation within multiple SGLEs.

The CCSSE student engagement benchmark with the largest positive relationship to multiple SGLE participation was the Support for Learners Benchmark. This relationship was the strongest with 26.1% of the variance in the engagement score accounted for by SGLE participation and it was the only benchmark where each step level of additional participation resulted in a significantly different mean engagement score. In fact, the mean student

engagement scores ranged from $M = .3638428406$ with no SGLE participation to $M = .5724354600$ with participation in all five SGLEs. Also, it was found that the addition of each additional SGLE created a new group with a significantly different mean engagement score. This result suggests the importance of participation within multiple SGLEs in relation to how students perceive the support provided by their institution and its impact on student engagement. A quick review of the survey items comprising the CCSSE Support for Learners Benchmark (Table 8) reveals the strong connection between SGLE participation and this student engagement benchmark. Providing the support needed for success in college, encouraging social and academic interactions, and providing academic/career counseling are key elements of the benchmark's survey questions. These same items are also key components of the five SGLEs of this study.

The CCSSE engagement benchmark with the next largest positive relationship to multiple SGLE participation was the Student-Faculty Interaction Benchmark. This relationship was found to account for 20.7% of the variance in the engagement score through SGLE participation and was found to have five unique levels of participation. The mean engagement score for students participating within 2 or 3 SGLEs was not significantly different. Again, participation within multiple SGLEs is related to an increasing mean student engagement score where the mean engagement scores ranged from $M = .3512153416$ with no SGLE participation to $.5005107252$ with participation in all five SGLEs.

The CCSSE Student Effort Benchmark had the third largest positive relationship to multiple SGLE participation. Here, 18.8% of the variance in the engagement score was explained through SGLE participation and there were five unique levels of participation. The mean engagement score for students participating within 3 or 4 SGLEs was not significantly

different. Nor was the mean engagement score for students participating within 4 or 5 SGLEs. Again, participation within multiple SGLEs is related to an increasing mean student engagement score where the mean engagement scores ranged from $M = .4097657957$ with no SGLE participation to $.5019125378$ (average of the 4 and 5 SGLE participation means) with participation in four or five SGLEs.

The CCSSE Active and Collaborative Benchmark also had a positive relationship to multiple SGLE participation; however, its impact was next to last of the five benchmark categories. This relationship was found to account for 16.4% of the variance in the engagement score through SGLE participation and was also found to have five unique levels of participation. As with the Student-Faculty Benchmark, the mean engagement score for students participating within 2 or 3 SGLEs was not significantly different. Again, participation within multiple SGLEs is related to an increasing mean student engagement score where the mean engagement scores ranged from $M = .3194743559$ with no SGLE participation to $.4321173209$ with participation in all five SGLEs.

The CCSSE engagement benchmark with the smallest positive relationship to multiple SGLE participation was the Academic Challenge Benchmark. This relationship was found to account for 13.7% of the variance in the engagement score through SGLE participation but was found to have only three unique levels of participation. This result is unique within the five CCSSE engagement benchmarks. This result implies that although there is a positive impact with participation within increasing number of SGLEs, the mean engagement value does not significantly change once a student participates in 2 or more SGLEs. The mean Academic Challenge engagement score is $M = .5248605168$ when a student has no SGLE participation and changes to $M = .5539514747$ through the participation of one SGLE. Then mean Academic

Challenge engagement score is $M = .5848842722$ (average of the mean scores for students participating in 2, 3, 4, or 5 SGLEs). This result implies that mean student engagement as measured by the Academic Challenge Benchmark is influenced by the participation of one SGLE and then by any combination of the remaining SGLEs. No cumulative effect is gained by increasing participation beyond two SGLEs. The nature and design of the SGLEs might explain this impact of the CCSSE Academic Challenge Benchmark. Orientation programs are designed to provide a connection to the college by highlighting academic and social interactions yielding little to no impact on academic challenge metrics. Student Success Courses and First-Year Experience courses are designed with similar outcomes and are not usually structured to challenge students to higher levels of academic rigor. The remaining two SGLEs, Accelerated Developmental Education courses and Learning Communities, actually have design elements leading to enhanced classroom learning. Evidence of their impact, as summarized in Table 19, can be found in review of the effect size (.227) associated with participation in Accelerated Developmental Education programs and Learning Communities (although this value was at the significance threshold of .200). These two SGLEs, with curricular designs typically leading to higher student learning, are the two making the largest impact on the Student Effort CCSSE Benchmark. The remaining SGLEs did not produce an effect size of significance and this could explain the cumulative impact results from above.

Research Question #2

What is the relationship between student engagement and students' various external time obligations?

Using multiple regression analysis with hours of work and caregiving as the independent variables and each Community Colleges Survey of Student Engagement (CCSSE) Benchmark as

the output, results indicate that working for pay was generally connected to lower levels of engagement while hours spent providing care to dependents were connected to higher levels.

The regression equations were all significant at the $p = .001$ level but the R^2 values were very small. The regression equations were as follows:

- $A\&CL = 0.334 - 0.001(WORK) + 0.007(CARE)$, CARE was significant
- $SE = 0.442 - 0.005(WORK) + 0.011(CARE)$, WORK and CARE were significant
- $AC = 0.526 + 0.001(WORK) + 0.013(CARE)$, CARE was significant
- $SFI = 0.377 - 0.000(WORK) + 0.008(CARE)$, CARE was significant
- $SL = 0.443 - 0.008(WORK) + 0.008(CARE)$, WORK and CARE were significant

In the two CCSSE Benchmarks where time spent working for pay was significant, there was a negative impact of this activity on student engagement. The literature is mixed in relation to the impact of work on student engagement. Some studies show a positive impact (McCormick, Moore, & Kuh, 2010; Martinez, Bilges, Shabazz, Miller, & Morote, 2012) while others have found a negative impact (Pike, Kuh, Massa-McKinley, 2008). This study adds to the chaos by showing that work generally is linked to lower engagement as measured by CCSSE Benchmarks.

This study found an interesting result with regards to the connection between hours spent providing care for dependents and student engagement. In each regression analysis, the impact of hours spent providing care was linked to a positive effect on student engagement. With the analysis of each CCSSE Benchmark, time spent providing care for dependents was a significant predictor of engagement. Although the level of variance described by this variable was small across all tests, the impact was positive.

These findings suggest there is a positive link between student engagement and care giving activities for part-time students. This is in conflict with prior literature, which found

negative connections between these activities and desirable educational outcomes (Coley, 2000; Surette, 2001). This positive relationship might be the result of a different level of maturity or motivation for part-time students reporting hours spent providing care for dependents. The lack of clarity provided by the survey item where students report their hours spent in providing care for dependents may also add to this result. Perhaps participants viewed the impact of external hours spent working for pay differently than the time spent providing care? That somehow, providing care is a natural, normal part of their lives where as time spent working for pay is viewed as a negative obligation.

Research Question #3

To what extent do student's external time obligations or work and caregiving impact participation with SGLEs? Is there an interaction effect between reported hours of work and caregiving?

Using a logistic regression analysis with hours of work and caregiving as the independent variables and participation within each SGLE as the output, results indicate that working for pay is connected to lower participation within all SGLEs while time spent towards providing care for dependents was not. For each 10-hour increase in work, students were 7.2% less likely to participate in orientation programs, 6.1% less likely to participate in accelerated developmental education courses, 7.7% less likely to participate in first-year experience courses, 10.0% less likely to participate in student success courses, and 9.4% less likely to participate in learning communities. The impact of work on participation within SGLEs is consistent. In each instance, work decreases the likelihood of participation within programs designed by institutions to increase positive educational outcomes for their students. Generally, while impact of work has been found to produce mixed results within the literature, these findings are consistent with

studies that show work provides a barrier to completion of academic programs (Coley, 2000; Spellman, 2007).

When the interaction of work and caregiving was added as third consideration, mixed results were found across the SGLEs. The addition of the interaction element made no impact on participation within orientation and accelerated developmental education programs. In these two SGLEs, work remained the only significant impact where participation within these activities decreased by 8.9% and 8.1% respectively for each 10-hour increase in work. In each case, while the interaction effect and hours of care were not significant factors by themselves, there was an overall decrease in the likelihood of participation in these two SGLEs. For student success courses, the interaction effect between work and care was significant and the overall likelihood of participating within this activity decreased by 12.7% (10.0% without the interaction as a consideration) for each 10-hour change in work. Finally, in the SGLEs of First-Year Experience courses and Learning Communities, all three elements (work, care, and the interaction) were significant effects on participation. In the case of first-year experiences, students were 11.5% less likely (7.7% without the interaction consideration) to participate in this activity with each 10-hour increase in work and 7.8% less likely with each 10-hour increase in caregiving. Likewise, students were 13.1% less likely (9.4% without the interaction as a consideration) to participate within learning communities for each 10-hour increase in work and 6.3% less likely with each 10-hour increase in caregiving. One explanation for this result may be linked to the designed structure of these activities. In the case of First-Year Experiences, if the experience is optional at the student's institution, then a part-time student may weigh the predicted benefits of enrolling within this activity against their already limited time on campus. The results of this "return on investment" decision may lead part-time students with external time obligations to

focus their attention on other endeavors leading to quicker beneficial returns. The design of Learning Communities may also restrict access to part-time students with external time obligations. Typically, Learning Communities are comprised of two linked courses designed to provide a more collaborative, engaging student-learning environment. Part-time students with limited time resources, especially with respect to their time on campus, may see a planned enrollment within these opportunities as too complicated to fit within their busy schedules. Unfortunately, college experiences with the potential to provide positive learning outcomes to part-time students may actually never occur due to their actual design and intended purpose providing a true “Catch-22” scenario for this at risk population.

Recommendations

The results of this study yield several recommendations for practice and for future research.

Recommendations for Practice

The classification of orientation, accelerated developmental education, first-year experience courses, student success courses, and learning communities as Structured Group Learning Experiences (SGLE) highlights their positive impact on student success (CCCSE, 2012). The relationship between SGLE participation and higher Community College Survey of Student Engagement (CCSSE) engagement scores is clear (CCCSE, 2013; CCCSE, 2014). This study found a similar connection for part-time students with external time obligations of work and caregiving. Community college leaders can use the results of this study to reaffirm their institutional programming efforts for all enrolled students, but most certainly for their part-time students who face many more barriers to the successful completion of their educational goals. Highlighting the impact of multiple SGLEs on student engagement, leaders can leverage their

increasingly tight resources to ensure a laser like focus on programs that can provide the most impact. Limited resources (time and financial) is a common theme for many community colleges and finding ways of doing more with less forces many leaders to fully understand their students and the programming opportunities providing the largest impact.

Those within higher education know that students do not do “optional”. Their busy lives are filled with a continuous juggling of school, work, caregiving, and the many distractions connected to their social time. Reiterating the comments made within the CCCSE (2013) report, institutional leaders must ensure their institutions maintain high functioning programs with required participation for all students. The connection to higher student engagement through the participation in SGLEs is clear, what use is this information if students never participate? The participation within Learning Communities is potentially open to each and every student on campus. Outside of Accelerated Developmental Education, which is only necessary for some students, Learning Community participation is the only SGLE linked to higher student engagement across all five CCSSE Benchmark scores. Yet, only 11.3% of part-time students within the national data set used by this study indicated participation in this SGLE. Clearly, community college leaders should move forward in providing support for their faculty and staff to ensure these opportunities become a common experience shared by all of their students.

Recommendations for Future Research

This study investigated part-time student participation within the Center for Community College Student Engagement’s (CCCSE) defined Structured Group Learning Experiences (SGLE) for those reporting external time obligations of work and caregiving. The data set used for the study was the 2014 Community College Survey of Student Engagement (CCSSE) cohort. A replication of this study should be conducted with a survey designed to gather more detailed

information about part-time student work and caregiving activities to gain a better understanding of other unknown variables that may have provided noise within the results of this study. For example, the survey item related to the hours spent providing care for dependents has limited to a collection of the hours only. Additional demographic items of interest for a future study to consider could include types of dependents (children, spousal, elderly parents) for which the care is provided. Additional information could also be gathered about the types of work (internship, work related to chosen career) and location of work (on campus or off campus). The addition of these demographic elements would better connect the findings of these studies to prior research.

Replication of this study should be conducted on data from a single community college or a collection of colleges where student level demographic inputs could be used as controlling variables within the I-E-O framework. Additional outputs could be gathered from these institutions to further enhance the engagement connection to positive educational outcomes.

Replication of this study should be conducted on data from a single community college or a collection of colleges with the inclusion of a qualitative analysis of the SGLEs from the school. The implementation of an SGLE at one college, say for example a student success course, might be classified as a first-year experience course at another. These perceived ambiguous labels could present issues for researchers seeking to quantify differences or impacts of program participation (Hatch & Bohlig, 2016). Only through a mixed approach (quantitative and qualitative) could a researcher gain a clearer picture to the success of certain programs at individual colleges.

Modification of this study should be conducted with a focus on time spent towards providing care for dependents. The interesting results of this study in relation to the positive

impact of care giving might lead to future investigations in which more detailed variables related to the types of care are included.

The results from the question exploring the relationship between hours spent working for pay and in providing care for dependents to participation within each SGLE provide an opportunity for further research. The significance of work as a negative impact on SGLE participation for part-time students noteworthy; however, questions remain around the at times positive influence of hours given to caregiving for some of the SGLEs. Furthermore, the interaction effect between hours of work and care appearing as a significant positive impact for participation in First-Year Experience, Student Success Courses, and Learning Community participation when the work and care variables are both negative impacts remains unanswered. Something is happening with these interactions and the challenge is there for another to dig deeper into these connections.

Summary

This study explored the relationship between student engagement, Structured Group Learning Experience (SGLE) participation, and time spent working for pay and providing care for dependents. Part-time student participation within each SGLE provided a positive impact on engagement as measured by the Community College Survey of Student Engagement (CCSSE) Benchmarks. Additional participation was found to have a cumulative effect. Time spent working for pay was shown to decrease the likelihood of participation within SGLEs whereas time spent in caregiving activities for dependents provided the same impact but on a small scale. The most interesting result of this study was found in the positive relationship between time spent providing care for dependents and engagement scores. The positive impact of this effort, even though the time spent in these activities squeezes the limited time available to college work,

somehow is connected to higher student engagement. This higher student engagement, the goal of most community college programming, is the desired bridge leading to the attainment of positive educational outcomes.

APPENDICES

Appendix A Community College Survey of Student Engagement Instrument

(Included with permission granted by the Center for Community College Student Engagement)

The Community College Student Report

Instructions: It is essential that you use a No. 2 pencil to complete this survey. Mark your answers as shown in the following example: Correct Mark Incorrect Marks

1. Did you begin college at this college or elsewhere? Started here Started elsewhere

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

3. Have you taken this survey in another class this term? Yes No

4. In your experiences at this college during the current school year, about how often have you done each of the following?

	Very often	Often	Some-times	Never
a. Asked questions in class or contributed to class discussions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Made a class presentation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Prepared two or more drafts of a paper or assignment before turning it in	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Worked on a paper or project that required integrating ideas or information from various sources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Come to class without completing readings or assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Worked with other students on projects during class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Worked with classmates outside of class to prepare class assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Tutored or taught other students (paid or voluntary)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Participated in a community-based project as a part of a regular course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Used the Internet or instant messaging to work on an assignment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Used e-mail to communicate with an instructor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. Discussed grades or assignments with an instructor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. Talked about career plans with an instructor or advisor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. Discussed ideas from your readings or classes with instructors outside of class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. Received prompt feedback (written or oral) from instructors on your performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
p. Worked harder than you thought you could to meet an instructor's standards or expectations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
q. Worked with instructors on activities other than coursework	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
r. Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
s. Had serious conversations with students of a different race or ethnicity other than your own	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
t. Had serious conversations with students who differ from you in terms of their religious beliefs, political opinions, or personal values	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
u. Skipped class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. During the current school year, how much has your coursework at this college emphasized the following mental activities?

	Very much	Quite a bit	Some	Very little
a. Memorizing facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Analyzing the basic elements of an idea, experience, or theory	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Synthesizing and organizing ideas, information, or experiences in new ways	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Making judgments about the value or soundness of information, arguments, or methods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Applying theories or concepts to practical problems or in new situations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Using information you have read or heard to perform a new skill	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



SERIAL #

6. During the current school year, about how much reading and writing have you done at this college?

	None	1 to 4	5 to 10	11 to 20	More than 20
a. Number of assigned textbooks, manuals, books, or book-length packs of course readings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Number of books read on your own (not assigned) for personal enjoyment or academic enrichment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Number of written papers or reports of any length	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. Mark the response that best represents the extent to which your examinations during the current school year have challenged you to do your best work at this college.

Extremely challenging 7 6 5 4 3 2 1 Extremely easy

8. Which of the following have you done, are you doing, or do you plan to do while attending this college?

	I have done	I plan to do	I have not done nor plan to do
a. Internship, field experience, co-op experience, or clinical assignment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. English as a second language course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Developmental/remedial reading course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Developmental/remedial writing course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Developmental/remedial math course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Study skills course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Honors course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. College orientation program or course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Organized learning communities (linked courses/study groups led by faculty or counselors)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. How much does this college emphasize each of the following?

	Very much	Quite a bit	Some	Very little
a. Encouraging you to spend significant amounts of time studying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Providing the support you need to help you succeed at this college	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Encouraging contact among students from different economic, social, and racial or ethnic backgrounds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Helping you cope with your non-academic responsibilities (work, family, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Providing the support you need to thrive socially	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Providing the financial support you need to afford your education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Using computers in academic work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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

	None	1 - 5	6 - 10	11 - 20	21 - 30	More than 30
a. Preparing for class (studying, reading, writing, rehearsing, doing homework, or other activities related to your program)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Working for pay	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Participating in college-sponsored activities (organizations, campus publications, student government, intercollegiate or intramural sports, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Providing care for dependents living with you (parents, children, spouse, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Commuting to and from classes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Mark the number that best represents the quality of your relationships with people at this college.

Your relationship with:

a. Other Students

Friendly, supportive, sense of belonging ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ Unfriendly, unsupportive, sense of alienation

b. Instructors

Available, helpful, sympathetic ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ Unavailable, unhelpful, unsympathetic

c. Administrative Personnel & Offices

Helpful, considerate, flexible ① ② ③ ④ ⑤ ⑥ Unhelpful, inconsiderate, rigid

12. How much has YOUR EXPERIENCE AT THIS COLLEGE contributed to your knowledge, skills, and personal development in the following areas?

	Very much	Quite a bit	Some	Very little
a. Acquiring a broad general education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Acquiring job or work-related knowledge and skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Writing clearly and effectively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Speaking clearly and effectively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Thinking critically and analytically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Solving numerical problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Using computing and information technology	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Working effectively with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Learning effectively on your own	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Understanding yourself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Understanding people of other racial and ethnic backgrounds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. Developing a personal code of values and ethics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. Contributing to the welfare of your community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. Developing clearer career goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. Gaining information about career opportunities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

SERIAL #

PLEASE DO NOT MARK IN THIS AREA



13. This section has three parts. Please answer all three sections, indicating (1) HOW OFTEN you use the following services, (2) HOW SATISFIED you are with the services, and (3) HOW IMPORTANT the services are to you AT THIS COLLEGE.

	(1) Frequency of Use				(2) Satisfaction				(3) Importance		
	Often	Some-times	Rarely/ Never	Don't know/ N.A.	Very	Some- what	Not at all	N.A.	Very	Some- what	Not at all
a. Academic advising/planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Career counseling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Job placement assistance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Peer or other tutoring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Skill labs (writing, math, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Child care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Financial aid advising	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Computer lab	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Student organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Transfer credit assistance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Services to students with disabilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. How likely is it that the following issues would cause you to withdraw from class or from this college? (Please respond to each item)

- a. Working full-time
- b. Caring for dependents
- c. Academically unprepared
- d. Lack of finances
- e. Transfer to a 4-year college or university

	Very likely	Likely	Some- what likely	Not likely
a.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. How supportive are your friends of your attending this college?

- Extremely
- Quite a bit
- Somewhat
- Not very

16. How supportive is your immediate family of your attending this college?

- Extremely
- Quite a bit
- Somewhat
- Not very

17. Indicate which of the following are your reasons/goals for attending this college. (Please respond to each item)

- a. Complete a certificate program
- b. Obtain an associate degree
- c. Transfer to a 4-year college or university
- d. Obtain or update job-related skills
- e. Self-improvement/personal enjoyment
- f. Change careers

	Primary goal	Secondary goal	Not a goal
a.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

24. At what other types of institutions are you taking classes this term? (Please mark all that apply)

- None
- High school
- Vocational/technical school
- Another community or technical college
- 4-year college/university
- Other

25. How many classes are you *presently* taking at OTHER institutions?

- None
- 1 class
- 2 classes
- 3 classes
- 4 classes or more

26. Would you recommend this college to a friend or family member?

- Yes
- No

27. How would you evaluate your entire educational experience at this college?

- Excellent
- Good
- Fair
- Poor

28. Do you have children who live with you?

- Yes
- No

29. Mark your age group.

- Under 18
- 18 to 19
- 20 to 21
- 22 to 24
- 25 to 29
- 30 to 39
- 40 to 49
- 50 to 64
- 65+

30. Your sex:

- Male
- Female

31. Are you married?

- Yes
- No

32. Is English your native (first) language?

- Yes
- No

33. Are you an international student or foreign national?

- Yes
- No

34. What is your racial identification? (Mark only one)

- American Indian or other Native American
- Asian, Asian American or Pacific Islander
- Native Hawaiian
- Black or African American, Non-Hispanic
- White, Non-Hispanic
- Hispanic, Latino, Spanish
- Other

35. What is the highest academic credential you have earned?

- None
- High school diploma or GED
- Vocational/technical certificate
- Associate degree
- Bachelor's degree
- Master's/doctoral/professional degree

36. What is the highest level of education obtained by your:

	Father	Mother
a. Not a high school graduate	<input type="radio"/>	<input type="radio"/>
b. High school diploma or GED	<input type="radio"/>	<input type="radio"/>
c. Some college, did not complete degree	<input type="radio"/>	<input type="radio"/>
d. Associate degree	<input type="radio"/>	<input type="radio"/>
e. Bachelor's degree	<input type="radio"/>	<input type="radio"/>
f. Master's degree/1st professional	<input type="radio"/>	<input type="radio"/>
g. Doctorate degree	<input type="radio"/>	<input type="radio"/>
h. Unknown	<input type="radio"/>	<input type="radio"/>

37. Using the list provided, please fill in the bubbles that correspond to the code indicating your program or major. Using the first column, indicate the first number in the program code, using the second column, indicate the second number in the program code.

①	①
①	②
②	②
③	③
	④
	⑤
	⑥
	⑦
	⑧

Appendix B CCSSE Special-Focus Items

(Included with permission granted by the Center for Community College Student Engagement)

CCSSE Special-Focus Items Promising Practices for Community College Student Success

Please mark your responses on the back page of the survey under 'Additional Items' and not on this sheet.

Mark only one response for each question.

Question	Responses
1. During the current term at this college, I completed registration before the first class session(s).	A= Yes; I was registered for ALL of my courses before the first class session(s) B= Mostly; I was registered for MOST of my courses before the first class session(s) C= Partly; I was registered for SOME of my courses before the first class session(s) D= No; I was NOT registered for ANY of my courses before the first class session(s)
2. The ONE response that best describes my experience with orientation when I first came to this college is:	A= I took part in an online orientation prior to the beginning of classes B= I attended an on-campus orientation prior to the beginning of classes C= I enrolled in an orientation course as part of my course schedule during my first term at this college D= I was not aware of a college orientation E= I was unable to participate in orientation due to scheduling or other issues
3. During my first term at this college, I participated in a <u>structured experience for new students</u> (sometimes called a "freshman seminar" or "first-year experience").	A= Yes, in my first term at this college B= Yes, in my first AND in at least one other term at this college C= Yes, but NOT in my first term at this college D= No, I did not
4. During my first term at this college, I enrolled in an <u>organized "learning community"</u> (two or more courses that a group of students take together).	A= Yes, in my first term at this college B= Yes, in my first AND in at least one other term at this college C= Yes, but NOT in my first term at this college D= No, I did not
5. During my first term at this college, I enrolled in a <u>student success course</u> (such as a student development, extended orientation, student life skills, or college success course).	A= Yes, in my first term at this college B= Yes, in my first AND in at least one other term at this college C= Yes, but NOT in my first term at this college D= No, I did not
6. At this college, I participated in one or more <u>accelerated courses/fast-track programs</u> to help me move through <u>developmental/basic skills/college prep</u> requirements more quickly.	A= Yes, in my first term at this college B= Yes, in my first AND in at least one other term at this college C= Yes, but NOT in my first term at this college D= No, I did not
7. During the current term at this college, my instructors clearly explained a class attendance policy that specified how many classes I could miss without penalty.	A= ALL of my instructors explained a class attendance policy B= MOST of my instructors explained a class attendance policy C= SOME of my instructors explained a class attendance policy D= NONE of my instructors explained a class attendance policy

Do not mark on this sheet

Page 1 of 3

CCSSE Special-Focus Items
Promising Practices for Community College Student Success

Please mark your responses on the back page of the survey under 'Additional Items' and not on this sheet.

Mark only one response for each question.

Question	Responses
8. Before I could register for my first term at this college, I was REQUIRED to take a placement test (ACCUPLACER, ASSET, COMPASS, etc.) to assess my academic skills in reading, writing, and/or math.	A= Yes, and I took it B= Yes, it was required, but I did NOT take it C= No, it was not required
9. I became aware that I was required to take a placement test (ACCUPLACER, ASSET, COMPASS, etc.) at this college:	A= More than a month before taking the test B= About 1 to 4 weeks before taking the test C= About 1 to 6 days before taking the test D= The same day I took the test E= Not applicable; I did not take a placement test
10. While I was in high school, besides taking the SAT or ACT, I completed this college's placement test (ACCUPLACER, ASSET, COMPASS, etc.) to assess my academic skills in reading, writing, and/or math.	A= Yes B= No C= I don't remember
11. Before enrolling at this college, I prepared for this college's placement test (ACCUPLACER, ASSET, COMPASS, etc.) in the following way:	A= On my own using online or printed materials provided by the college B= Participating in a brief (8 hours or less), intensive brush-up/refresher workshop C= Participating in a multi-day or multi-week brush-up/refresher program (often held during the summer before fall enrollment) D= I did not do anything to prepare for this college's placement test E= Not applicable; I did not take a placement test
12. If I used resources from this college or one of the college's brush-up/refresher experiences to prepare for the placement test, I found it:	A= Very helpful B= Helpful C= Somewhat helpful D= Not helpful E= Not applicable; I did not use this college's test prep resources
13. The results of the placement test I took at this college indicated that I needed to take a developmental/basic skills/college prep course...	A= In MORE THAN ONE academic skills area (reading, writing, and/or math) B= In ONE academic skill area (reading, writing, or math) C= None of the academic skill areas (reading, writing, or math) D= Not applicable; I did not take a placement test

Do not mark on this sheet

Page 2 of 3

CCSSE Special-Focus Items
Promising Practices for Community College Student Success

Please mark your responses on the back page of the survey under 'Additional Items' and not on this sheet.

Mark only one response for each question.

Question	Responses
14. Because my placement test results indicated that I needed to take at least one developmental/basic skills/college prep course, I was...	A= TOLD that I was REQUIRED to take MORE THAN one of these courses <u>in my first term</u> B= TOLD that I was REQUIRED to take ONE of these courses <u>in my first term</u> C= TOLD that I should or could take one of these courses, but I was NOT required to <u>in my first term</u> D= Not applicable; my placement test results did not indicate that I needed to take any of these courses E= Not applicable; I did not take a placement test
15. I was TOLD that I was REQUIRED to take a developmental/basic skills/college prep course <u>in my first term</u> , and I...	A= DID enroll in MORE THAN ONE of these courses B= DID enroll in ONE of these courses C= DID NOT enroll in any of these courses D= Not applicable
16. Before the end of my first term at this college, an advisor helped me develop an academic plan (a personalized plan with a defined sequence of courses for completing a college certificate or degree and/or for transferring to a 4-year college or university).	A= Yes B= No C= I'm still in my first term; I have NOT YET developed an academic plan
17. Someone at this college contacts me if I am struggling with my studies to help me get the assistance I need.	A= Yes B= No C= Not applicable; I have not experienced academic difficulties at this college
18. During the current academic year at this college, I participated in required group learning (experiences such as interacting with a specific group of students inside or outside the classroom, studying together, and/or doing group assignments or projects).	A= Never B= Less than 1 time a week C= 1 to 2 times a week D= 3 to 4 times a week E= More than 4 times a week
19. During the current academic year, I participated in tutoring provided by this college.	A= Never B= Less than 1 time a week C= 1 to 2 times a week D= 3 to 4 times a week E= More than 4 times a week
20. During the current academic year at this college, I participated in supplemental instruction/supplemental learning (extra class sessions with the instructor or an experienced student).	A= Never B= Less than 1 time a week C= 1 to 2 times a week D= 3 to 4 times a week E= More than 4 times a week

Do not mark on this sheet

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