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A Quantitative Study on Student Emergency Financial Assistance: The Impact on Community College Student Success, Persistence, and Completion Rates

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by

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A Dissertation submitted to the Education Faculty of Lindenwood University in partial fulfillment of the requirements for the degree of

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Declaration of Originality

I do hereby declare and attest to the fact that this is an original study based solely upon my own scholarly work at Lindenwood University and that I have not submitted it for any other college or university course or degree.

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Abstract

Financial instability is a common fiscal burden for many community college students and can serve as primary barrier to educational success (Quaye & Harper, 2015). Although traditional financial aid is structured to assist students in financing college expenses, many low-income students often face financial emergencies beyond the scope of financial aid (Johnson, 2015). These financial emergencies have been specifically identified as serious obstacles to educational success and have prompted many institutions to establish student emergency financial assistance programs (Geckeler, Beach, Pih, & Yan, 2008). This study explored one student emergency financial assistance program at a public community college and the impact it had on student success, persistence, and completion rates. Although findings from the study lacked positive statistical significance, it could be argued that students who received emergency financial assistance lacked a chance to achieve successful academic outcomes. The association of financial emergencies, to low academic performance (Cady, 2014), coupled with heightened negative impacts of students' financial circumstances to educational success (Bean & Metzner, 1985), and the absence of a comprehensive emergency financial assistance program structure at the studied institution (Goldrick-Rab, Broton, & Frank, 2014) all contributed to study findings. These findings imply changes to the structure of emergency financial assistance programs which promote comprehensive services to students, align social and educational policy, and have complete institutional support (Baum, McDemmond, & Jones, 2014).

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Chapter One: Introduction

Community colleges throughout the United States educate almost half of undergraduate students in the nation (American Association of Community Colleges [AACC], 2015a; AACC, 2015c; Bers & Schuetz, 2014; Burke, 2013; Cohen, Brawer, & Kisker, 2014; Everett, 2015; Fonte, 2011; Grossman et al., 2015; Levine & Kater, 2013; Liao, Edlin, & Ferdenzi, 2014; Martin, Galentino, & Townsend, 2014; Melguizo, Kienzl, & Alfonso, 2011; Mellow & Heelan, 2008; Tschechtelin, 2011; Windham, Rehfuss, Williams, Pugh, & Tincher-Ladner, 2014) and are uniquely committed to an inclusive approach to higher education (AACC, 2015a; Bragg & Durham, 2012; Burke, 2013; Davidson, 2013; Mayer et al., 2014; Moschetti & Hudley, 2015). This inclusive approach to higher education strives to remove academic, financial, social, and geographic barriers to educational attainment for community college students (Goldrick-Rab, 2010; Nakajima, Dembo, & Mossler, 2012; Ocean, Hawkins, & Chopra, 2014). The approach places community colleges as the common access point to higher education for under-served groups and under-privileged students (Bers & Schuetz, 2014; Brock et al., 2007; Fonte, 2011; Kruse, Starobin, Chen, Baul, & Laanan, 2015; Maroto, Snelling, & Linck, 2015; Mayer et al., 2014; Miller, Grover, & Kacirek, 2014; Moschetti & Hudley, 2015; Nakajima et al., 2012).

Goldrick-Rab (2010) wrote, community colleges' commitment to democratizing educational opportunities has led to "increased participation in higher education, particularly among individuals with limited opportunities for education beyond high school because of academic difficulties, financial constraints, and other factors" (p. 437). Bragg (2001) added, "community colleges serve more first-generation, part-time, non-

traditional-age, low-income, minority, and female students than any other type of public higher education institution" (p. 110). This profile of community college students illustrates a diverse population of the historically under-served (AACC, 2015c; Boggs, 2011; Bragg, 2001; Bragg & Durham, 2012; Goldrick-Rab, 2010).

As the primary pathway to higher education for the under-served, community colleges are faced with many challenges in serving this diverse population (Advisory Committee on Student Financial Assistance [ACSFA]), 2012; The Century Foundation, 2013). One subset of the under-served, low-income, and low socioeconomic status individuals, represents a major portion of community college students (Bastedo & Jaquette, 2011; Bragg & Durham, 2012; Fonte, 2011; Kezar, 2011; Maroto et al., 2014; Porchea, Allen, Robbins, & Phelps, 2010). Over 40%, of community college students live in poverty (Choitz & Reimherr, 2013; Goldrick-Rab, Broton, & Gates, 2013), and approximately 30% of students enrolled in community colleges are from the poorest quarter of the nation's population (The Century Foundation, 2013). These statistics illustrate the harsh financial reality of many community college students.

Financial instability, unmet need, and difficult fiscal circumstances are common challenges faced by low-income students, and these challenges often serve as a primary barrier to educational attainment and success (David et al., 2015; Davidson, 2013; Goldrick-Rab, 2010; Guo, Wang, Johnson, & Diaz, 2011; Kelly & Schneider, 2012; Nakajima et al., 2012; Patel & Assaf, 2013; Quaye & Harper, 2015). Although traditional financial aid is structured to assist students with fiscal issues while in college, low-income students often face financial gaps or emergencies beyond the scope of traditional financial aid that threaten their educational persistence and success (Baum,

2007; Chaplot, Cooper, Johnstone, & Karandjeff, 2015; Choitz & Reimherr, 2013; Dachelet & Goldrick-Rab, 2015; Geckeler, Beach, Pih, & Yan, 2008; Johnson, 2015). Acknowledgement of student financial emergencies as a serious barrier to success, persistence, and completion, has led many community colleges to establish student emergency financial assistance programs (Castleman, Schwartz, & Baum, 2015; Dachelet & Goldrick-Rab, 2015; Geckeler et al., 2008; Orozco & Mayo, 2011; Patel & Assaf, 2013).

Student emergency financial assistance programs are designed to address immediate financial needs of students and mitigate disenrollment (Castleman et al., 2015; Dachelet & Goldrick-Rab, 2015; Orozco & Mayo, 2011; Patel & Assaf, 2013). These programs support students' essential needs, such as health care bills, transportation costs, hunger and hygiene needs, or other financial crises that can interrupt a student's education (Ajose, MacGregor, Yan, & Pih, 2007; Baum, McDemmond, & Jones, 2014; Dachelet & Goldrick-Rab, 2015; Geckeler et al., 2008; Orozco & Mayo, 2011). For financially burdened students, financial emergencies often interfere or end education, leading to reduced rates of student success, persistence, and completion (Dachelet & Goldrick-Rab, 2015; Geckeler et al., 2008; Orozco & Mayo, 2011). Research on the topic of student emergency financial assistance for community college students and its relationship to student success, persistence, and completion rates has been limited (Broton, Frank, & Goldrick-Rab, 2014; Dachelet & Goldrick-Rab, 2015). This study was designed to further explore the area of student emergency financial assistance and contribute additional knowledge and scholarly research to the topic.

Background of the Study

With roots in the civil rights movement of the 1950s, "community colleges have been a primary educational pathway for persons of low-income and minority backgrounds to achieve the American dream" (Myran & Parsons, 2013, p. 7). Throughout their history, community colleges have been uniquely committed to a broad approach to college admissions (Boggs, 2011; Bragg & Durham, 2012; Fonte, 2011; Levine & Kater, 2013; Mayer et al., 2014), and have prided themselves in providing educational opportunities for any student who desires to attend (AACC, 2015b). This mission of access and equity in education has shaped community colleges of the 21st century (Bragg, 2011; Brock et al., 2007; Goldrick-Rab, 2010).

In addition to the traditional focus of access, particularly for low-income students, institutions are now turning more attention to improving the academic success of their students (Fonte, 2011; Rutschow et al., 2011). The Obama administration's American Graduation Initiative has created a national dialogue of student success and retention in higher education (Crellin, Kelly, & Prince, 2012; Fonte, 2011; Kalsbeek, 2013; Knight, 2014; Kotamraju & Blackman, 2011; Pruett & Absher, 2015). In a joint session of Congress in February 2009, President Obama set forth a goal that, "by 2020 America will once again have the highest proportion of college graduates in the world" (ACSFA, 2012; Boggs, 2011; England-Siegerdt, 2011; Kelly & Schneider, 2012; Phelps, 2012; Russell, 2011; Shapiro et al., 2012; The Century Foundation, 2013). Since President Obama's challenge, college completion has become a nationwide initiative and the focus on student success and retention has intensified (Boggs, 2011; Bragg & Durham, 2012; Carnevale & Rose, 2011; Cohen et al., 2014; College Board, 2012; Kotamraju &

Blackman, 2011; Knight, 2014; McClenney, 2015; Prescott & Longanecker, 2014; Pruett & Absher, 2015; Zaback, Carlson, & Crellin, 2012).

In response to the national college completion agenda, the AACC and several supporting organizations have affirmed their commitment to increase completion (AACC, 2014; Bradley, 2011; McClenney, 2015; Mullin, 2011; Myran & Parsons, 2013; Phillips & Horowitz, 2014) through the setting of a goal for community colleges, "to produce 50 percent more students with high-quality degrees and certificates by 2020" (AACC, 2015b, p. 1). This goal has shifted the traditional community college focus away from affordability and accessibility and towards student outcomes and degree completion (AACC, 2012; Bragg & Durham, 2012; Carlson & Zaback, 2014; Cohen et al., 2014; Goldrick-Rab et al., 2013; Kelly & Schneider, 2012). The shift from simply providing access to education to ensuring student success and equity in student outcomes is intended to eradicate the well-documented educational attainment gaps associated with income, race, ethnicity, and gender (AACC, 2015b).

For community colleges, the effort to increase completion rates and award credentials has been met with limited success (Bailey, 2012; Bragg & Durham, 2012; Goldrick-Rab, 2010; Everett, 2015; Grossman et al., 2015; Mayer et al., 2014; Melguizo et al., 2011; Myran & Parsons, 2013; Pruett & Absher, 2015). The "graduation rates and completion numbers at community colleges are historically low" (Kotamraju & Blackman, 2011, p. 205). Approximately half of students who enroll at community colleges with the intention of earning a certificate or degree do not achieve their goal (Bers & Schuetz, 2014; Mayer et al., 2014; Mertes & Hoover, 2014; Rutschow et al., 2011), and for low-income students these rates are even poorer (Everett, 2015). Low

levels of degree attainment can be viewed as evidence of the substantial barriers community college students face in attaining their educational goals (Brock et al., 2007; Goldrick-Rab, 2010; Gurantz, 2015; Pruett & Absher, 2015).

When considering the root causes of low completion and success rates for community college students, socioeconomic characteristics and inequalities are long-standing concerns (Goldrick-Rab, 2010; Jenkins & Cho, 2012; Levine & Kater, 2013). Looking specifically at the low-income community college student population, success and completion continues to be an issue (Chaplot et al., 2015; Kezar, 2011; Kotamraju & Blackman, 2011; Yu, 2014). Low-income students are less likely to persist and graduate from college (Kezar, 2011). Only 8% of individuals from the lowest income quartile complete a college degree, compared to 85% from the highest income quartile (Myran & Parsons, 2013). These statistics illustrate the limited educational attainment of low-income students and the impact poverty has on community college success and completion (Goldrick-Rab et al., 2013).

Explanations for low levels of degree attainment for less-advantaged community college students transcend several variables (Blackwell & Pinder, 2014; Brock et al., 2007; Chaplot et al., 2015; Kotamraju & Blackman, 2011). Financial, situational, and background characteristics of students have all been linked to educational attainment levels of low-income students (ACSFA, 2012). Financial barriers to higher education are a primary cause of part-time and delayed enrollment, both of which have been demonstrated to be risk factors to degree completion (ACSFA, 2012). Situational barriers for this student group, such as the lack of child care or transportation to class, also limits the ability of students to engage in community college (ACSFA, 2012; Brock

et al., 2007). Lastly, the background characteristics of low-income community college students such as socioeconomic status, ethnicity, and employment status also pose risks to college persistence and success (Goldrick-Rab, 2010; Kotamraju & Blackman, 2011; Yu, 2014).

Financial, situational, and background characteristics of low-income students are not the only barriers to educational success students face (Kotamraju & Blackman, 2011). The rising cost of higher education and the increased financial burden on students have been subjects of national concern for several decades (Kimball, 2014). College price increases are accelerating and continue to increase faster than the rates of most other goods and services (College Board, 2014). This rise has dramatically outpaced income levels for all but the most affluent (Baum, 2007; Bradley, 2011). Over the last 30 years, college tuition and fees have increased almost four times faster than median income and four-and-a-half times faster than inflation (Choitz & Reimherr, 2013). A similar increase has been observed in the price of college textbooks (Kezar, 2011). In the past three decades, a 600% increase in textbook cost has occurred (Kezar, 2011). These heightened price increases are especially damaging to the low-income student population of community colleges (Bradley, 2011).

The many barriers to success faced by low-income community college students can often create financial challenges or emergencies that negatively impact enrollment and retention (Archuleta, Dale, & Spann, 2013; Baum, 2007; Choitz & Reimherr, 2013; Geckeler et al., 2008; Johnson, 2015; Orozco & Mayo, 2011). Lack of food, shelter, and other survival resources are all too common for many community college students (Chaplot et al., 2015; Johnson, 2015; Dachelet & Goldrick-Rab, 2015). High levels of

unmet need and financial emergencies faced by community college students have necessitated a response from institutions (Kezar, 2011; Quaye & Harper, 2015). Many community colleges throughout the nation have reacted by establishing student emergency financial assistance programs (Chaplot et al., 2015; Dachelet & Goldrick-Rab, 2015; Geckeler et al., 2008; Orozco & Mayo, 2011; Patel & Assaf, 2013). These programs are designed to reduce disenrollment rates by addressing immediate and essential needs of students, such as lack of food, transportation costs, health care needs, or other financial crises (Ajose et al., 2007; Baum et al., 2014; Chaplot et al., 2015; Dachelet & Goldrick-Rab, 2015; Geckeler et al., 2008; Orozco & Mayo, 2011).

The implementation of student emergency financial assistance programs by community colleges nationwide is representative of the heightened fiscal challenges faced by many students (Dachelet & Goldrick-Rab, 2015; Geckeler et al., 2008). As college completion remains at the forefront of educational policy and legislation (Bragg & Durham, 2012; College Board, 2012; Kotamraju & Blackman, 2011; Prescott & Longanecker, 2014), community colleges must continue to effectively address the needs of students faced with financial emergencies and unmet fiscal need. These efforts are critical to aiding students in attaining their educational goals (Ajose et al., 2007; Chaplot et al., 2015; Dachelet & Goldrick-Rab, 2015; Kezar, 2011).

Conceptual Framework

This study focused on the impact student emergency financial assistance had on the success, persistence, and completion rates of community college students. To provide a theoretical base for this research, Bean and Metzner's (1985) conceptual model of nontraditional undergraduate student attrition was used. The Bean and Metzner (1985)

model was created in an effort to explain the variables affecting attrition for the nontraditional student group identified (ACSFA, 2012). The model has been widely used when studying persistence and completion in educational research (Dempsey, 2009) and has served as the conceptual framework for several studies related to student attrition (Cunningham, 2010; Grossett, 1989; Simmons, 1995; Tharp; 1998; Webb, 1989). When considering community college student retention specifically, the Bean and Metzner (1985) model has also been identified as an acceptable theoretical base (Dempsey, 2009).

To relate the Bean and Metzner (1985) model to this study, further exploration on the theory is necessary. Despite research on the topic, the reasons why nontraditional students leave higher education are still not well understood (Bean & Metzner, 1985; Dempsey, 2009). As the number of nontraditional students enrolled in postsecondary education continues to grow, and diversity in student populations increases, a model focused specifically on this group is essential for community colleges to understand the students they serve (Stahl & Pavel, 1992).

One reason the Bean and Metzner (1985) model has been identified as an acceptable framework for community college retention studies is due to the similarities of nontraditional students and the community college student population (Dempsey, 2009). For the constructs of the Bean and Metzner (1985) model, nontraditional students are broadly defined. Demographic characteristics used in the Bean and Metzner (1985) framework include: ethnicity, employment status, age, sex, marital status, number of dependents, location of residence, and college enrollment status (Cunningham, 2010). Using the Bean and Metzner (1985) model, the definition of nontraditional students can be explored within the context of the community college (Stahl & Pavel, 1992).

The Bean and Metzner (1985) model draws from the influential theoretical contributions of Spady (1970), Tinto (1975), and Pascarella (1980) on the topic of student attrition (Bean & Metzner, 1985). Bean and Metzner (1985) sought to explore this topic through a sequential process linking background characteristics to student attrition (Tharp, 1998). The model attempts to identify constructs and variables in a dynamic path diagram (see Figure 1), which are then used to define relationships and outcomes in association with nontraditional student attrition (Stahl & Pavel, 1992).

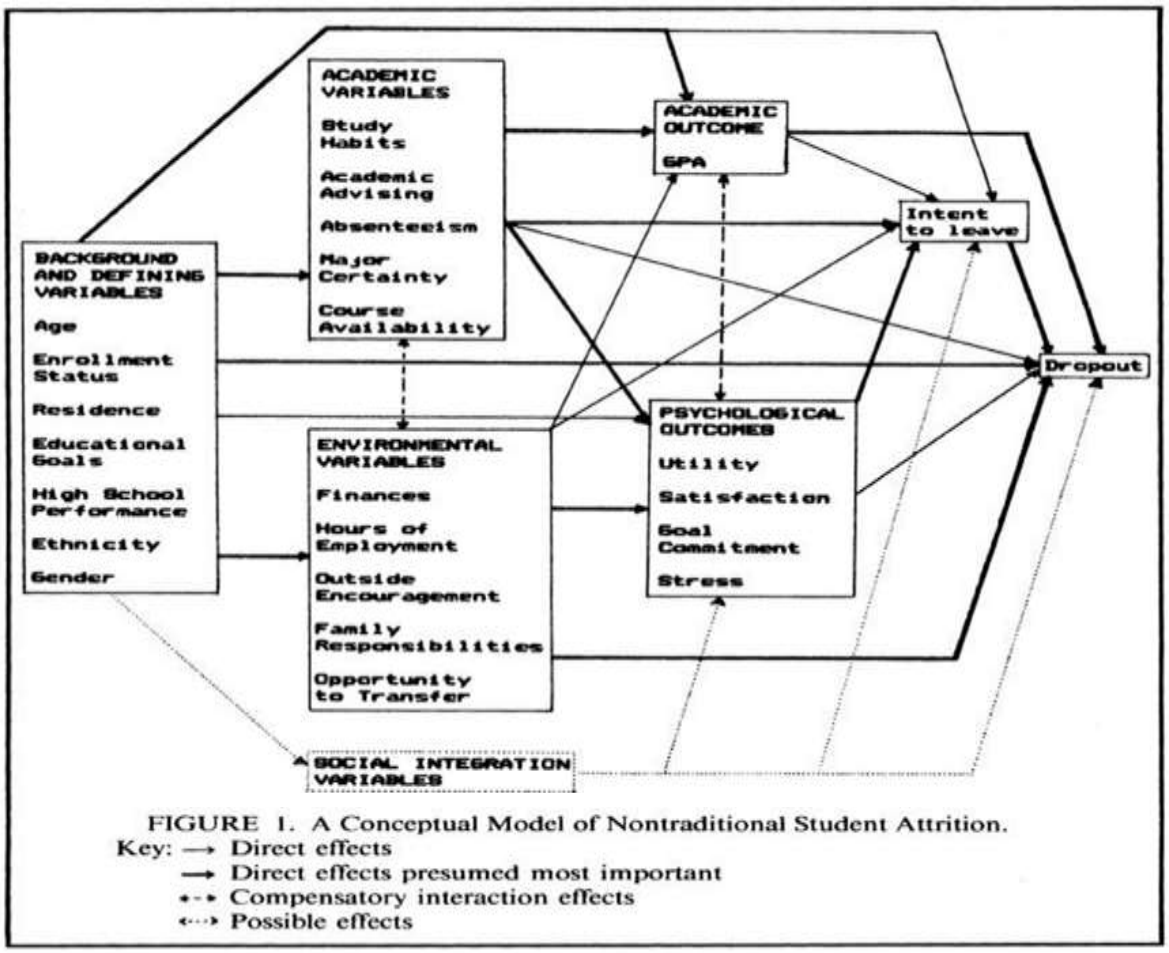

Figure 1. A conceptual model of nontraditional student attrition. This figure illustrates the effects on attrition as described by Bean and Metzner (1985).

The Bean and Metzner (1985) model used four background constructs and two compensatory interaction effects, which identify important interrelationships between variables, to guide the conceptual model of nontraditional student attrition. The four background constructs identified by Bean and Metzner (1985) include: academic performance measured by college grade point average, background and defining variables viewed through demographic and high school performance information, environmental factors such as finances and external commitments, and social integration factors measured by interaction with the college social system (ACSFA, 2012; Bean & Metzner, 1985; Cunningham, 2010; Grossett, 1989; Stahl & Pavel, 1992; Tharp, 1998). These four constructs serve as the theoretical basis for student withdrawal decisions in the model (ACSFA, 2012; Bean & Metzner, 1985; Cunningham, 2010; Grossett, 1989; Stahl & Pavel, 1992; Tharp, 1998). The two compensatory interaction effects identified by Bean and Metzner (1985) focus on the heightened impact of environmental variables over academic variables to student attrition and the strength of psychological outcomes, caused by background or defining variables, over the effects of academic variables to student attrition (Cunningham, 2010; Stahl & Pavel, 1992).

The model's variables and interaction effects demonstrate the impacts to attrition based on Bean and Metzner's (1985) findings. The four constructs identified by Bean and Metzner (1985) each contribute uniquely to student attrition (Stahl & Pavel, 1992) with the two additional compensatory interaction effects completing the model (Cunningham, 2010). These relationships can be viewed (see Figure 1) by the paths and types of lines that connect each construct of the model to college dropout. Direct effects to student attrition are identified in the diagram by a solid line (Bean & Metzner, 1985).

Direct effects that are presumed to be the most important to student attrition are illustrated in the diagram by a bold solid line (Bean & Metzner, 1985). Compensatory integration effects to student attrition are shown as a dashed line, and possible effects to student attrition are identified by a dotted line (Bean & Metzner, 1985).

Bean and Metzner (1985) analyzed each of the four construct areas to determine the level of effect each had on nontraditional student attrition. All variables that were investigated by Bean and Metzner (1985) were identified as important predictors of nontraditional student attrition. The construct that was deemed to have the most substantial direct effect on nontraditional student attrition was the area of environmental variables (Bean & Metzner, 1985). This finding serves as the basis of nontraditional student attrition in the Bean and Metzner (1985) model (Cunningham, 2010). Bean and Metzner (1985) defined environmental variables specifically as finances, hours of employment, outside encouragement, family responsibilities, and opportunity to transfer (Bean & Metzner, 1985). The strength of the impact environmental factors have on college enrollment status in this model is substantial alone but can also be demonstrated through interrelationships, or the model's compensatory interaction effects (Bean & Metzner, 1985; Cunningham, 2010).

The first compensatory effect of the model explores psychological outcomes, rooted in background and defining variables, and academic variables (Bean & Metzner, 1985). Students with high levels of academic success and positive psychological outcomes should remain enrolled in college, while students with poor outcomes in both areas would not be retained (Cunningham, 2010; Bean & Metzner, 1985). The strength of positive psychological outcomes, although, can often compensate for poor academic

variables (Stahl & Pavel, 1992). However, the reverse is untrue, again demonstrating the importance of non-academic factors to student success and retention (Bean & Metzner, 1985).

The second compensatory effect in the model indicates environmental factors have more influence on student attrition than academic variables and can also compensate for negative effects of academic variables (Stahl & Pavel, 1992). Four scenarios are proposed for this effect. The first links high academic success and positive environmental conditions to students being more likely to remain enrolled in school (Cunningham, 2010). The second directly connects poor academic and poor environmental conditions to disenrollment (Bean & Metzner, 1985). The third combines positive academic variables with poor environmental conditions and does not promote student retention (Cunningham, 2010; Stahl & Pavel, 1992). The final scenario refers to the basis of the Bean and Metzner (1985) model, the strength of environmental factors on enrollment. Students with positive environmental conditions will often persist despite negative academic variables (Bean & Metzner, 1985; Cunningham, 2010). This compensatory interaction effect further supports Bean and Metzner's (1985) determination of environmental variables having the most substantial impact to nontraditional student attrition.

Bean and Metzner's (1985) model offers a comprehensive framework for student retention and persistence. The model's emphasis on the importance of students' financial situations, employment, and family obligations to attrition aligns with the focus area of this study, the impact financial emergencies have on community college student enrollment. The focus on the heightened impact environmental factors have on student

attrition and the chosen definition of nontraditional further aligns with this research and common characteristics of the community college student population (Cunningham, 2010; Dempsey, 2009). These factors make Bean and Metzner's (1985) conceptual model of nontraditional undergraduate student attrition an applicable model when studying the impact community college student financial emergencies have on retention and attrition (Dempsey, 2009).

Statement of the Problem

Students' environmental situations, or financial circumstances, have been identified as direct predictors of student success and retention (Bean & Metzner, 1985; Savage & Graves, 2015). For many community college students, low socioeconomic status and limited financial resources negatively contribute to their educational success (Savage & Graves, 2015). Fiscal burdens faced by low-income community college students are often assumed to be alleviated by traditional forms of financial aid; unfortunately, this statement is not true for all students (Baum, 2007; Choitz & Reimherr, 2013; Geckeler et al., 2008; Johnson, 2015). Many community college students suffer from financial emergencies or high levels of unmet financial need that negatively impact success, persistence, and completion (Ajose et al., 2007; Chaplot et al., 2015; Geckeler et al., 2008; Dachelet & Goldrick-Rab, 2015; Orozco & Mayo, 2011).

As the national higher education dialogue remains focused on completion and retention outcomes, research on effective financial aid practices to improve student success, persistence, and completion will be an area of continued interest (Barnett, 2011; Chen & St. John, 2011; Kelly & Schneider, 2012; McKinney & Roberts, 2012). Prior research has established a broad philosophy that the receipt of student financial aid can be

positively related to academic success and retention (College Board, 2010; Dynarski & Scott-Clayton, 2013; Jensen, 1981; McKinney & Roberts, 2012). These previous overall analyses of financial aid served as a foundation for this research on a specific type of financial aid, student emergency financial assistance.

This study seeks to build on existing research related to financial aid receipt and educational outcomes, but focus on a component of aid that lacks significant analysis – community college student emergency financial assistance (Broton et al., 2014; Dachelet & Goldrick-Rab, 2015). To better understand the impact of specific financial aid practices and the connection of these practices to student success, persistence, and completion rates, further specific and targeted analysis on this topic is needed (Broton et al., 2014; Dachelet & Goldrick-Rab, 2015).

Purpose of the Study

The purpose of this study was to examine the quantitative effect one student emergency financial assistance program had on the success, persistence, and completion rates of community college students. This research sought to determine if a significant positive difference existed in the success, persistence, and/or completion rates of students who received emergency financial assistance when compared to a similar group of students who did not receive emergency financial aid. In a time of limited financial resources for higher education, strategies to improve student success through effective student aid programs are critical (Dynarski & Scott-Clayton, 2013). The results from this study are intended to provide guidance for policy makers and higher education professionals related to one form of financial aid, student emergency financial assistance (Dynarski & Scott-Clayton, 2013).

Research questions and hypotheses. The following research questions guided this study:

1. What positive statistically significant difference, if any, exists between the success rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance?

$H1_0$: A statistically significant positive difference in success rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance does not exist.

$H1_a$: A statistically significant positive difference in success rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance does exist.

2. What positive statistically significant difference, if any, exists between the persistence rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance?

$H2_0$: A statistically significant positive difference in persistence rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance does not exist.

$H2_a$: A statistically significant positive difference in persistence rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance does exist.

3. What positive statistically significant difference, if any, exists between the completion rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance?

$H3_0$: A statistically significant positive difference in completion rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance does not exist.

$H3_a$: A statistically significant positive difference in completion rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance does exist.

Definition of Key Terms

For the purposes of this study, the following terms are defined:

Associate degree. An earned academic award that normally requires at least 60 semester credit hours, or the equivalent, and is designed to lead a student directly to employment in a specific career or to transfer to a baccalaureate degree program (Higher Learning Commission, 2015; Missouri Department of Higher Education [MDHE], 2003).

Attrition. The "departure from all forms of higher education prior to the completion of a degree or other credential" (American Institutes for Research, 2012, p. 3).

Certificate. A terminal award certifying the satisfactory completion of a program where competency in an occupational field is demonstrated (MDHE, 2003). Offered primarily by community colleges and typically designed for at least one, but less than two years, of academic study (MDHE, 2003).

Community college(s) or two-year college(s). Regionally-accredited higher education institution(s) that provide affordable post-secondary education pathways (MDHE, 2003), and award associates degrees as their highest degree (Cohen et al., 2014).

These institutions are sometimes historically referred to as junior colleges (United States Department of Homeland Security, 2012).

Completion or completion rates. The state of having successfully completed a certificate or associate degree, or the percentage of individuals who have successfully completed a certificate or associate degree (Reyna, 2010).

Expected Family Contribution (EFC) score. A score that is used to determine students' eligibility for federal student aid (United States Department of Education, 2014) and to estimate how much a family can be expected to pay out-of-pocket for college expenses (Davidson, 2015a; Dynarski & Wiederspan, 2012; Hershbein & Hollenbeck, 2015).

Nontraditional student(s). A heterogeneous group of students who are often older, commute to campus, are employed, identify as being of minority status, and only attend college part-time (Cunningham, 2010; Stahl & Pavel, 1992). These students are not greatly influenced by the social atmosphere of higher education institutions (Bean & Metzner, 1985; Cunningham, 2010) and have demographic characteristics similar to community college students (Dempsey, 2009). These students are sometimes classified by background characteristics, such as socioeconomic status, ethnicity, first-generation status, and employment status, and at-risk characteristics, such as delayed enrollment into higher education, part-time attendance, full-time employment while attending college, and being a single parent (ACSFA, 2012).

Persistence or persistence rates. Consecutive student enrollment from one semester to the next, or the percentage of students who enroll consecutively from one semester to the next (Cunningham, 2010).

Retention or retention rates. Remaining enrolled, or continued attendance, in an institution of higher education over a period of time prior to receiving a certificate or degree, or the percentage of students who remain enrolled, or continue attendance, at an institution of higher education over a period of time without receiving a certificate or degree (Dempsey, 2009).

Satisfactory academic progress. Specific regulations on academic standing and progress college students must meet in order to remain eligible to receive most types of federal student aid (MDHE, 2003; Porter, 2014).

Student emergency financial assistance or student emergency financial aid. Financial assistance programs administered to students who have suffered a financial emergency, crisis, or sudden lack in funds that is likely to impact the student's enrollment or success (Ajose et al., 2007). These programs are independent from state and federal financial aid programs and are uniquely structured by the individual institutions in which the programs operate (Chaplot et al., 2015).

Student success or student success rates. Course completion with a grade of C or higher, or the overall rate of course completion with a grade of C or higher for a student population (Phillips & Horowitz, 2014).

Limitations and Assumptions

The following limitations were identified in this study:

Population and sample demographics. The sample in this study was limited to students enrolled at one Missouri community college from the fall 2007 semester to the summer 2015 semester who received emergency financial assistance from the college's foundation and a similarly structured comparison group of students who did not receive

emergency aid over the same time period. The use of students from only one institution for analysis limited the scope of the research (Sarantakos, 2013). As a result, findings from this research may be unique to this institution, or community colleges of similar characteristics (Punch, 2014). This limited sample size may have introduced bias to the results (Punch, 2014).

Research methodology. For this study, quantitative analysis and research methods were used. Limiting analysis of the study to only one research methodology may have introduced limitations to the research findings (Creswell, 2014; Punch, 2014).

Factors influencing educational outcomes. A limitation of this study can also be found in the minimal analysis of additional potential variables and factors that may have influenced students' educational outcomes. This study focused only on student emergency financial assistance and its impact on student success, persistence, and completion rates. Analysis of only one factor and its contribution to these limited educational outcomes lacked comprehensive scope and limited the reach of this study (Nakajima et al., 2012; Punch, 2014).

The following assumptions were accepted:

Minimal difference between sample groups. Minimal difference between the demographic characteristics of student groups sampled for this study was assumed. To eliminate differences between the student group who received emergency financial assistance and the student group who did not receive emergency financial assistance, a process of propensity score matching was used to create the study's comparison group. This statistical matching technique relates variables based on specific criteria to simulate experimental research design (Melguizo et al., 2011). The technique allows for

differences in samples to be vastly minimized, and therefore, allows for more meaningful conclusions on data to be drawn (Pan & Bai, 2015).

Summary

Community colleges are vital in providing accessible higher education opportunities to economically disadvantaged and low socioeconomic status students (Boggs, 2011; Bragg & Durham, 2012; Nakajima et al., 2012; Schudde & Goldrick-Rab, 2015). These students struggle with financial burdens and stressors that can negatively impact college success, persistence, and completion (Savage & Graves, 2015). As stated by Nakajima et al. (2012), "the most prominent demographic risk factor that seems to influence student retention is a student's financial status" (p. 594).

Financial status, and its impact on student success, persistence, and completion was introduced in this chapter. The role of financial aid, with a specific focus on student emergency financial assistance, was also briefly discussed. Discussion on this topic centered on the promotion of educational success for low-income community college students through student emergency financial assistance programs. This study, specifically sought to further examine student emergency financial assistance and the impact it had on community college student success, persistence, and completion rates. This research provided a quantitative analysis of the positive statistical significance of student emergency financial aid in relationship to the three educational outcomes previously identified.

In Chapter Two, a review of relevant literature is presented. Chapter Two addresses several pertinent topics to establish a foundation for the research and analysis presented in this study. The conceptual framework used to guide the study is further

discussed in Chapter Two, as well as specific topics that directed the study's literature review. These topics provided the framework for the literature review and guided the research and analysis of this study.

Chapter Two: Review of Literature

As the national college completion agenda continues to drive policy and legislation in higher education, community college efforts to address student success, persistence, and completion will become central to positive institutional progress (Bragg & Durham, 2012; College Board, 2012; Prescott & Longanecker, 2014). This agenda has shifted the traditional community college focus of affordability and accessibility (Bragg, 2011; Brock et al., 2007; Goldrick-Rab, 2010; Nakajima et al., 2012; Ocean, Hawkins, & Chopra, 2014) towards a focus on student outcomes and degree completion (AACC, 2012; Bragg & Durham, 2012; Carlson & Zaback, 2014; Cohen et al., 2014; Goldrick-Rab et al., 2013; Kelly & Schneider, 2012). This shift has placed community colleges at a crossroads of challenge and opportunity (AACC, 2012; Beach, 2011; Bragg & Durham, 2012; Carlson & Zaback, 2014; Phillips & Horowitz, 2014; The Century Foundation, 2013).

In the United States, "community colleges, often referred to as democracies colleges, have long prided themselves as being open access institutions, providing opportunity for any student who desires to attend" (AACC, 2015, p. 3). This mission of access and equity has allowed millions of individuals the opportunity to attend college who may have otherwise been unable (Barreno & Traut, 2012; Bragg, 2001; Brock et al., 2007; Everett, 2015; Fonte, 2011; Levine & Kater, 2013; Myran & Parsons, 2013; Schudde & Goldrick-Rab, 2015; Wells & Stage, 2015). As a consequence, community colleges act as the primary portal to higher education for the historically under-served and most diverse learner groups (Boggs, 2011; Bragg & Durham, 2012; Clark, 2012;

Dassance, 2011; Kruse et al., 2015; Laskey & Hetzel, 2011; Levine & Kater, 2013; Myran & Parsons, 2013; Romano, 2011; Rutschow et al., 2011; Wells & Stage, 2015).

Of the educationally under-served, persons from low-income or low socioeconomic status backgrounds represent a substantial portion of community college students (Bastedo & Jaquette, 2011; Bragg & Durham, 2012; Brock et al., 2007; Kezar, 2011; Maroto et al., 2014; Mayer et al., 2014; Porchea et al., 2010). These individuals face an array of risk factors (Brock et al., 2007), most prominent of which are financial constraints (Savage & Graves, 2015). These financial constraints jeopardize students' educational attainment and success (Savage & Graves, 2015).

It is often assumed traditional financial aid will remove fiscal burdens for low-income students; however, that is not always the case (Baum, 2007; Choitz & Reimherr, 2013; Geckeler et al., 2008; Johnson, 2015). Financial gaps or emergencies beyond the scope of traditional financial aid are common for many community college students and lead to negative impacts on success, persistence, and completion (Ajose et al., 2007; Chaplot et al., 2015; Geckeler et al., 2008). The negative impact financial emergencies have had on student success has prompted many institutions to establish financial assistance programs focused specifically on emergency aid (Geckeler et al., 2008; Orozco & Mayo, 2011; Patel & Assaf, 2014).

This study was designed to address the topic of student emergency financial assistance and the positive quantitative impact it had on the educational outcomes of student success, persistence, and completion. It was hoped this research would provide a quantitative measure of the impact student emergency financial aid had on the identified

educational outcomes and provide data on a topic of limited research (Broton et al., 2014; Dachelet & Goldrick-Rab, 2015).

Chapter Two will explore a conceptual framework to guide the study, as well as relevant research related to the topic of student emergency financial assistance in community colleges. The topics of related research include several focus areas. The origin and current state of the United States community college sector will provide a foundation of understanding for the reader. Then, a review of community college student demographics, with a specific focus on low-income and under-served students, will describe the studied population. Next, an analysis of the benefits to college completion will be presented. A historical analysis of financial aid will then address pertinent policies and practices of financial assistance in higher education. Finally, specific information on student emergency financial assistance in the community college sector will be discussed. These topics will guide the review of literature that supports this study.

Conceptual Framework

This study focused on community college student emergency financial assistance and the impact it had on student success, persistence, and completion rates. An appropriate theory to support this research is the Bean and Metzner (1985) conceptual model of nontraditional undergraduate student attrition. This model was deemed appropriate for this study due to the alignment with attrition analysis in the community college sector (Cunningham, 2010; Dempsey, 2009), increased nontraditional student enrollment in higher education (Stahl & Pavel, 1992; Topper & Powers, 2013), and the demographic characteristics used by Bean and Metzner (1985) to define the studied

population. For these reasons, the Bean and Metzner (1985) model of nontraditional student attrition was selected as the framework to guide the research and analysis presented in this study.

The alignment of attrition analysis to the community college sector linked this study to the Bean and Metzner (1985) model (Cunningham, 2010; Dempsey, 2009; Stahl & Pavel, 1992). Although, the Bean and Metzner (1985) model was designed to focus specifically on nontraditional students, the alignment of demographic characteristics of nontraditional students with those of the community college student population justifies its use in this study (Bean & Metzner, 1985; Cunningham, 2010). This alignment is appropriate, making the Bean and Metzner model the most frequently used attrition model for community college research studies (Dempsey, 2009).

Bean and Metzner's (1985) selection of nontraditional students as a focus area for attrition research also corresponded with enrollment increases for this population group (Bean & Metzner, 1985; Stahl & Pavel, 1992; Topper & Powers, 2013). These increases altered the composition of community college student enrollment, and created a subgroup of students about whom little research had been conducted (Bean & Metzner, 1985). Bean and Metzner's (1985) model sought to further analyze this subgroup.

The model used broad demographic characteristics to define the nontraditional student population (Cunningham, 2010). Bean and Metzner (1985) identified nontraditional students as:

> . . . from any part of the country; from rural or urban settings; rich or poor; black, white, or Hispanic; 18 years old or older; not employed, working full- or part-time, or retired; male or female; with or without dependents; married, single, or

> divorced; and enrolled for vocational or avocational reasons in a single course or in a degree or certificate program. (p. 488)

These defined characteristics create a heterogeneous population that parallel characteristics of community college students (Clark, 2012; Mellow & Heelan, 2008; Stahl & Pavel, 1992; Topper & Powers, 2013). This association also validates the model's appropriateness for use in this study.

The model further supports this study through a focus on attrition and the factors that contribute to students leaving college (Stahl & Pavel, 1992). Bean and Metzner (1985) discussed these factors and the individual impacts to student persistence and retention. This focus on impacts to student attrition, again demonstrates the relevance of the Bean and Metzner (1985) model to this research.

Bean and Metzner's (1985) model uses four constructs when examining attrition: academic performance, social integration, background and defining characteristics, and environmental variables (ACSFA, 2012; Cunningham, 2010; Stahl & Pavel, 1992). The model states environmental variables, such as finances, employment status, and family responsibilities, have more substantial direct effects on educational outcomes for the studied group than the other three focus areas of the model (ACSFA, 2012; Bean & Metzner, 1985). The variable Bean and Metzner (1985) identified as having the least effect on attrition for the nontraditional student population is the social integration variable, defined as the relationship students have with the college campus/community (Cunningham, 2010; Dempsey, 2009; Stahl & Pavel, 1992). The model determined there was a lessened relationship between social integration and nontraditional student attrition, thus this variable was omitted as a primary attrition component (Bean & Metzner, 1985;

Grossett, 1989). This shifted the development of the model instead to the identified environmental variables to nontraditional student attrition as the main driver for student persistence, as well as other potential contributing factors (McKinney & Novak, 2012; Stahl & Pavel, 1992).

An institution has little control over students' environmental circumstances, such as finances, family responsibilities, and employment status, but these factors are presumed by the Bean and Metzner (1985) model to be the most critical and have direct effects on student enrollment (Bean & Metzner, 1985; Cunningham, 2010). The model's focus on environmental factors of student attrition, specifically the impact of financial variables (Bean & Metzner, 1985; Stahl & Pavel, 1992), directly links to the focus of this study – the impact of student emergency financial assistance on student success, persistence, and completion, and provides a foundation for the research of this study.

Origin and Current State of the United States Community College System

At the beginning of the 20th century, "the community college emerged during a period of experimentation in all sectors of American education" (Phillippe & Patton, 2000, p. 17). It is believed, "the invention of the two-year community college was the greatest innovation of twentieth-century American higher education" (Coley, 2000, p. 4), and community colleges are the only distinctive and unique form of American higher education (Mellow & Heelan, 2008; Phelps, 2012). These characteristics cemented community colleges as a part of American higher education (Phillippe & Patton, 2000).

Two-year colleges, or junior colleges, were established to democratize educational opportunities and uphold missions of access and equity in higher education (Cohen et al., 2014; Dassance, 2011; Dougherty, 1987; Goldrick-Rab, 2010; Mellow &

Heelan, 2008; Phillippe & Patton, 2000; The Century Report, 2013; Topper & Powers, 2013; Wilson, Hu, Basham, & Campbell, 2015). Beyond equity and accessibility, these institutions were created to maintain a commitment to community development and social justice (Mellow & Heelan, 2008). Increased participation in higher education, particularly for individuals of limited opportunity, has been possible due to the open-enrollment policy of community colleges throughout history (Boggs, 2011; Bragg, 2001; Coley, 2000; Goldrick-Rab, 2010; Phillippe & Patton, 2000, Schudde & Goldrick-Rab, 2015; Topper & Powers, 2013).

In 1901, the nation's oldest existing community college, Joliet Junior College, was established in Joliet, Illinois (Levine & Kater, 2013; Phelps, 2012; Romano, Gallagher, & Shugart, 2010; The Century Report, 2013). The establishment of Joliet Junior College prompted a movement that led to the growth of the community college sector in the early 1900s (Phillippe & Patton, 2000). At this time, community colleges primarily focused on liberal arts studies (Dempsey, 2009; Mellow & Heelan, 2008; Vaughan, 1985). Starting in the 1930s, technical education and job-training programs became a focus of these institutions (Dassance, 2011; Phillippe & Patton, 2000; Vaughan, 1985). This diversity in curricular offerings further expanded the missions and visions of two-year institutions (Boggs, 2011; Bragg, 2001; Dassance, 2011; Levine & Kater, 2013).

The historical changes of community colleges led to the 1947 release of the U.S. Commission on Higher Education report, known as the Truman Report (Bragg, 2001; Levine & Kater, 2013; Phillippe & Patton, 2000; Romano et al., 2010; The Century Report, 2013; Vaughan, 1985). Through the mandates of the Truman Report, the

commission sought to establish a national network of community colleges (Bragg, 2001; Levine & Kater, 2013; Phillippe & Patton, 2000; Romano et al., 2010; The Century Report, 2013; Vaughan, 1985). As stated in the Truman Report, the commission believed, "that if America were to fulfill its role successfully as the world's leading advocate for democracy, the nation must break down the barriers to educational opportunity" (Vaughan, 1985, p. 7). The expansion of community colleges nationwide was intended to provide the opportunity for the United States to remove barriers to postsecondary education for all citizens (Cohen et al., 2014; Phillippe & Patton, 2000).

Following the Truman Report, the greatest expansion of community colleges throughout history occurred during the 1960s and early 1970s (Bragg, 2001; Rose, 2013), with the opening of over 450 public two-year colleges (Phillippe & Patton, 2000; Romano et al., 2010). This expansion saw enrollments increase from just over 585,000 students in 1958, to above 4,800,000 students by 1980 (Vaughan, 1985). The rapid enrollment growth, in a large part due to the passing of the 1965 Higher Education Act, placed community colleges as a primary vehicle for expanded access to higher education in the United States (Barreno & Traut, 2012; Bragg & Durham, 2012; Chen & DesJardins, 2008; Levine & Kater, 2013).

Due to "the massive expansion of the community college over the last century, participation in American higher education has substantially increased" (Goldrick-Rab, 2010, p. 437). Community colleges today now educate nearly half of all undergraduate students in the nation (AACC, 2015a; AACC, 2015c; Bers & Schuetz, 2014; Burke, 2013; Cohen et al., 2014; Everett, 2015; Grossman et al., 2015; Levine & Kater, 2013; Liao et al., 2014; Martin et al., 2014; Melguizo et al., 2011; Windham et al., 2014) and

offer transfer, vocational, developmental, and continuing education and community service programs (Barreno & Traut, 2012; Boggs, 2011; Bragg, 2001; Brock et al., 2007; Cohen et al., 2014; Clotfelter, Ladd, Muschkin, & Vigdor, 2013; Kezar, 2011; Miller et al., 2013; Topper & Powers, 2013). This evolution places community colleges today as "the single largest and most important portal into higher education" (Bragg, 2001, p. 95) and "a central element in the fabric of American postcompulsory education" (Cohen et al., 2014, p. 38).

Community College Student Demographics

When considering research on educational attainment outcomes for community college students, a discussion on student characteristics and demographics is necessary (Goldrick-Rab, 2010). The community college mission of accessible and affordable education (Bragg, 2011; Brock et al., 2007; Davidson, 2013; Goldrick-Rab, 2010; Nakajima et al., 2012; Ocean et al., 2014) has laminated community colleges as the primary pathway to higher education for the diverse group of historically under-served and under-represented students (Kruse et al., 2015; Levine & Kater, 2013; Maroto et al., 2015; Moschetti & Hudley, 2015; Nakajima et al., 2012; Phelps, 2012).

Community college students often come from a broad range of demographic backgrounds and diverse characteristics (AACC, 2015c; Bragg & Durham, 2012; Clark, 2012). Over half of students enrolled in community colleges are first-generation students, single parents, or have a disability (AACC, 2015c). They are also more likely to work while attending college, be underprepared academically, or attend classes part-time when compared to four-year college students (Bragg, 2001; Bragg & Durham, 2012; Martin et al., 2014; Rose, 2013). Other common demographic characteristics of

community college students include: adult learners, members of under-represented ethnic groups, and low socioeconomic status students (Clark, 2012; McKinney & Novak, 2012; Mellow & Heelan, 2008). These demographics exemplify the immense diversity of the community college student population (Levine & Kater, 2013; Maroto et al., 2015; Moschetti & Hudley, 2015; Nakajima et al., 2012; Phelps, 2012).

When studying community college students, "a deeper understanding of student diversity in higher education is important to understanding these complex issues of access and equity and how they affect outcomes" (Bragg & Durham, 2012, p. 110). Student demographics have been identified, in many cases, as a predictor of success and completion in higher education (Chaplot et al., 2015; McKinney & Novak, 2012). Demographic characteristics of community college students are noteworthy, as they are often less likely to succeed academically or persist to graduation (Goldrick-Rab et al., 2013; Jenkins & Cho, 2012; Liao et al., 2014; Martin et al., 2014; Porchea et al., 2010; Topper & Powers, 2013). For the past 40 years, approximately half of first-year community college students leave higher education before starting their second year (Liao et al., 2014). More recently, only 36% of community college students obtained a credential within six years of beginning their educational career (Jenkins & Cho, 2012; Liao et al., 2014). These statistics demonstrate the difficulty many community college students have in attaining their educational goal (Bragg & Durham, 2012; Jenkins & Cho, 2012; Quaye & Harper, 2015) and can be linked back to various demographic characteristics community college student possess (Chaplot et al., 2015; McKinney & Novak, 2012).

Economic insecurity among community college students. In higher education today, "community colleges are the postsecondary educational entry point for economically disadvantaged populations" (Kezar, 2011, p. 139). When compared to other sectors of public higher education, community colleges enroll the most students from the lowest socioeconomic quintile and low-income backgrounds (Martin et al., 2014; The Century Report, 2013). Approximately 40% of community college students live in poverty (Goldrick-Rab et al., 2013), and lack any resources to pay for a college education (McKinney & Novak, 2012). Low levels of student financial status are a reality impacting many community college students and have been identified as the most prominent demographic risk factor that negatively influences student retention (Goldrick-Rab et al., 2013; Nakajima et al., 2014; Yu, 2014).

Specific characteristics of low-income students have also been linked to college and life experiences, as well as college enrollment patterns (Chaplot et al., 2015; Kezar, 2011). Low-income students are often enrolled in college part-time, work more hours (Yu, 2014), and lack continuous enrollment when compared to other students (ACSFA, 2012; Kezar, 2011; Quaye & Harper, 2015). Additional characteristics of low-income students, that are often not measureable, include financial stress, lack of childcare, academic unpreparedness, overcrowded housing conditions, and a general lack of knowledge about college or financial aid (Kezar, 2011). These barriers are representative of the many challenges faced by low-income community college students (Kezar, 2011).

Indicators of financial need and behaviors of community college students were analyzed in the Financial Industry Regulatory Authority (FINRA) 2012 National Financial Capability Study (see Figure 2).

	Community College (*N* =552)
Demographic characteristic	
Female	53%
Minority	55%
Has dependent(s)	41%
Household received state/federal benefits (e.g., Supplemental Security Income, Temporary Assistance for Needy Families, unemployment benefits) in the last 12 months	23%
Lives with parents, family, friends, or roommates	42%
Lives with spouse/partner	39%
Financial indicators	
Student loans	44%
Difficulty covering monthly expenses	70%
No emergency savings (i.e., funds set aside to cover three months of expenses)	61%
Financially fragile (inability to come up with $2,000 in a month, if the need arose)	49%
Low financial literacy (score based on five-item financial literacy quiz[19])	77%
Non-bank borrowing	46%

Figure 2. FINRA 2012 National Financial Capability Study. This figure illustrates the demographic characteristics and financial indicators that describe the community college population studied (Savage & Graves, 2015).

The FINRA examined the demographic characteristics and financial indicators that describe the community college population researched. Results from the study found that the majority of community college respondents stated they had difficulty covering monthly living expenses and lacked funds for emergency savings (Savage & Graves, 2015). Around half of respondents indicated that they were financially fragile, defined by the study as being unable to obtain $2,000 in a month, if necessary (Savage & Graves, 2015). High levels of economic insecurity are the norm for many community college

students, and often have negative effects on college success (Gutter & Zeynep, 2011; Welbeck et al., 2014).

The financial deficiencies identified by Savage and Graves (2015) are damaging to many community college students (Welbeck et al., 2014). Low-income students often lack the same college success rates and overall opportunity for access to higher education when compared to students from economically advantaged backgrounds (Bastedo & Jaquette, 2011; Boggs, 2011; Kezar, 2011; Mayer, Richburg-Hayes, & Diamond, 2015; The Executive Office of the President, 2014). For low-income students, federal financial aid is structured to assist in accessing and financing postsecondary education (McKinney & Novak, 2012; Savage & Graves, 2015). Receipt of federal financial aid has been linked with positive educational outcomes (Cho, Jacobs, & Zhang, 2013; McKinney & Novak, 2012; Zhang, Shouping, & Sensenig, 2013). However, when focusing on low-income community college students, federal financial aid is underutilized when compared to peer groups (Goldrick-Rab et al., 2013; Savage & Graves, 2015).

Nationally, over 70% of community college students apply for some form of federal financial aid (AACC, 2015a), demonstrating the vast reach of the program throughout postsecondary education (Dynarski & Scott-Clayton, 2013). Although the majority of community college students apply for financial aid, this figure is not representative of low-income community college students (Hershbein & Hollenbeck, 2015; McKinney, Roberts, & Shefman, 2013). Low-income community college students who would be eligible for need-based financial aid are the least likely to file for and obtain aid when compared to other peer groups (College Board, 2010; Davidson, 2015b; Yu, 2014). These students are often unaware funding is available to help make college

more affordable, or lack the basic understanding of financial planning necessary to aid in decision-making related to financial aid (McKinney & Novak, 2012; Savage & Graves, 2015). These factors contribute to the underutilization of financial aid by low-income community college students (McKinney & Novak, 2012; Savage & Graves, 2015).

Despite low levels of financial aid utilization (College Board, 2010; Hershbein & Hollenbeck, 2015), a recent trend of rising enrollment among low-income community college students has occurred (Kezar, 2011; United States Department of Housing and Urban Development, 2015). However, this number still continues to lag behind middle- and high-income students (Kezar, 2011; Rubin, 2011). Additionally, the number of low-income students receiving a postsecondary credential has remained consistently low over the past 10 years (Bragg & Durham, 2012). The college completion rates for low-income community college students remains below the 50% average for all community college students (Everett, 2015), indicating this group is less likely to persist and graduate from college (Goldrick-Rab et al., 2013; Kezar, 2011; Levine & Kater, 2013; Quaye & Harper, 2015; United States Department of Housing and Urban Development, 2015; Yu, 2014). The substantial barriers and limited educational success of many low-income community college students is demonstrated by these statistics.

College Completion Benefits

Throughout recent history, "education has proven to be this nation's single most powerful engine of individual progress and upward mobility" (Lumina Foundation, 2015, p. 1). A college education can open the door to opportunities that would not otherwise be available to most individuals (Baum, Kurose, & Ma, 2013). The attainment of college-level credentials prepares individuals for lasting success in the workplace (Goldrick-Rab

et al., 2013) and in life (Lumina Foundation, 2015). The unprecedented national focus on college completion has furthered the discussion on the benefits associated with higher educational attainment (Carnevale & Rose, 2011; McClenney, 2015; Shapiro et al., 2012; The Executive Office of the President, 2014).

Benefits resulting from the receipt of a college credential span several measures (Belfield & Bailey, 2011; Hoffman & Reindl, 2011; McClenney, 2015; Trostel, 2015). Societal and individual benefits, both quantifiable and not, result from the attainment of a postsecondary education credential (Carnevale & Rose, 2011; Crellin et al., 2012; Economic Modeling Specialists Intl. [EMSI], 2014; McClenney, 2015; Trostel, 2015). To categorize these measures, both economic and social impacts should be reviewed at the public and personal level (AACC, American Association of State Colleges and Universities [AASCU], & Association of Public and Land-Grant Universities [APLU], 2015; Schudde & Goldrick-Rab, 2015).

Individual economic impacts of higher education attainment are the most frequently discussed and documented benefits related to increased rates of college completion (Baum et al., 2013; Crellin et al., 2012; Trostel, 2015). The receipt of a college credential enhances the opportunity for positive economic mobility (Eberly & Martin, 2012; The Executive Office of the President, 2014). Lifetime earnings of individuals with postsecondary credentials continues to outpace the earnings of individuals lacking a credential (Abel, Deitz, & Su, 2014; Baum et al., 2013; Belfield & Bailey, 2011; Broton et al., 2014; Carnevale & Rose, 2011; Eberly & Martin, 2012; EMSI, 2014; Hoffman & Reindl, 2011; Lumina Foundation, 2013; Romano, 2011; Trostel, 2015; Zaback et al., 2012; The Executive Office of the President, 2014).

Specific to community college students, the attainment of an associate's degree results in over $12,000 of additional income annually when compared to individuals possessing only a high school diploma (Trostel, 2015).

In the changing economy of the 21st century, a postsecondary credential not only affords an individual higher wages, it can also dictate employment status overall (Abel et al., 2014; Eberly & Martin, 2012; Hoffman & Reindl, 2011; Lumina Foundation, 2013; Schudde & Goldrick-Rab, 2015; Zaback et al., 2012). Unemployment rates are considerably lower for college graduates, when compared to individuals with a high school diploma or less (Abel et al., 2014; Baum et al., 2013; Eberly & Martin, 2012; Lumina Foundation, 2013; Schudde & Goldrick-Rab, 2015; Strom & Strom, 2013; Trostel, 2015). Recent research has shown the unemployment rate for college graduates is less than half of individuals lacking a postsecondary education credential (Abel et al., 2014; Strom & Strom, 2013; Trostel, 2015). Reducing the incidence of unemployment through higher education attainment also significantly reduces the risk of living in poverty (Trostel, 2015). Poverty rates for community college graduates are 50% less than individuals with only a high school diploma (Trostel, 2015).

The individual economic indicators of higher education attainment align with the changing nature of the national economy overall (Lumina Foundation, 2013). By the year 2020, the U.S. economy will require almost two-thirds of workers to have some form of postsecondary credential (AACC, 2014; Crellin et al., 2012; Goldrick-Rab, Broton, & Eisenberg, 2015; Hoffman & Reindl, 2011; Lumina Foundation, 2013; Strom & Strom, 2013). This demand for credentialed individuals will continue to drive positive economic benefits to society through a higher return on investment of public funds

(AACC, AASCU, & APLU, 2015; Baum et al., 2013; EMSI, 2014). The increase in tax revenue generated by higher quality employment (Carnevale & Rose, 2011; EMSI, 2014) and lowered reliance on social support services will further strengthen the economic climate of the nation (AACC, AASCU, & APLU, 2015; Baum et al., 2013; Belfield & Bailey, 2011; Crellin et al., 2012; EMSI, 2014; Hoffman & Reindl, 2011).

Beyond monetary returns to the individual and society, higher education attainment provides many important non-financial benefits (Baum et al., 2013; Belfield & Bailey, 2011; Schudde & Goldrick-Rab, 2015). At the individual-level, evidence of improved health (Belfield & Bailey, 2011), higher levels of job or career satisfaction and advancement, and increased civic engagement are all benefits of higher education attainment (Baum et al., 2013; Committee for Economic Development, 2012; Eberly & Martin, 2012; Trostel, 2015). Educational attainment further impacts other forms of noncash compensation. Fringe benefits, such as employer-provided health insurance and retirement benefits, are more likely to be offered to individuals with a postsecondary credential (Baum et al., 2013; Belfield & Bailey, 2011; The Executive Office of the President, 2014; Trostel, 2015).

These non-monetary benefits directly impact the individual, as well as society as a whole (Baum et al., 2013). Healthier, happier, more productive citizens create cities and communities with high levels of social capital (Lumina Foundation, 2013; Trostel, 2015). This productivity spillover strengthens society through multiple measures beyond economics (Baum et al., 2013; Trostel, 2015). Higher levels of educational attainment in communities are associated with crime reduction, higher levels of philanthropy, increased overall civic participation, and community involvement (Lumina Foundation, 2013;

Trostel, 2015). These activities are all macro benefits of increased levels of postsecondary education attainment that positively impact society as a whole (Lumina Foundation, 2013; Trostel, 2015).

As college completion remains at the forefront of educational research, policy, and legislation, the benefits to college completion should not be overlooked (Carnevale & Rose, 2011; McClenney, 2015; Shapiro et al., 2012). At both the individual and societal level, higher education attainment provides positive impacts (Carnevale & Rose, 2011; Crellin et al., 2012; McClenney, 2015; Trostel, 2015). These measures should be viewed in a comprehensive manner to reflect the magnitude of total benefits a postsecondary education can bring to an individual and society as a whole (Trostel, 2015).

Overview and History of Financial Aid

In 1965, President Lyndon Johnson signed into law the Higher Education Act of 1965 (Dynarski & Scott-Clayton, 2013), committing the federal government to assisting with financial aid for higher education (Chen & DesJardins, 2008; Mayer et al., 2015; Romano et al., 2010; Vaughan, 1985). The Higher Education Act (1965) institutionalized federal support for higher education and pledged no student would be denied access to postsecondary education due to limited financial resources (Chen & DesJardins, 2008; Kim, 2012). Dynarski and Scott-Clayton (2013) determined, "In the nearly fifty years since the adoption of the Higher Education Act of 1965, financial aid programs have grown in scale, expanded in scope, and multiplied in form" (p. 67).

In the early history of financial aid, community colleges were slow to organize financial assistance programs and offices, due to the misconception that students were not in need of financial assistance because of the low cost associated with attending a

community college (Cohen et al., 2014). This view has drastically changed (Cohen et al., 2014). Today, "the student financial aid landscape differs greatly from the one that existed in 1965" (Deaton & Wright, 2014, p. 2). The financial aid system in the United States has greatly evolved (Dynarski & Wiederspan, 2012) and become an important part of the higher education system in the nation (Jensen, 1981).

Upon inception, financial aid programs focused on providing access to students of all economic backgrounds, to increase participation in higher education (Carlson & Zaback, 2014; Groen, 2011; Kim, 2012; Prescott & Longanecker, 2014). Today, aid is available in the form of need- and merit-based grants, loans, and tax credits and is awarded by both the state and federal government, as well as individual higher education institutions (Dynarski & Scott-Clayton, 2013; Eberly & Martin, 2012; Kelly & Schneider, 2012). In the 2010-11 academic year, nearly $190 billion dollars of finanical aid was awarded to U.S. undergraduate students, clearly illustrating the scale and scope of financial aid programs in higher edcuation today (Dynarski & Scott-Clayton, 2013).

The creation of financial aid programs in higher education after the adoption of the Higher Education Act of 1965 led to the establishment of Pell Grants for students with qualifying financial need (Cho et al., 2013; Goldrick-Rab et al., 2015). Pell Grants have served as the primary source of financial aid for low-income college students (Cho et al., 2013, Davidson, 2013; Eberly & Martin, 2012; McKinney & Roberts, 2012; Rubin, 2011) and have been the single largest source of federal financial aid throughout history (Mellow & Heelan, 2008). In recent years, participation in the Pell Grant program has drastically increased for community college students (Cho et al., 2013). Approximately 20% of community college students utilized Pell Grants in the early 2000s (Mellow &

Heelan, 2008), whereas over 35% of students currently participate in the program (Cho et al., 2013).

Although an increase in program participation has been evident, many community college students who would be eligible to receive grant funding to attend college do not utilize the Pell Grant program (McKinney & Novak, 2012). Research has found persistence can be positively linked to the reciept of financial aid, particularly the receipt of need-based grants, such as Pell Grants (Cho et al., 2013; Kelly & Schneider, 2012; McKinney & Novak, 2012; Zhang, Shouping, & Sensenig, 2013). Moreover, the underutilization of grant funding has been negatively linked to community college student persistence (McKinney & Novak, 2012). This underutilization could be limiting potential funding benefits to community college students (McKinney & Novak, 2012; McKinney & Roberts, 2012).

In addition to Pell Grants, many financial aid programs at the state-level currently focus on merit-based financial aid awards (Doyle, 2010; Groen, 2011; Kim, 2012). The broad adoption of merit-based financial aid programs in the 1990s focused on providing financial assistance for students demonstrating high levels of academic performance (Domina, 2014; Doyle, 2010; Groen, 2011; Kim, 2012; Zhang et al., 2013). Common academic characteristics or attainments such as, grade point average, class rank, and achievement test scores often serve as requirements for state-level, merit-based aid programs (Doyle, 2010; Zhang et al., 2013). Merit-based financial aid awards often also allocate financial assistance to students who would have likely continued to postsecondary edcuation regardlesss of any form of additional financial aid (Doyle, 2010;

Gieser, 2012; Groen, 2011; Mellow & Heelan, 2008), making merit-based financial aid a distinctive source of funding for college students (Gieser, 2012).

Student loans represent another primary source of financial aid in higher edcuation (Dynarski & Scott-Clayton, 2013; Eberly & Martin, 2012; Hershbein & Hollenbeck, 2015; McKinney & Novak, 2012). A dramatic shift in college funding from grants to student loans has occurred in recent history (Chen & Desjardins, 2008; Chen & Wiederspan, 2014; Hershbein & Hollenbeck, 2015). The rising cost of higher education and lessened college affordability have led to a financial gap for many students pursing a postsecondary education and have created a necessity for the use of student loans to finance college (Baum, 2007; Chen & Desjardins, 2008). For community college students, the use of loans to finance college can be particularly damaging (Chen & Wiederspan, 2014; McKinney et al., 2013). High student loan default rates and repayment difficulty experienced by many community college students represents evident negative effects (Baum, 2007; Chen & Wiederspan, 2014; McKinney et al., 2013).

The face of financial aid at the community college level has greatly changed since the 1960s (Deaton & Wright, 2014). Federal Pell Grants and low-interest loan programs established the foundation of federal financial aid programs in higher education (Dynarski & Wiederspan, 2012), and merit-based aid has evolved at both the state- and institution-level (Doyle, 2010; Groen, 2011). This growth and development of financial aid in higher education has positioned student financial aid is an obvious and important part of the effort to help students succeed (McKinney & Novak, 2012; McKinney & Roberts, 2012).

Student Emergency Financial Assistance in Higher Education

The lack of financial resources low-income students are faced with leave many basic needs such as food, shelter, transportation, and health care unmet (Ajose et al., 2007; Baum et al., 2014; Castleman et al., 2015; Chaplot et al., 2015; Fishman, 2015; Goldrick-Rab et al., 2013; Johnson, 2015; Orozco & Mayo, 2011; Terry, Shepherd, Hammonds, Hearnsberger, & Decker, 2015). In community colleges across the nation, these basic needs of students continue to not be fulfilled (Goldrick-Rab et al., 2013; Patton-Lopez, Lopez-Cevallos, Cancel-Tirado, & Vazquez, 2014). Unexpected financial emergencies or high levels of unmet need are faced by many community college students, and can interrupt or end a student's education (Ajose et al., 2007; Broton et al., 2014; Chaplot et al., 2015; Fishman, 2015; Goldrick-Rab et al., 2013; Orozco & Mayo, 2011; United States Department of Housing and Urban Development, 2015).

Poverty research on topics related to financial emergencies and unmet need, such as housing and food insecurity, have been long-studied; although, a gap in this analysis exists when examining the postsecondary education population (Brock et al., 2014; Cady, 2014; Patton-Lopez et al., 2014; Maroto et al, 2015). The United States Department of Agriculture (2014) defines food insecurity as the lack of access by all people at all times to enough food for an active, healthy lifestyle (Coleman-Jensen, Gregory, & Singh, 2014). The measure assesses the adequacy and stability of a household's food supply over a year-long period and is a marker of economic hardship (Patton-Lopez et al., 2014). Factors often contributing to food insecurity include, "poverty, high housing and utility costs, unemployment, medical and health costs, mental health problems, lack of education, transportation costs, and substance abuse" (Maroto et al., 2015, p. 516).

The prevalence of food insecurity on college campuses has been minimally documented through past research (Freudenberg et al., 2011; Hughes, Serebryanikova, Donaldson, & Leveritt, 2011; Patton-Lopez et al., 2014; Maroto et al., 2014), and specific focus on the relationship to community college student success lacks investigation (Cady, 2014; Maroto et al., 2014). This gap in analysis has led recent research to begin addressing the topic in higher education (Broton et al., 2014; Goldrick-Rab et al., 2013; Johnson, 2015; Maroto et al., 2014; United States Department of Housing and Urban Development, 2015).

In the population of the nation's college students, substantial levels of food insecurity have been documented (Cady, 2014; Goldrick-Rab et al., 2013), suggesting a higher prevalence of food insecurity for college students when compared to the general population (Cady, 2014; Patton-Lopez et al., 2014). The Hunger in America 2014 report documented substantial levels of food insecurity for college students (Feeding America, 2014). The report stated, 31% of college students have had to choose between paying for food or paying for their education (Feeding America, 2014). Heightened levels of food insecurity have been negatively associated with academic performance among college students and pose a considerable risk to student success (Cady, 2014; Goldrick-Rab, 2015; Patton-Lopez et al., 2014).

Housing insecurity and homelessness are also resource deficiencies experienced by many low-income community college students (Broton & Goldrick-Rab, 2014; Goldrick-Rab et al., 2013; Terry et al., 2015). Many students are forced to live on the streets, or sleep in shelters at night, with no reliable place to store class materials or to study (Goldrick-Rab et al., 2013). The rate of homelessness among college students

continues to rise (Goldrick-Rab et al, 2013). It is estimated approximately 56,000 college students are homeless (United States Department of Housing and Urban Development, 2015). This places "students disproportionately at risk for housing insecurity" (United States Department of Housing and Urban Development, 2015, p. 2).

Across the student population, students at the greatest risk of homelessness include those with annual income levels under $20,000, students with dependents, students aged 30 or older, and those who work more than 20 hours a week (Broton & Goldrick-Rab, 2013). These demographic characteristics are similar to those of the majority of community college students. This contributes to the disproportionate risk of housing insecurity experienced by these students (Broton & Goldrick-Rab, 2013).

Beyond housing and food insecurity, community college students are faced with additional financial emergencies and high levels of unmet financial need (Ajose et al., 2007; Terry et al., 2015). Lack of transportation or childcare, a reduction in work hours, inability to pay medical bills, or other unexpected financial expenses have been cited as frequent financial crises that impact student success (Ajose et al., 2007; Baum et al., 2014; Castleman et al., 2015; Chaplot et al., 2015; Fishman, 2015; Geckeler et al., 2008; Orozco & Mayo, 2011). Financial emergencies, as previously identified, especially for low-income students, can interrupt or end postsecondary education for many students (Ajose et al., 2007; Baum et al., 2014; Orozco & Mayo, 2011).

As community colleges continue to strive to best serve students, addressing basic and immediate financial needs will be essential (Castleman et al., 2015; Fishman, 2015). When students' most basic needs are not met, achieving successful educational outcomes becomes a great challenge (Goldrick-Rab et al., 2014). This places emergency financial

assistance programs as critical to supporting the educational success of financially burdened students (Castleman et al., 2015; Fishman, 2015; Patel & Assaf, 2013). Providing intentional financial emergency support services allows students to focus on and achieve their educational goals and aids institutions in improving student retention and completion rates, which have been identified as key indicators of institutional performance (Chaplot et al., 2015; Goldrick-Rab et al., 2014)

Student emergency financial assistance program structure. Food and housing insecurity, lack of transportation, limited access to healthcare, and other basic areas of unmet need or financial crisis, coupled with the lack of comprehensive efforts to assess indicators of economic instability and provide systematic aid to college students continues to negatively impact student success (Broton & Goldrick-Rab, 2013). As stated by one community college president (Goldrick-Rab et al., 2013):

> When a student is hungry, he does not feel safe, and it is hard to help him synthesize class material. We have to meet students' basic needs in order for them to fully concentrate on assimilating the information in class in a way that they can apply it, learn, and take it forward. (p. 2)

To address student financial emergencies and high levels of unmet financial need, several community colleges, education foundations, and not-for-profit organizations have developed programs or interventions to address these financial emergencies and aid students who are at risk of dropping out of college (Ajose et al., 2007; Baum et al., 2014; Fishman, 2015; Geckeler et al., 2008; Orozco & Mayo, 2011).

National student emergency financial assistance programs. Nationwide efforts of the Lumina Foundation for Education have assisted in establishing programs

with the purpose of providing emergency financial assistance to students (Baum et al., 2014; Fishman, 2015; Geckeler et al., 2008; Orozco & Mayo, 2011). Two such programs, the Dreamkeepers and Angel Fund Emergency Financial Aid Programs, were piloted at 11 community colleges and 26 Tribal Colleges and Universities throughout the nation in 2004 (Geckeler et al., 2008; Orozco & Mayo, 2011). The specific program structure and design varied considerably at each institution, but the general parameters and the goal of assisting students with unexpected financial emergencies remained constant throughout (Ajose et al., 2007; Baum et al., 2014; Geckeler et al., 2008; Orozco & Mayo, 2011).

The flexibility in designing and administering student emergency financial aid programs allowed participating institutions the opportunity to create programs appropriate to their specific needs and local contexts (Ajose et al., 2007; Geckeler et al., 2008; Orozco & Mayo, 2011). Although program design varied substantially at each institution, trends related to program structure and awarding of aid did emerge (Geckeler et al., 2008). The majority of participating programs offered student assistance through grants, as opposed to through student loans (Geckeler et al., 2008). The grants often targeted housing- or transportation-related emergencies, which were cited as the top areas of student need for all partner institutions (Ajose et al., 2007; Geckeler et al., 2008; Orozco & Mayo, 2011). Trends also emerged related to aid recipients (Geckeler et al., 2008). Individuals who received assistance from a Dreamkeepers or Angel Fund Emergency Financial Aid institution were more likely to be first-year students, older, parents, and enrolled in college full-time (Geckeler et al., 2008). These trends provide an overview of student emergency financial assistance on a large-scale. The efforts of the

Dreamkeepers and Angel Fund institutions mirror many student emergency financial assistance programs currently operating in community colleges throughout the nation (Fishman, 2015).

Preliminary research on the Dreamkeepers and Angel Fund Emergency Financial Aid Programs have demonstrated success in aiding students with financial emergencies (Geckeler et al., 2008; Orozco & Mayo, 2011). Although program effectiveness cannot be attributed to emergency aid alone, data shows students who received aid reenrolled at rates comparable, or greater, than their institutional averages (Geckeler et al., 2008; Orozco & Mayo, 2011). These results should not be interpreted as clear evidence, due to the lack of experimental research design in program evaluation (Ajose et al., 2007; Geckeler et al., 2008) but are encouraging statistics on the topic (Geckeler et al., 2008).

A more holistic approach to emergency student assistance is being provided by Single Stop USA (Ek, 2011; Goldrick-Rab et al., 2014; Single Stop USA, 2015). The organization's mission is to, "decrease poverty by connecting low-income individuals and students with existing resources and services that help them become self-sufficient and achieve economic mobility" (Goldrick-Rab et al., 2013, p. 4). The organization provides a one-stop-shop of holistic anti-poverty resources such as, benefit screening and application assistance for various social support programs, civil legal assistance, financial counseling, and tax preparation assistance (Association of Community College Trustees [ACCT] & Single Stop USA, 2012; Broton et al., 2014; Ek, 2011; Goldrick-Rab et al., 2014; Gonzalez, 2011).

Through Single Stop USA's efforts, partnerships with community colleges throughout the nation have emerged (ACCT & Single Stop USA, 2012; Ek, 2011, Broton

et al, 2014; Goldrick-Rab et al., 2014; Gonzalez, 2011). In 2014, the organization was partnered with 21 community colleges in 8 states (Goldrick-Rab et al., 2014). These partnerships sought to harness two of the country's most effective anti-poverty tools: coordinated access to America's safety net and a post-secondary education (Broton et al., 2014; Single Stop USA, 2015). Social and educational services are combined with technology, programmatic assistance, data and evaluation, and consulting to shift community colleges approach to student retention, thereby affecting educational outcomes of students and institutions (ACCT & Single Stop USA, 2012; Broton et al., 2014; Goldrick-Rab et al., 2014).

Single Stop USA's unique model provides access to a comprehensive range of anti-poverty services, all free to students of partner institutions (Ek, 2011; Goldrick-Rab et al., 2013; Single Stop USA, 2015). A student in need is able to access benefits and support services such as nutrition assistance, public health insurance, tax and legal services, or financial counseling – all located on the community college campus (ACCT & Single Stop USA, 2012; Broton et al., 2014; Ek, 2011; Goldrick-Rab et al., 2013; Gonzalez, 2011; Single Stop USA, 2015). These services are geared to help students towards a path of economic stability and aid them in overcoming setbacks that may impact their educational success (Goldrick-Rab et al., 2013; Single Stop USA, 2015). Research has shown that through the combination of cash and non-cash benefits to students, supplemented with additional support, student retention rates can be substantially improved (Goldrick-Rab et al., 2014; Gonzalez, 2011).

Students who have accessed Single Stop USA services vary substantially, but some general demographic trends have emerged (ACCT & Single Stop USA, 2012;

Goldrick-Rab et al., 2013). Over 75% of Single Stop USA clients are first-generation students, around half are single working parents, and the average income levels of students are just over $7,000 (ACCT & Single Stop USA, 2012; Goldrick-Rab et al., 2013). Preliminary data on the Single Stop USA community college program shows positive impacts to student success and retention (Goldrick-Rab et al., 2013; Single Stop USA, 2015). Since the program's inception in 2009, Single Stop USA has served over 30,000 students (Single Stop USA, 2015). The average total amount of benefits and services provided to each student participating in the program is approximately $1,900 dollars (Single Stop USA, 2015). Through these benefits, data have shown that students who access Single Stop services are more likely to remain enrolled in college (Goldrick-Rab et al., 2013; Single Stop USA, 2015).

The goal of the Single Stop USA program is to serve students by aiding in the prevention of a financial crisis through benefit support and access, rather than respond to financial crisis (Goldrick-Rab et al., 2014). The program aims to remove barriers to success for students and assist them in remaining enrolled in college and completing their educational goals (ACCT & Single Stop USA, 2012; Goldrick-Rab et al., 2013; Gonzalez, 2011; Single Stop USA, 2015). The coordinated access to resources provides students the benefits and services needed to create a bridge towards self-sufficiency and economic stability for themselves and their families (Goldrick-Rab et al., 2013; Single Stop USA, 2015). The Single Stop USA program has proved to be an innovative strategy to increase postsecondary educational attainment (Ek, 2011; Goldrick-Rab et al., 2013; Single Stop USA, 2015).

Local student emergency financial assistance program. Specific to the selected institution for this study, policies, procedures, and program structure for student emergency financial assistance are unique. The institution studied offers emergency aid to students through its foundation office, which requires no form of repayment. An application process (see Appendix A), guides the foundation office staff to determine students' need level, and eligibility for potential receipt of aid. The application requires students to meet specified criteria and report mandatory information before assistance can be granted. The following criteria specific to the institution studied must be met: current enrollment, demonstration of satisfactory academic progress, and a consultation with a financial aid advisor prior to seeking emergency financial assistance (A. Bacon, personal communication, November 11, 2015). In addition, the institution requires the following information from students before emergency financial assistance can be received: current course enrollment schedule, grade point average, and any additional forms of financial aid the student is already receiving (A. Bacon, personal communication, November 11, 2015).

This process serves as the general institutional selection method for students faced with an immediate financial emergency or unmet financial need at the institution studied. Although this process serves as the general guidelines for allocation and receipt of student emergency funds, all student financial emergency applications are viewed on a case-by-case basis, and exceptions can be granted at the discretion of the institution's foundation staff (A. Bacon, personal communication, November 11, 2015).

After a determination of need has been established, the institution disperses the requested funds to students. Funds are dispersed to students through specific avenues

based on the type of financial assistance granted (A. Bacon, personal communication, November 11, 2015). For example, for students faced with hunger or hygiene needs, a gift card to a local grocery store will be provided. Students with immediate hunger needs will additionally be provided a voucher to the on-campus cafeteria. Needs related to medical or health issues will be paid directly from the institution to the service provider.

Students who temporarily lack transportation to class are made eligible to receive a free bus pass for use of the city bus system, or are given a gas card to aid in fuel costs related to attending class. Financial needs related to lack of funds for utility bills, or rent/mortgage payments, are often paid directly to the service provider by the institution's foundation office. Specific student need beyond these areas can allow for varied assistance methods outside of the identified aid categories, but these guidelines serve as the basis for procedures related to the dissemination of student emergency financial assistance dollars at this institution (A. Bacon, personal communication, November 11, 2015).

Peer student emergency financial assistance programs. Emergency financial assistance is also provided to students at two peer institutions throughout the state of Missouri. Describing these programs provides a state-wide view of the student emergency financial assistance program structure. The program structure remains unique at each institution reviewed but maintains the goal of providing support to students in need. Each are described in more detail in the following paragraphs.

Peer Institution One offers comprehensive financial assistance services to students. The institution employs Student Assistance Specialists at each of their campus locations to assist students struggling with life issues that negatively impact enrollment

and success (St. Louis Community College, n.d). Any student is eligible to receive non-monetary assistance from the institution through the student assistance program. The services provided by the program are tailored to meet individual students' specific needs. Services typically provided to students are geared towards helping life issues be managed that often result in negative impacts to continued college enrollment and success (St. Louis Community College, n.d.).

Common assistance is provided to students through locating and accessing resources related to: food insecurity, crisis assistance for homelessness, domestic violence situations, utility disconnects, and a variety of other services (St. Louis Community College, n.d.). Assistance is also provided through a lunch program for students who have no access to food for lunch (St. Louis Community College, n.d.). These programmatic functions are coupled with extensive information on community assistance resources and advocacy services for students.

Peer Institution Two provides emergency financial assistance at one of five of their campus locations to students in need (Metropolitan Community College, 2016). This program is structured to provide monetary assistance to students at-risk of dropping out of college due to unexpected financial emergencies. Student assistance is provided in the form of a grant, not to exceed $500 dollars a semester (Metropolitan Community College, 2016). Students must meet the defined eligibility requirements: enrollment in a degree or certificate program, completion of at least 12 credit hours at the campus, enrollment in at least 3 credit hours on campus the semester aid is requested, good academic standing as defined by federal satisfactory academic progress guidelines, and willingness to complete a FAFSA for the current academic year to be eligible for

assistance (Metropolitan Community College, 2016). An application (see Appendix B) must also be completed to determine funding eligibility.

The emergency financial assistance provided by this institution strives to reduce high levels of student attrition due to unforeseen financial crises (Metropolitan Community College, 2016). The program at Peer Institution Two is structured similarly to the emergency financial assistance program at the institution analyzed by this study. Student emergency financial assistance programs at the peer institutions reviewed, and focus institution, all ultimately aim to assist students in need on the path to college completion and aid them in creating a secure financial future.

Summary

A comprehensive overview of topics relevant to the focus of this study were provided in Chapter Two. An analysis of the history and evolution of community colleges, discussion of community college student demographics, benefits to college completion, an overview of financial aid in higher education, and description of emergency student financial assistance programs provided an inclusive summary of topics significant to this study. The methodology used in this study is discussed in Chapter Three. The problem and purpose of the study are discussed, followed by a review of the study's research design. Steps included in the data collection and analysis are provided in Chapter Three to illustrate the direction of this study's research.

Chapter Three: Methodology

Financial instability and unmet need are common fiscal burdens for many community college students and often serve as a primary barrier to educational success (David et al., 2015; Davidson, 2013; Goldrick-Rab, 2010; Nakajima et al., 2012; Patel & Assaf, 2013; Quaye & Harper, 2015). Although traditional financial aid is intended to assist students in financing college expenses, many low-income students often face financial emergencies beyond the scope of traditional financial aid (Baum, 2007; Chaplot et al., 2015; Choitz & Reimherr, 2013; Geckeler et al., 2008; Johnson, 2015). These financial emergencies have been specifically identified by community colleges as significant obstacles to success, persistence, and completion and have prompted many institutions to establish student emergency financial assistance programs (Geckeler et al., 2008; Patel & Assaf, 2014).

Research on the topic of emergency financial assistance for community college students and its impact to student success, persistence, and completion has been limited (Broton et al., 2014). As the nationwide college completion agenda continues to shape higher education (Kalsbeek, 2013; Kotamraju & Blackman, 2011), research on interventions to aid retention, such as student emergency financial assistance, will be essential to institutional success (Bragg & Durham, 2012; College Board, 2012; Prescott & Longanecker, 2014). This study was conducted to contribute to future institutional success by providing knowledge on an intervention where scholarly research is deficient (Broton et al., 2014).

A comprehensive overview of the research methodology used to explore the impact of student emergency financial assistance in this study is provided in Chapter

Three. An overview the problem and purpose of the study is also presented. This review is followed by the research questions and hypotheses identified to guide the data collection and analysis. Supporting information related to the study's research design including: independent and dependent study variables, reliability and validity measures, ethical considerations, identification of the population studied, data collection, and data analysis are also discussed in this chapter.

Problem and Purpose Overview

As financial emergencies and unmet fiscal need continue to burden many community college students, the threat to educational success is evident (Chaplot et al., 2015; Geckeler et al., 2008). One specific barrier to community college student success, persistence, and completion that has been identified is student financial emergencies (Baum, 2007; Choitz & Reimherr, 2013; Geckeler et al., 2008; Johnson, 2015). As a result, many community colleges have established programs that address financial emergencies (Geckeler et al., 2008; Patel & Assaf, 2014), in an attempt to keep students enrolled in classes (Patel & Assaf, 2013).

The area of emergency financial assistance and community college student success, persistence, and completion has been a topic of limited research (Broton et al., 2014; Dachelet & Goldrick-Rab, 2015). This study sought to provide a unique contribution to research in this area and aimed to address gaps in past analyses. The purpose of this study was to examine the quantitative impact student emergency financial assistance had the on short-, mid-, and long-term educational indicators of: community college student success, persistence, and completion rates. This research sought to determine if a significant positive difference existed in the success, persistence, and/or

completion rates of students who received emergency financial assistance, when compared to a similar group of students who did not receive emergency financial aid.

Research questions and hypotheses. The following research questions guided this study:

1. What positive statistically significant difference, if any, exists between the success rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance?

$H1_0$: A statistically significant positive difference in success rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance does not exist.

$H1_a$: A statistically significant positive difference in success rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance does exist.

2. What positive statistically significant difference, if any, exists between the persistence rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance?

$H2_0$: A statistically significant positive difference in persistence rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance does not exist.

$H2_a$: A statistically significant positive difference in persistence rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance does exist.

3. What positive statistically significant difference, if any, exists between the completion rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance?

$H3_0$: A statistically significant positive difference in completion rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance does not exist.

$H3_a$: A statistically significant positive difference in completion rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance does exist.

Research Design

Methodology. A quantitative research approach was used to analyze the impact student emergency financial assistance had on student success, persistence, and completion rates in this study. This methodology was selected due to the purpose and specific direction of the proposed research (Creswell, 2014; Fraenkel, Wallen, & Hyun, 2015; Venkatesh, Brown, & Bala, 2013). As this study sought to investigate the potential impact of one variable (Bluman, 2010; Creswell, 2014; Fraenkel et al., 2015), student emergency financial assistance, on measures of student retention, it was framed as a comparative study (Babbie, 2015). This post-positivist approach to analysis is quantitative in nature (Creswell, 2014).

This study also sought to establish findings that are applicable to other community colleges offering forms of emergency student financial assistance. The generalization of research findings to a larger population aligns appropriately with the scope of quantitative research methods (Creswell, 2014; Fraenkel et al., 2015; Johnson & Christensen, 2014).

The capacity for broad application of research findings to a larger audience further provided support for the use of a quantitative research method in this study (Creswell, 2014; Johnson & Christensen, 2014).

The data for this study were collected and analyzed by using secondary, or post-hoc data. Secondary data are data that were collected at an earlier time and used for a different use or purpose than the proposed current research (Johnson & Christensen, 2014). Secondary data are comprehensive in nature and remove the researcher from data collection for the study (Babbie, 2015; Vartanian, 2011). The use of secondary data allows access to added information and larger sample sizes when compared to primary research methods (Vartanian, 2011) and can provide a historical prospective on the area studied (Morrow, Boddy, & Lamb, 2014). Data specific to this study were collected for purposes of tracking the receipt of emergency financial assistance for institutional record keeping and monitoring the dispersement of funds to students.

The use of secondary data proposed in this study was also appropriate due to the limited, or direct access, to students to obtain qualitative data (Vartanian, 2011). Limited access to qualitative data restricts the research design of the study (Fraenkel et al., 2015; Vartanian, 2011). The limited availability of qualitative data, coupled with the proposed post-hoc method of analysis, and broad application of research findings (Creswell, 2014; Johnson & Christensen, 2014) supported the use of a quantitative research method in this study (Fraenkel et al., 2015). Finally, the lack of quantitative scholarly research in education creates a gap in analysis (Doyle, 2011; Wells & Stage, 2015). This gap sets precedence for additional quantitative studies to be conducted in education, which aligns with the proposed research method of this study (Weimer, 2006; Wells & Stage, 2015).

Independent and dependent variables. This study sought to determine if a significant positive relationship existed between the independent variable of student emergency financial assistance and the dependent variables of student success, persistence, and completion rates. To determine if a significant positive difference existed related to any of the educational outcomes identified, two treatments of the independent variable, receipt of emergency financial assistance and no receipt of assistance, were analyzed.

Independent variables are often referred to as the cause or influence that effects outcomes of a study (Babbie, 2015; Coolidge, 2013; Cooksey, 2014; Creswell, 2014; Fraenkel et al., 2015; Johnson & Christensen, 2014; Szafran, 2012; Woodwell, 2014; Wrench, Thomas-Maddox, Richmond, & McCroskey, 2013). The identified independent variable for this study, the receipt or non-receipt of student emergency financial assistance, is nominal in nature. Nominal variables are categorical, meaning no order or ranking can be imposed on the data (Coolidge, 2013; Cooksey, 2014; Fraenkel et al., 2015; Huck, 2012; Johnson & Christensen, 2014; Mitchell & Jolley, 2013; Szafran, 2012; Woodwell, 2014; Wrench et al., 2013). This classification is appropriate for creating mutually exclusive or exhaustive groups and aligns with the structure of the independent variable of the receipt or non-receipt of aid proposed in this study (Babbie, 2015; Kent, 2015; Wrench et al., 2013).

The outcomes or results occurring from the influence of the independent variable are defined as dependent variables (Babbie, 2015; Coolidge, 2013; Cooksey, 2014; Creswell, 2014; Fraenkel et al., 2015; Johnson & Christensen, 2014; Kent, 2015; Szafran, 2012; Woodwell, 2014; Wrench et al., 2013). The dependent variables of student

success, persistence, and completion rates, in this study are classified as ratio variables. Ratio variables are quantitative and classified in a logical order that represents differences between categories (Coolidge, 2013; Cooksey, 2014; Szafran, 2012; Wrench et al., 2013). The use of ratio variables in this study was appropriate due to the structure of analysis. Analyzing the levels of difference between educational outcome rates for the studied groups require the use of a quantitative variable that has a starting point of zero and one where equal distances between variables can be calculated (Babbie, 2015; Fraenkel et al., 2015; Johnson & Christensen, 2014; Mitchell & Jolley, 2013; Wrench et al, 2013). The format of dependent variables in this study aligns appropriately with ratio level data (Szafran, 2012).

Reliability and validity. In quantitative research, consideration of both reliability and validity are necessary for a study to produce quality results (Babbie, 2015; Fraenkel et al., 2015; Huck, 2012; Venkatesh et al., 2013; Woodwell, 2014). Reliability addresses measurement quality and refers to consistency of results (Babbie, 2015; Fraenkel et al., 2015; Huck, 2012; Johnson & Christensen, 2014; Kent, 2015; Punch, 2014; Szafran, 2012; Venkatesh et al., 2013; Woodwell, 2014). Validity measures the legitimacy of research findings and appropriateness of inferences made from data collected (Johnson & Christensen, 2014; Punch, 2014; Szafran, 2012; Venkatesh et al., 2013). High reliability and validity in research design are essential to quantitative studies (Fraenkel et al., 2015).

In research design, "without reliable measures, a quantitative study is considered invalid" (Venkatesh et al., 2013, p. 32). One reliable method of research design is the use of secondary data in data analysis (Alvarez, Canduela, & Raeside, 2012; Vartanian,

2011). The use of secondary data allows researchers to study bodies of past data or information (Johnson & Christensen, 2014) and obtain access to comprehensive, high-quality, data sets (Babbie, 2015). This provides the researcher large amounts of information on a topic, as well as a broad population to sample (Babbie, 2015; Vartanian, 2011). This approach creates a comprehensive and reliable base for analysis (Vartanian, 2011).

The use of established measures in data collection and analysis also aids in ensuring reliability (Babbie, 2015; Fraenkel et al., 2015). This study examined established and benchmarked measures for calculating students' educational outcomes. The measures of student success, persistence, and completion have been accepted as established standards for calculating educational outcomes (Cunningham, 2010; Dempsey, 2009; Phillips & Horowitz, 2014) and have proven reliability over time (Babbie, 2015). The use of established indicators of success for measurement supports reliability in research design and creates appropriate, useful, and relevant data for scholarly research (Fraenkel et al., 2015).

Research validity also guided this study. Fraenkel et al. (2015) defined validity as, "the appropriateness, correctness, meaningfulness, and usefulness of the specific inferences researchers make based on data they collect" (p. 149). Validity in quantitative research evaluates whether the study is measuring what the researcher intends it to measure (Babbie, 2015; Fraenkel et al., 2015; Huck, 2012; Johnson & Christensen, 2014; Kent, 2015; Punch, 2014; Szafran, 2012; Venkatesh et al., 2013, Woodwell, 2014; Wrench et al., 2013). Several aspects of validity were considered in this study.

Established indicators of educational success, as used in this research, create high levels of construct validity (Cooksey, 2014; Creswell, 2014; Mitchell & Jolley, 2013; Woodwell, 2014). High construct validity in relationship to these measures demonstrates the indicators of educational success selected for use in this study are accurate in their representation of each variable (Cooksey, 2014; Creswell, 2014; Mitchell & Jolley, 2013; Woodwell, 2014). High construct validity is imperative to a research study that can provide valid interpretations to research findings (Cooksey, 2014).

Internal validity was also considered. Internal validity relates observed differences of the dependent variable directly to the identified independent variable (Fraenkel et al., 2015; Vogt, Gardner, & Haeffele, 2012). To ensure internal validity, potential threats can be controlled (Fraenkel et al., 2015; Woodwell, 2014). Threats to internal validity address the "treatments or experiences that threaten the researcher's ability to draw correct inferences from the data" (Creswell, 2014, p. 174). Internal validity in this study was attempted to be controlled through the research design and process (Woodwell, 2014), specifically, the selection of an appropriate measure of alpha, and control over the selection of the study's comparison group (Johnson & Christensen, 2014).

In quantitative research, alpha levels are defined as the accepted significance levels which determine, "the probability of rejecting the null hypothesis when it is in fact true" (Kent, 2015, p. 323). This level of standard significance allows researchers to assume the null hypothesis of the study is true unless it can be shown beyond a reasonable doubt to be false (Cooksey, 2014; Coolidge, 2013; Gailmard, 2014; Huck, 2012; Kraemer & Blasey, 2015; Vogt, Vogt, Gardner, & Haeffele, 2014). To make this

determination, a standard alpha level must be selected (Cooksey, 2014; Coolidge, 2013; Huck, 2012; Kent, 2015; Kraemer & Blasey, 2015). Through the selection of a standard alpha level of .05 for this study, appropriate measures of significance and internal validity were ensured (Coolidge, 2013; Gailmard, 2014; Kent, 2015).

To further ensure this study's internal validity, control over the crafted comparison sample occurred (Johnson & Christensen, 2014). The use of the process of propensity score matching provided control over the demographics of the comparison sample group in this study (Pan & Bai, 2015, Piccone, 2015). The demographic characteristics of the emergency student aid sample were tracked and mirrored through propensity score matching to create an appropriate and as close to equal demographically comparison sample. This control minimized the impact outside variables had on the studied population and strengthened the study's internal validity (Babbie, 2015; Creswell, 2014).

External validity was also addressed through the study's sample size. A large sample size increases the likelihood that the sample is representative of the population studied (Coolidge, 2013; Geher & Hall, 2014) and enables application to other similar research settings (Woodwell, 2014). This study proposed a sample size of over 430. This sample size was considerably higher than 30, the acceptable minimum sample size considered by most researchers (Fraenkel et al., 2015), strengthening the study's external validity (Geher & Hall, 2014; Woodwell, 2014). The use of established measures of educational success, selection of a standard alpha level, control over the sample selection method, and adequate sample size to conduct this study, based on identified research

guidelines, is more likely to produce meaningful and quality results (Coolidge, 2013; Fraenkel et al., 2015).

Ethical Considerations

Confidentiality and anonymity were maintained throughout the study. The secondary data analysis conducted in this study allowed for all names to be removed from student records before data were received by the researcher. This process allowed student records to remain anonymous throughout the data analysis portion of the study (Babbie, 2015; Johnson & Christensen, 2014). All data also were stored on a password-protected computer to deleted three years from the completion of this study. Ethical considerations were evident in all aspects of data collection and analysis in this study (Babbie, 2015; Johnson & Christensen, 2014).

Population and Sample

The target population for this study included students from all 12 Missouri community colleges who had received some form of student emergency financial assistance during college enrollment. The total number of students to compose this population was unknown, due to confidentiality of student records. To create a subset of this population, sampling of the population occurred (Coolidge, 2013; Cooksey, 2014; Huck, 2012; Kent, 2015; Loseke, 2013; Woodwell, 2014). To sample this population, data from one Missouri community college were used. To allow the researcher to appropriately conduct this study, the creation of two samples, a sample group of students who received emergency financial assistance and a comparison student sample, was necessary. The samples were based on data collected in a specific timeframe. The timeframe that was used for this study began with the establishment of the emergency

student assistance fund at the studied institution in the fall 2007 semester and ended with the summer 2015 semester. This timeframe captured all students who were served by the program during the specified time period.

A sample size of approximately 430 students who received emergency financial assistance during college enrollment in the specified time period reflected the total primary sample for this study. The emergency aid student sample was also compared to a sample group of students who did not receive emergency financial aid. The comparison group was constructed to be as similar to the emergency student aid group as possible. The comparison sample was deliberately selected through stratified sampling and a process of propensity score matching. Stratified sampling was used to most accurately mimic demographic characteristics of the emergency student aid sample by identifying specific characteristics important to the study to develop a representative comparison group (Babbie, 2015; Bluman, 2010; Cooksey, 2014; Huck, 2012; Johnson & Christensen, 2014; Vartanian, 2011).

To determine the appropriate comparison sample demographics, several characteristics were selected from the student financial assistance sample to control for variance between the two groups (Johnson & Christensen, 2014). The following demographic characteristics were selected to base and determine an appropriate comparison population: sex, ethnicity, age, enrollment status, Expected Family Contribution Score (EFC), and enrollment in semester(s) that fell within the study timeframe of fall 2007 to summer 2015. These demographic characteristics such as student residence or home address, employment status, and declared major were excluded

from analysis. These factors were excluded due to the fluidity of student information and changing nature of data on these variables (Sarantakos, 2013).

After the demographic characteristics of the student emergency financial aid group were established through stratified sampling (Babbie, 2015; Huck, 2012; Johnson & Christensen, 2014; Vartanian, 2011; Woodwell, 2014), a process of propensity score matching was conducted by the studied institution's chief institutional researcher to create the comparison sample for the study. Propensity score matching is a statistical matching technique used to match variables or information based on established criteria to allow for meaningful conclusions to be drawn (Pan & Bai, 2015, Piccone, 2015). This technique "simulates the characteristics of an experimental design by matching groups of students based on observable characteristics so that the only difference is the type of treatment received" (Melguizo et al., 2011, p. 273).

For the purposes of this study, student demographics were used as the selected variables to create equivalency between the two groups (Pan & Bai, 2015; Piccone, 2015). Using propensity score matching as a technique to create the student emergency financial aid comparison group reduced the difference between the aid receipt and non-receipt samples (Guo & Fraser, 2015) and provided control over study variables (Guo & Fraser, 2015; Piccone, 2015). This technique allowed for comparable groups to be constructed in a non-randomized or purely experimental setting (Melguizo et al., 2011) and for meaningful conclusions to be drawn from the sample populations (Guo & Fraser, 2015; Piccone, 2015).

Maintaining a consistent sample size was also vital to the integrity of this study (Coolidge, 2013; Huck, 2012). To ensure this, standard calculation methods related to

the identified educational outcomes of this study were used for all research questions. In higher education, when calculating success, persistence, and completion rates, common calculation methods are often used (Cunningham, 2010; Reyna, 2010). To remain consistent with these methods, the following calculation definitions were used to maintain a constant sample size throughout all research questions of the study.

Student success through course completion was measured by research question one. This educational outcome was based on if completed courses for the semester being analyzed with a GPA of C or above. This calculation remained consistent for every student included in the study. For research question two, if a student persisted to the following semester or graduated in the semester aid was received, he or she was categorized in the student group that persisted for the purposes of this research.

Overall student completion rates were analyzed by research question three. Although not all students in the sample groups were eligible to graduate by the established timeline of this study, completion rates were calculated based on overall completion rates for the total sample size at the institution studied. This allowed for completion rates to be captured for the entire student emergency financial aid sample and the comparison sample group overall. The identified sampling methods in this study aided in ensuring consistency in sample size and the establishment of meaningful data (Coolidge, 2013; Huck, 2012).

Data Collection

After obtaining approval from Lindenwood University's Institutional Review Board (IRB) (see Appendix C) and IRB approval from the institution data were obtained (see Appendix D), data collection for the study began. Secondary data were requested

via email to obtain the student emergency aid sample from the college's foundation office (see Appendix E). The request was structured to include all student demographic information for each individual who had received emergency student assistance, omitting student names. The data were requested to be formatted and returned to the researcher in a Microsoft Excel file.

Once received, these data were emailed to the studied college's institutional research office with a request to add necessary demographic variables to the sample, which were previously identified in this chapter, the creation of the comparison student group for the study, and the addition of data on the status of each student related to the studied educational outcomes defined by this research (see Appendix F). After any additional demographic data needed were added to the sample of students who received emergency aid, the institutional research office created the comparison sample. The comparison sample data sheet was also created in Microsoft Excel. The comparison student sample was based on the identified demographic characteristics of: sex, ethnicity, age, enrollment status, EFC score, and enrollment in semester(s) that fell within the study timeframe of fall 2007 to summer 2015,and crafted through a process of propensity score matching to align with characteristics of the student emergency aid sample (Pan & Bai, 2015; Piccone, 2015).

Once the comparison sample was created, the institutional research office provided the status of all students related to the studied educational outcomes of success, persistence, and completion. The institutional research office included in the data the status of student success for each student. Student success was measured by if the student successfully completed courses, with an average GPA of C or better, he or she

was enrolled in the semester aid was received, or a comparable semester for the comparison student sample.

Student persistence was defined as whether or not the student enrolled in the semester directly following the receipt of aid, or a comparable semester for the comparison group. Students who graduated in the same semester aid was received were also counted as a student who persisted. The final educational outcome included in the data was student completion, defined by whether the student graduated from the institution. Although not all students in the sample groups were eligible to graduate at the time of the study, completion rates were calculated based on the entire sample size to ensure consistency in results. Using the identified standard, common calculation methods to determine values of the educational outcomes of this study (Cunningham, 2010; Reyna, 2010) further provided a foundation for this study to produce meaningful results (Fraenkel et al., 2015).

The three additional educational outcome data elements were provided by the institutional research office for every student record and included in the Microsoft Excel files for both groups. Upon establishment of both sample groups and the addition of demographic and educational outcome data, the institutional research office returned the data via email to the researcher. All data returned to the researcher excluded any identifying information on students, such as first and last name.

Data Analysis

After receipt of both sets of data from the institutional research office, analysis for the study began. Before any statistical analyses were conducted, data for each educational outcome were averaged for both sample groups. The data averages were

used to determine if a positive difference existed between the student financial emergency sample group and group of students who did not receive emergency aid on each educational outcome analyzed. Due to the directional nature of the research questions and hypotheses of the study (Coolidge, 2013), only when the educational outcome average for the student emergency financial assistance sample group was greater than the comparison sample group, the data were further analyzed for statistical significance.

When appropriate, all analysis for statistical significance occurred in Microsoft Excel using the Data Analysis Toolpak. To effectively explore student emergency financial assistance and its impact on student success, persistence, and completion rates through quantitative research, inferential statistics was used. Inferential statistics compare groups on specific variables to allow inferences to be drawn from a sample to a population (Babbie, 2015; Cooksey, 2014; Creswell, 2014; Fraenkel et al., 2015; Geher & Hall, 2014; Huck, 2012; Johnson & Christensen, 2014; Loseke, 2013; Mitchell & Jolley, 2013; Woodwell, 2014; Wrench et al., 2013). This analysis type allowed the researcher to draw conclusions on the identified population from the sample extracted for this study (Babbie, 2015; Cooksey, 2014; Fraenkel et al., 2015; Huck, 2012; Johnson & Christensen, 2014; Mitchell & Jolley, 2013; Woodwell, 2014; Wrench et al., 2013).

This study utilized hypothesis testing (Cooksey, 2014; Coolidge, 2013; Creswell, 2014; Fraenkel et al., 2015; Huck, 2012; Johnson & Christensen, 2014; Kent, 2015; Mitchell & Jolley, 2013; Szafran, 2012; Woodwell, 2014) to determine if a statistically significant positive difference existed in the selected educational outcomes for students who received emergency financial assistance, compared to the similar group of students

who did not receive emergency financial aid. Through hypothesis testing, the null hypothesis of the study's research questions was supported or rejected, based on the *p* value obtained from statistical testing (Cooksey, 2014; Coolidge, 2013; Huck, 2012; Kent, 2015; Kraemer & Blasey, 2015; Mitchell & Jolley, 2013; Woodwell, 2014). For this study, an alpha level of .05 was identified as the appropriate level of significance for testing *p* values (Cooksey, 2014; Coolidge, 2013; Huck, 2012; Kent, 2015; Mitchell & Jolley, 2013). If a *p* value is statistically significant, or less than .05, it is unlikely to have occurred by chance based on the specified probability, and the null hypothesis can be rejected (Cooksey, 2014; Coolidge, 2013; Huck, 2012; Kent, 2015; Kraemer & Blasey, 2015; Mitchell & Jolley, 2013; Vogt et al., 2014).

To determine *p* values in this study, the specific inferential statistical test used to examine the differences between the two samples of the study was the one-tailed *t*-test assuming equal variances. The *t*-test evaluates whether a significant difference exists between two groups on their identified dependent variable (Babbie, 2015; Cooksey, 2014; Coolidge, 2013; Huck, 2012; Johnson & Christensen, 2014; Vogt et al., 2014; Woodwell, 2014; Wrench et al., 2013). For the purposes of this study, a one-tailed *t*-test assuming equal variances was used to determine if a significant positive difference in the identified educational outcomes existed between the sample group of students who received emergency financial aid and the comparison group of students who did not receive aid.

The one-tailed *t*-test assuming equal variances was selected due to the nature of the research questions and directional hypotheses of the study (Cooksey, 2014; Coolidge, 2013; Fraenkel et al., 2015; Geher & Hall, 2014; Huck, 2012; Kent, 2015; Szafran, 2012;

Vogt et al., 2014; Wrench et al., 2013). Equal variances were assumed due to the control of demographic characteristics through propensity score matching (Pan & Bai, 2015; Piccone, 2015) in the study's comparison group to mirror the emergency aid student sample (Wrench et al., 2013). The control of demographic characteristics in the comparison group to align with the emergency aid sample supported the use of a *t*-test that assumes equal variance (Wrench et al., 2013).

The study also investigated only the positive impact of the receipt of emergency student aid, which aligns with the use of a one-tailed *t*-test. A one-tailed *t*-test focuses on the specific nature of difference in a study (Cooksey, 2014; Coolidge, 2013; Fraenkel et al., 2015; Geher& Hall, 2014; Huck, 2012; Szafran, 2012; Vogt et al., 2014; Wrench et al., 2013), in this case, a positive relationship. A one-tailed *t*-test was conducted, when appropriate, for each research question proposed by the study.

Summary

The quantitative analysis presented in this chapter was designed to measure the level of positive statistical significance student emergency financial assistance had on success, persistence, and completion rates of community college students. The data collection and steps for analysis provided a foundation for the study's research.

A review of the study's purpose and problem, as well as an overview of data will be provided in Chapter Four. Data from the study are presented and the findings are discussed throughout the chapter. The majority of Chapter Four focuses on analysis of the data from each research question and an illustration of the study's findings.

Chapter Four: Analysis of Data

Student financial emergencies such as hunger and hygiene needs, transportation costs, or lack of stable housing, can interrupt or end education for many community college students (Ajose et al., 2007; Castleman et al., 2015; Fishman, 2015; Johnson, 2015; Terry, Shepherd, Hammonds, Hearnsberger & Decker, 2015). These fiscal burdens and high levels of unmet financial need can contribute to diminished student success, persistence, and completion (Ajose et al., 2007; David et al., 2015; Davidson, 2013; Geckeler et al., 2008; Goldrick-Rab, 2010; Nakajima et al., 2012; Patel & Assaf, 2013; Quaye & Harper, 2015) and have necessitated a response from institutions (Castleman et al., 2015; Geckeler et al., 2008; Patel & Assaf, 2013). Community colleges throughout the nation have developed student emergency financial assistance programs in response to the high levels of emergency fiscal need of students (Castleman et al., 2015; Geckeler et al., 2008; Patel & Assaf, 2013) and to promote all aspects of student retention (Castleman et al., 2015; Patel & Assaf, 2013).

Analysis of data related to this topic is provided in Chapter Four. The problem and purpose of the study will be reviewed, findings from the study's research questions will be presented, and an analysis of the receipt of emergency student financial assistance, and its impact on student success, persistence, and completion rates will be provided. This information will be discussed and analyzed throughout Chapter Four.

Problem and Purpose Overview

Through the continued focus at the state and federal level on college completion and retention (Boggs, 2011; Bragg & Durham, 2012; Carnevale & Rose, 2011; Cohen et al., 2014; College Board, 2012; Kalsbeek, 2013; Kotamraju & Blackman, 2011), the

solidified importance of effective interventions to aid students and promote success is evident (Bragg & Durham, 2012; College Board, 2012; Prescott & Longanecker, 2014). Focusing specifically on barriers to success for community college students, eliminating financial emergencies has been identified as vital to success, persistence, and completion (Ajose et al., 2007; Baum, 2007; Choitz & Reimherr, 2013; Geckeler et al., 2008; Johnson, 2015). This issue has established the need for community colleges to effectively address the high levels of unmet financial need and emergency financial situations of many students to avoid disenrollment and aid students in attaining their educational goals (Ajose et al., 2007; Castleman et al, 2015; Fishman, 2015; Geckeler et al., 2008; Kezar, 2011; Patel & Assaf, 2014).

The research conducted in this study examined student emergency financial assistance and its quantitative impact on student success, persistence, and completion rates at one community college. This research specifically explored if a significant positive difference existed in the identified educational outcomes of students who received emergency aid when compared to a similarly structured student group who did not receive emergency aid. This study addressed the common theme that emerged from the literature review: the threat to educational success that financial emergencies can cause students (Dachelet & Goldrick-Rab, 2015; David et al., 2015; Davidson, 2013; Geckeler et al., 2008; Goldrick-Rab, 2010; Nakajima et al., 2012; Orozco & Mayo, 2011; Patel & Assaf, 2013; Quaye & Harper, 2015). The findings from this study provides scholarly research to an area of limited analysis (Broton et al., 2014; Dachelet & Goldrick-Rab, 2015) and guidance for higher education practitioners and policy makers related to the topic of student emergency financial assistance.

Summary of Data Collection

After necessary IRB approvals (see appendix C and D), data for this research were requested via the institution studied as secondary data (Johnson & Christensen, 2014). This nature of data collection removed the researcher from any direct data collection methods (Babbie, 2015; Vartanian, 2011). The requested information included data on both the student emergency financial assistance sample and a similarly-crafted comparison sample of students who did not receive emergency aid. Data provided to the researcher in a Microsoft Excel file, included student demographic information and data on the specified educational outcomes of student success, persistence, and completion for all students. In addition, the type of emergency financial assistance that was provided to the sample student group who received emergency aid was also provided to the researcher. This data served as the basis of the research in this study.

The specific student demographic characteristics that were requested for data collection included: sex, ethnicity, age, enrollment status, EFC score, and enrollment in semester(s) that fell within the study timeframe of fall 2007 to summer 2015. These demographic characteristics were selected to align the comparison student group to the student emergency financial assistance sample group through propensity score matching (Graham & Kurlaender, 2011; Pan & Bai, 2015; Piccone, 2015). This process allowed for a representative comparison sample to be crafted (Babbie, 2015; Bluman, 2010; Graham & Kurlaender, 2011; Huck, 2012; Vartanian, 2011) and for minimal difference between the two groups to exist (Melguizo et al., 2011).

Upon receipt of the data from the institution, the student demographic characteristic data received differed slightly in format from the researcher's expectation.

The demographic data related to student age were provided to the researcher as a category rather than as a raw number. The age category was defined by traditional student status and nontraditional student status. These groups were based on age ranges. Students age 18-24 were defined as traditional students and students age 24 and above were defined as nontraditional students. These categories slightly altered the proposed analysis of student demographics related to age. The analysis shifted from actual age data to data based on age categories.

Data related to the defined educational outcomes of this study were also provided to the researcher. The specific educational outcome data that were requested included: student success, persistence, and completion status for each student. Each educational outcome was specifically defined through the use of established measures and benchmarks for success (Cunningham, 2010; Dempsey, 2009; Phillips & Horowitz, 2014). The measure of student success was defined as: successful completion of courses with average GPA of C or higher in the semester emergency aid was received, or a comparable semester for students who did not receive emergency aid.

Persistence was defined as: enrollment in the semester directly following the receipt of emergency aid, or a comparable semester for the comparison group. Any student who graduated in the semester aid was received was also counted as a student who persisted. Student completion was defined as: graduation from the institution. Completion rates were calculated on the entire student sample groups. Although not all students were eligible to graduate at the time of analysis, completion rates were calculated on the entire sample size to ensure consistency. These established measures of educational success provided a framework for the research to produce meaningful results

(Fraenkel et al., 2015). Receipt of the educational outcome data for the institution studied, after review, required coding (Creswell, 2014; Fraenkel et al., 2015; Kent, 2015; Vogt et al., 2012) of data on one variable. The data provided to the researcher on the educational outcome of student success were provided as student grade point average. This study defined student success as the successful completion of courses, with an average GPA of C or better in the semester emergency aid was received, or a comparable semester for comparison sample students.

To determine if each student met the student success criteria, data coding (Creswell, 2014; Fraenkel et al., 2015; Kent, 2015; Vogt et al., 2012) based on student grade point average occurred. Students with a grade point average of C or higher were coded as successful, and students with a grade point average below a C were coded as unsuccessful in relationship to the educational outcome of student success as defined by this study. This coding process (Creswell, 2014; Fraenkel et al., 2015; Kent, 2015; Vogt et al., 2012) allowed the researcher to format the data in alignment with the study's research questions. After data coding (Creswell, 2014; Fraenkel et al., 2015; Kent, 2015; Vogt et al., 2012) on the necessary variables occurred, analysis for the study began.

Demographic Analysis and Summary

An analysis of student demographic characteristics occurred on the sample of 427 students who received emergency financial assistance from one community college in Missouri, as well as the crafted comparison sample of the same size who did not receive emergency financial assistance. To remove variance between the demographic characteristics of the two groups, alignment of student demographic characteristics was necessary (Wrench et al., 2013). To most accurately replicate demographic

characteristics of the student emergency financial aid sample, demographic characteristics were controlled through stratified sampling and propensity score matching (Babbie, 2015; Bluman, 2010; Johnson & Christensen, 2014; Melguizo et al., 2011; Pan & Bai, 2015, Piccone, 2015; Vartanian, 2011) to develop the comparison student sample. The demographic characteristics that were controlled to develop the comparison sample included: sex, ethnicity, age category, enrollment status, EFC score, and enrollment in semester(s) that fell within the study timeframe of fall 2007 to summer 2015.

Using these demographic characteristics, propensity score matching was conducted to create the study's comparison group. This technique allowed for students to be matched, or grouped, based on established characteristics to minimize difference (Graham & Kurlaender, 2011; Pan & Bai, 2015; Piccone, 2015). Control of these characteristics through propensity score matching allowed for equal variance between the two groups in the study's analysis (Wrench et al., 2013) and minimized the impact of outside variables to strengthen the study's validity (Babbie, 2015; Creswell, 2014).

The specific demographic characteristics of the student emergency financial assistance group and comparison group of students who did not receive emergency assistance were crafted to be similar (see Table 1). For both sample groups, demographic characteristics are presented as raw numbers and as percentages. The majority of students observed in both samples were: female, White, enrolled in college full-time, and had an EFC score of zero. The similarity of these demographic characteristics supported homogeneity between the two sample student groups (Fraenkel et al., 2015).

Although differences in student demographic characteristics were intended to be minimized through propensity score matching (Melguizo et al., 2011; Pan & Bai, 2015,

Piccone, 2015), the sample student groups did differ substantially in regards to age category. The majority of students who received emergency financial assistance were nontraditional students, whereas the majority of comparison sample students were traditional students. The demographic characteristic of age category embodied the largest difference between the two sample student groups. All other areas of observed demographic characteristics varied at a lesser rate.

Table 1

Overall Student Demographic Characteristics

Demographic Characteristic	Emergency Student Aid Sample Group		Comparison Sample Group	
	N	%	*N*	%
Sex				
Female	224	52%	281	66%
Male	203	48%	146	34%
Ethnicity				
American Indian or Alaska Native	24	6%	1	1%
Asian	1	1%	0	0%
Black or African American	42	10%	4	1%
Hispanic or Latino	12	3%	2	1%
Native Hawaiian or Other Pacific Islander	5	1%	0	0%
Unknown	17	4%	3	1%
Two or More Races	4	1%	0	0%
White	322	75%	412	96%
Age Category				
Traditional (age 18-24)	67	16%	296	69%
Non-traditional (age 24 and up)	360	84%	131	31%
Enrollment Status				
Full-time	245	57%	348	81%
Part-time	182	43%	79	19%
EFC Score				
Score of 0	341	80%	427	100%
Score above 0	86	20%	0	0%

Note. $N = 427$ for each of the sample groups, % = percentage

The examination of the student demographic characteristics studied provides context to the analysis of the receipt of emergency financial assistance and its impact to the educational outcomes researched by this study (Kent, 2015).

To provide a more comprehensive understanding of students who received emergency financial assistance at the studied institution, a review of the type of emergency assistance received, when available, was conducted (see Table 2).

Table 2

Student Emergency Financial Assistance Distribution Type

Category of Emergency Assistance	Number of Students Served	Percentage of Students Served
Food	122	36%
Transportation	180	54%
Health	5	1%
Hygiene	2	1%
College Bookstore	9	3%
Other	17	5%

Note. N = 335, % = percentage

The type and distribution of emergency financial assistance was not documented by the institution studied for every student in the emergency financial assistance sample group; therefore, the analysis on type of aid distribution only reflects information made available to the researcher (N = 335). These data produced results finding the majority, 54%, of emergency financial assistance requests and awards from this institution were made to students with transportation-related needs. The highest level of need category was followed by student emergency needs related to food and hunger, 36%, composing approximately one-third of emergency financial assistance requests. This information aided in providing context to student needs and emergency assistance type provided (Kent, 2015).

Data Analysis

After receipt of both sets of data from the institutional research office, analysis for the study began. Before any statistical analyses were conducted, data for each educational outcome were averaged for both sample groups. The data averages were used to determine if a positive difference existed between the student financial emergency sample group and the group of students who did not receive emergency aid on each educational outcome analyzed. Due to the directional nature of the research questions and hypotheses of the study (Cooksey, 2014; Coolidge, 2013; Fraenkel et al., 2015; Geher & Hall, 2014; Huck, 2012; Kent, 2015; Szafran, 2012; Vogt et al., 2014; Wrench et al., 2013), only educational outcome averages for the student emergency financial assistance sample group that were greater than the comparison sample group were further analyzed for statistical significance.

Statistical analyses for this study were conducted by using the Data Analysis Toolpak in Microsoft Excel. To answer the three quantitative research questions posed in this study, inferential statistics were used when applicable. The use of inferential statistics in this study allowed for quantitative conclusions to be drawn from the sample studied and applied to the overall population (Babbie, 2015; Coolidge, 2013; Cooksey, 2014; Creswell, 2014; Fraenkel et al., 2015; Huck, 2012; Johnson & Christensen, 2014; Mitchell & Jolley, 2013; Woodwell,. 2014; Wrench et al., 2013).

Through hypothesis testing (Coolidge, 2013; Creswell, 2014; Fraenkel et al., 2015; Johnson & Christensen, 2014; Mitchell & Jolley, 2013; Szafran, 2012; Woodwell, 2014), the sample group of students who received emergency financial assistance was compared to the sample of students who did not receive emergency aid on the established

educational outcome variables that were positive in nature. The specific statistical analysis conducted for each research question requiring further analysis was the one-tailed *t*-test assuming equal variance.

The one-tailed *t*-test assuming equal variance was performed due to nature of the research questions and directional hypotheses of the study (Cooksey, 2014; Coolidge, 2013; Huck, 2012; Fraenkel et al., 2015; Szafran, 2012; Vogt et al., 2014; Wrench et al., 2013). The control of demographic characteristics through propensity score matching ensured equal variance (Graham & Kurlaender, 2011; Pan & Bai, 2015; Piccone, 2015), and the specific focus on only positive impacts of emergency financial assistance to each educational outcome evaluated only one nature of difference (Coolidge, 2013; Fraenkel et al., 2015; Huck, 2012; Szafran, 2012; Wrench et al., 2013). These factors supported the one-tailed *t*-test assuming equal variance to be the most appropriate method of data analysis (Fraenkel et al., 2015; Szafran, 2012; Wrench et al., 2013).

Findings from research question 1. The first research question (*What positive statistically significant difference, if any, exists between the success rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance?*) was first analyzed by averaging the student success data for each sample group to determine if the student emergency financial assistance sample average was greater than that of the comparison student sample group. The student emergency financial assistance sample average was not greater than the comparison sample average (see Table 3). Due to the directional nature of this research question and hypotheses (Cooksey, 2014; Coolidge, 2013; Huck, 2012; Fraenkel et al., 2015; Szafran, 2012; Vogt et al., 2014; Wrench et al., 2013), the lack of a positive

difference in student success rates for this research question removed the need for a one-tailed *t*-test to be conducted to determine if a statistically significant positive difference existed in student success rates of the two sample groups.

Table 3

Student Success Rates

Sample Student Group	*N*	% Successful
Emergency Student Aid Sample Group	427	59%
Comparison Student Sample Group	427	67%

Note. N = number of students in sample group, % = percentage

Findings from research question 2. The second research question (*What positive statistically significant difference, if any, exists between the persistence rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance?*) was first analyzed by averaging the persistence data for each sample group to determine if the student emergency financial assistance sample average was greater than that of the comparison student sample group. The student emergency financial assistance sample average was not greater than the comparison sample average (see Table 4). Due to the directional nature of this research question and hypotheses (Cooksey, 2014; Coolidge, 2013; Huck, 2012; Fraenkel et al., 2015; Szafran, 2012; Vogt et al., 2014; Wrench et al., 2013), the lack of a positive difference in student success rates for this research question removed the need for a one-tailed *t*-test to be conducted to determine if a statistically significant positive difference existed in student success rates of the two sample groups.

Table 4

Student Persistence Rates

Sample Student Group	*N*	% Persisted
Emergency Student Aid Sample Group	427	52%
Comparison Student Sample Group	427	70%

Note. N = number of students in sample group, % = percentage

Findings from research question 3. The third research question (*What positive statistically significant difference, if any, exists between the completion rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance?*) was first analyzed by averaging the completion data for each sample group to determine if the student emergency financial assistance sample average was greater than that of the comparison group. After averaging completion rates (see Table 5) for each sample group, the student emergency financial assistance sample average was greater than the comparison sample average.

Table 5

Student Completion Rates

Sample Student Group	*N*	% Completed
Emergency Student Aid Sample Group	427	23%
Comparison Student Sample Group	427	19%

Note. N = number of students in sample group, % = percentage

Due to the directional nature of the research question and hypothesis (Cooksey, 2014; Coolidge, 2013; Huck, 2012; Fraenkel et al., 2015; Szafran, 2012; Vogt et al., 2014; Wrench et al., 2013), the positive difference in completion rates for the student emergency financial assistance sample required statistical analysis on the data to be conducted. A one-tailed *t*-test assuming equal variance was performed to determine if a

statistically significant positive difference existed in completion rates, as defined by this study, between the two sample student groups.

Using commonly accepted statistical analysis procedures (Coolidge, 2013), the *p* value obtained from the *t*-test was used to evaluate the null (H_0) and alternative hypothesis (H_a). An alpha level of .05 was selected as the appropriate level of significance for testing *p* values in this study to determine statistical significance (Cooksey, 2014; Coolidge, 2013; Fraenkel et al., 2015; Huck, 2012; Kent, 2015; Mitchell & Jolley, 2013). The *p* value for this research question, .06, was greater than alpha, .05. Hence, failure to reject the null hypothesis occurred (Cooksey, 2014; Huck, 2012; Fraenkel et al., 2015; Kraemer & Blasey, 2015; Mitchell & Jolley, 2013). Therefore, the observed difference in completion rates was determined not to be statistically significant (Cooksey, 2014; Coolidge, 2013; Fraenkel et al, 2015; Kraemer & Blasey, 2015; Mitchell & Jolley, 2013).

Summary

A comprehensive analysis of all data-related aspects of this study was presented in Chapter Four. The structure of the study, as well as the problem and purpose was also discussed. An overview of sample demographics, discussion on the study's data collection and analysis, and overview of findings for each research question investigated by this study completed Chapter Four.

The final chapter of this study, Chapter Five, is focused on a review of the major elements of the study, as well as a summary of research findings. This discussion is followed by the study's final conclusions, implications for practice, and recommendations for future research.

Chapter Five: Summary and Conclusions

High levels of unmet financial need or fiscal emergencies are common challenges faced by many community college students (Ajose et al., 2007; Castleman et al., 2015; Dachelet & Goldrick-Rab, 2015; Geckeler et al., 2008). These challenges negatively impact student success, persistence, and completion (David et al., 2015; Davidson, 2013; Goldrick-Rab, 2010; Guo et al., 2011; Kelly & Schneider, 2012; Nakajima et al., 2012; Patel & Assaf, 2013; Quaye & Harper, 2015). Identified financial emergencies and unmet need, coupled with the current emphasis on student outcomes and degree completion at the national-level (AACC, 2012; Bragg & Durham, 2012; Carlson & Zaback, 2014; Cohen et al., 2014; Goldrick-Rab et al., 2013; Kelly & Schneider, 2012), have forced community colleges to respond (Kezar, 2011; Quaye & Harper, 2015).

Many community colleges have responded through the establishment of emergency financial assistance programs for students in need (Castleman et al., 2015; Dachelet & Goldrick-Rab, 2015; Geckeler et al., 2008; Patel & Assaf, 2013). Emergency student financial assistance programs are designed to address immediate and essential needs of community college students (Ajose et al., 2007; Castleman et al., 2015; Dachelet & Goldrick-Rab, 2015; Geckeler et al., 2008). Students faced with emergency financial situations or high levels of unmet need such as, unforeseen medical bills, food and housing insecurity, or transportation-related needs (Ajose et al., 2007; Baum et al., 2014; Castleman et al., 2015; Fishman, 2015; Johnson, 2015; Orozco & Mayo, 2011; Terry et al., 2015) that impact college enrollment or success are all events these programs are intended to address (Castleman et al., 2015; Patel & Assaf, 2013).

This study was designed to examine the topic of student emergency financial assistance. Research was conducted to determine if a statistically significant positive impact on the educational outcomes of: student success, persistence, and/or completion rates, could be linked to the receipt of emergency student financial assistance. The major elements of the study, as well as a summary of the findings is presented in Chapter Five. A discussion on the study's conclusions, implications for practice, and future recommendations for research is also addressed in this chapter.

Review of the Study

To contribute to the limited quantitative research-base in higher education (Doyle, 2011; Wells & Stage, 2015), the researcher sought to analyze the receipt of student emergency financial assistance and its potential positive impact to community college student success, retention, and/or completion rates. The study was used to investigate if a significant positive difference in educational outcomes between the two studied variables, (Bluman, 2010; Creswell, 2014; Fraenkel et al., 2015) receipt of student emergency financial assistance and non-receipt of aid, were evident.

This study was conducted using secondary data, or data collected for a different purpose at an earlier time (Johnson & Christensen, 2014). The nature of analysis in this study omitted the researcher from direct data collection methods to obtain information on sample groups for this study (Babbie, 2015; Vartanian, 2011). Upon IRB approval from Lindenwood University and IRB approval from the institution the data were obtained from, data for the study were collected.

To collect data for this study and conduct research, the study population and sample were first identified. The target population for this study included students from

all 12 Missouri community colleges who had received some form of student emergency financial assistance. Due to confidentiality of student records, the size of this population was unknown. To sample this population, data from one Missouri community college were used. Sampling of this population yielded a total of 427 students, which created the student emergency financial assistance sample group. To address the research questions proposed by this study, a similar, equal-sized, comparison sample student group who did not receive any form of student emergency financial assistance was also crafted.

The comparison sample student group was intended to be as similar to the sample group of students who received emergency financial assistance as possible. To achieve similarity, the demographic characteristics of the comparison group for this study were controlled through stratified sampling and propensity score matching to most accurately replicate characteristics of the emergency student aid sample (Babbie, 2015; Bluman, 2010; Huck, 2012; Johnson & Christensen, 2014; Vartanian, 2011) and minimize demographic differences between the two groups (Melguizo et al., 2011). This process attempted to create equivalency between the studied groups to allow for meaningful conclusions to be drawn related to the specific focus area of the study (Pan & Bai, 2015; Piccone, 2015).

The use of stratified sampling and propensity score matching was successful in the establishment of a comparison sample student group in which minimal demographic difference existed as compared to that of the sample student group who received emergency financial assistance (Melguizo et al., 2011; Pan & Bai, 2015; Piccone, 2015). The use of these procedures resulted in a sample size of 427 for both the student

emergency financial assistance sample, and the non-emergency financial assistance comparison student sample.

Supplemental data on both the student emergency financial assistance sample group, and sample group of students who did not receive emergency aid were then requested and collected. The data requested by the researcher included specific demographic information, and status on each educational outcome, both identified in previous chapters, for every student included in the two sample groups. Data were provided to the researcher for both student groups in a Microsoft Excel file by the institution studied.

To align with the study's research questions and hypotheses, only positive differences in educational outcome averages of the student emergency financial assistance sample group were analyzed for significance. Data averages were used to determine if a positive difference between the two sample groups was evident. Based on those findings, only educational outcome averages for the student emergency financial assistance sample group that were greater than the comparison student sample group were analyzed for statistical significance.

Statistical analysis in this study was conducted through inferential statistics techniques, when appropriate, for each research question proposed by the study (Babbie, 2015; Cooksey, 2014; Creswell, 2014; Fraenkel et al., 2015; Geher & Hall, 2014; Huck, 2012; Johnson & Christensen, 2014; Loseke, 2013; Mitchell & Jolley, 2013; Wrench et al., 2013). For each research question that required statistical analysis, the one-tailed *t*-test assuming equal variance was performed. This analysis method aligned with the directional nature of the study's research questions and hypotheses (Cooksey, 2014;

Coolidge, 2013; Huck, 2012; Fraenkel et al., 2015; Szafran, 2012; Vogt et al., 2014; Wrench et al., 2013), making it the most appropriate method of data analysis (Fraenkel et al., 2015; Szafran, 2012; Wrench et al., 2013).

Findings

Findings from research question 1. The first research question (*What positive statistically significant difference, if any, exists between the success rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance?*) required no statistical analysis on the data be conducted. The success rate for students who received emergency financial assistance, 59%, was less than that of the comparison student sample group, 67%.

Findings from research question 2. The second research question (*What positive statistically significant difference, if any, exists between the persistence rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance?*) required no statistical analysis on the data be conducted. The persistence rate for students who received emergency financial assistance, 52%, was less than that of the comparison student sample group, 70%.

Findings from research question 3. The third research question (*What positive statistically significant difference, if any, exists between the completion rates of students who received student emergency financial assistance and students who did not receive emergency financial assistance?*) required statistical analysis on the data be conducted. The completion rate for students who received emergency financial assistance, 23%, was greater than that of the comparison student sample group, 19%.

A one-tailed *t*-test assuming equal variance was conducted to determine if the positive difference in student completion rates between the two sample student groups was significant. Using generally accepted statistical analysis procedures (Coolidge, 2013), the *p* value obtained by the *t*-test was used to evaluate the null (H_0) and alternative hypothesis (H_a). To determine statistical significance, an alpha level of .05 was selected as the appropriate level of significance for testing *p* values in this study (Cooksey, 2014; Coolidge, 2013; Fraenkel et al., 2015; Huck, 2012; Kent, 2015; Mitchell & Jolley, 2013). The *p* value for research question three, .06, was greater than alpha, .05. These findings resulted in the failure to reject the null hypothesis (Cooksey, 2014; Huck, 2012; Fraenkel et al., 2015; Kraemer & Blasey, 2015; Mitchell & Jolley, 2013). Therefore, the observed difference in completion rates was determined not statistically significant (Cooksey, 2014; Coolidge, 2013; Fraenkel et al, 2015; Kraemer & Blasey, 2015; Mitchell & Jolley, 2013).

Conclusions

The findings presented in this study reflected a quantitative analysis of the receipt of student emergency financial assistance and its impact to student success, persistence, and completion rates for community college students. Synthesis of the study results allowed for several meaningful conclusions to be drawn from the data. The conclusions provided an interpretation of study findings and final analysis of data.

The lack of a statistically significant positive difference in student success, persistence, and completion rates for the student emergency financial assistance sample group did not align with the review of literature presented in Chapter Two. Current research on the topic of student emergency financial assistance identifies the practice as

critical to supporting the educational success of financially burdened students and avoiding disenrollment (Castleman et al., 2015; Fishman, 2015; Patel & Assaf, 2013). The quantitative findings from this study's research questions did not support these claims.

The unexpected finding of a lack of a positive difference in student success and persistence rates, as well as the lack of positive statistical significance for research questions one and two, prompted the researcher to conduct further analysis to provide an interpretation of research findings. The lack of financial resources experienced by students leave many basic human needs unmet (Ajose et al., 2007; Castleman et al., 2015; Chaplot et al., 2015; Fishman, 2015; Goldrick-Rab et al., 2013; Johnson, 2015; Terry et al., 2015). These emergency financial situations, specifically food or housing insecurity, have been associated with lower academic performance among students (Cady, 2014; Goldrick-Rab et al., 2014; Maroto et al., 2015; Patton-Lopez et al., 2014). This negative association further places stress on student success and persistence rates (Cady, 2014). Specific to this study, 36% of emergency assistance requests were related to food or hunger. It could be argued that, due to hunger and food deficiency, a foundational human need (Broton et al., 2014; Goldrick-Rab et al., 2014; Patton-Lopez et al., 2014), these students lacked a chance at achieving successful educational outcomes.

Beyond basic human needs being met, additional conclusions can be made from the findings of research questions one and two. Bean and Metzner's (1985) conceptual model of nontraditional undergraduate student attrition, the theoretical research base which guided this study, identified environmental variables, such as finances, employment status, and family responsibilities, as having the most substantial direct

effect on educational outcomes for community college students (ACSFA, 2012; Bean & Metzner, 1985). The observed negative impact financial emergency situations had on student success and persistence rates in this study can be linked to the influence students' financial situations or circumstances have on their enrollment and success (Ajose et al., 2007; Bean & Metzner, 1985; Cunningham, 2010). This heightened impact of students' external financial circumstances have proved to be critical to student success and disenrollment (Bean & Metzner, 1985; Cunningham, 2010) and could be identified as a contributing factor to the lack of positive findings for research questions one and two (McKinney & Novak, 2012; Stahl & Pavel, 1992).

It is the goal of student emergency financial assistance programs to promote student success and retention (Ajose et al., 2007; Fishman, 2015; Geckeler et al., 2008). Although, using Bean and Metzner's (1985) model as a framework for analysis, and the lack of prior scholarly research on student emergency assistance program effectiveness (Broton et al., 2014; Dachelet & Goldrick-Rab, 2015), the researcher hypothesized differently. The researcher concluded, by the time a student received monetary emergency financial assistance, the negative impacts of external financial circumstances surpassed any potential positive outcomes emergency financial assistance could have to student success or persistence.

In final review of research questions one and two, the absence of statistically significant positive results could be explained by the fact that the program studied was not comprehensive in nature (Goldrick-Rab et al., 2014). Monetary assistance was the only form of assistance provided to students served by the program analyzed. A review of recent literature and current research studies on the topic have identified student

emergency financial assistance programs which are comprehensive and offer both monetary and non-cash benefits such as: counseling, benefit enrollment assistance, and case management functions, as expected to improve rates of educational success for students impacted by a financial emergency situation (Baum et al., 2014; Chaplot et al., 2015; Goldrick-Rab et al., 2014). The utilization of an emergency financial assistance program structure where monetary assistance is coupled with additional support services to students has been recognized as a best practice for increasing levels of community college student success (Baum et al., 2014; Chaplot et al., 2015; Goldrick-Rab et al., 2014). The administration of a student emergency financial assistance program formatted more closely to this structure could have the potential to produce more successful educational outcomes for students served by the program.

Explored in research question three, completion rates for students who received emergency financial assistance in this study were greater than that of the comparison student group who did not receive emergency financial aid. The positive difference in completion rates for the student emergency financial assistance sample group aligned with findings of the study's literature review that deemed emergency financial assistance programs as critical to supporting the educational success of students with immediate financial need (Castleman et al., 2015; Fishman, 2015; Orozco & Mayo, 2011; Patel & Assaf, 2013) and contributing to improved student retention and completion rates for institutions (Chaplot et al., 2015; Goldrick-Rab et al., 2014).

Although a significant positive difference in completion rates was not observed by research question three, the positive difference in completion rates between the two sample groups is noteworthy (Fraenkel et al., 2015). As mirrored in the analysis and

conclusions of research questions one and two, the barriers faced by students effected by an emergency financial situation remain evident (Ajose et al., 2007; Castleman et al., 2015; Chaplot et al., 2015; Fishman, 2015; Goldrick-Rab et al., 2013; Johnson, 2015; Terry et al., 2015). These factors should also be considered when evaluating the lack of positive statistical significance found in research question three.

Findings from the final research question of the study further provided the opportunity to consider positive impacts to student completion rates beyond statistical significance and quantitative measures. The positive findings related to completion rates of students who received emergency financial assistance in this study, although not statistically significant, promoted the concept of practical significance (Fraenkel et al., 2015; Huck, 2012). Practical significance addresses any practical application or value to findings beyond statistical significance (Fraenkel et al., 2015). The positive findings of research question three demonstrated that student emergency financial assistance recipients were more successful than the comparison group of students who did not receive emergency aid. This positive difference provides practical value to the education community on the topic of emergency financial assistance (Fraenkel et al., 2015; Huck, 2012).

The concept of practical significance was further supported by positive qualitative findings observed beyond the quantitative measures presented in this study. Although the focus of this research was to address the positive quantitative impacts to community college student success, persistence, and completion rates, qualitative information emerged through the literature review and research process of the study. The qualitative data that emerged supported positive findings related to the impact emergency financial

assistance had on students who received aid (Broton et al., 2014; Gonzalez, 2011; Koehler, 2012; Ross, 2012).

A small sample of positive qualitative findings related to the impact student emergency financial assistance had on individuals who received emergency aid follows. The stories document student and college administration testimonials which echo the positive findings of the study's literature review and research question three (Broton et al., 2014; Dachelet & Goldrick-Rab, 2015). An example of the financial reality faced by one community college student at the institution studied and the emergency financial support received is illustrated by this story:

> A student found himself in dire financial straits and came to the Foundation in need of money to be able to get to school. "Transportation was a huge issue. Trying to get to school was a hassle," the student said. He received two $25 gas cards from the Foundation's Student Emergency Fund. The fund allows students to continue their educational aspirations without the fear of where their next meal will be, or how they will get to class, or pay utilities. The fund prevents students from having to drop out or take a leave of absence due to an unforeseen emergency during the semester.
>
> "It was such a blessing. It's hard to ask for help. It was incredible what the Foundation did for me," he said. But what the student did a few months after receiving the cards was also incredible. He returned to the Foundation office twice to pay back the value of the gas cards. Something no student had ever done.
>
> "They were shocked," he said of the Foundation staff's reaction to giving the

> money back. "They probably thought, 'Is this guy OK?' But I felt good about doing it."
>
> Life for the 22-year-old student has been a series of ups and downs. He was adopted at a young age and later discovered in high school that his biological mother had died. His 1 1/2 -year-old son died of SIDs several years ago. He suffered from his son's death and became addicted to drugs. He is just now beginning to see his life turn for the better as he gets work and is able to go to college. "I bounced around from place to place and fooled away a lot of time and money. I needed to grow up and mature," he said. And paying back the money was one of those signs of maturity he now possesses. "I thought if I'm doing alright now, somebody else out there is not alright and could use the money," he said. (Koehler, 2012, Sect. 1)

Another student received assistance from the Single Stop USA program operating at her institution. The student received Supplemental Nutrition Assistance Program benefits and was working with a counselor to obtain childcare for her infant daughter through the Single Stop USA program (Gonzalez, 2011). The student reflected on the emergency financial assistance she had received: "You don't have to do it all on your own. People come into college, and they are lost. They need help sometimes" (Gonzalez, 2011, Sect. 1).

College administrators also acknowledged the gravity of student issues associated with high levels of unmet financial need. One college president stated (Broton et al., 2014):

> If students do not have a safe place to live, food to eat, or a way to get to school, they cannot do their best in the classroom. There are these moments where you are going to continue in college or life is going to get in the way. It is real. There are students that are studying under candlelight because they have not paid their utility bill, and they are still trying to persist. If we do not address some of those issues, they get in the way of the education process. So at the core of our work is this educational mission. That is at the core. (p. 28)

Another administrator echoed:

> We not only want to provide them with food, shelter, and basic needs services, but we want them to further their education. These are the young people who will become adults who can give back the most to our community. (Ross, 2012, para. 23)

The qualitative information obtained as a result of this research and analysis illuminated positive impacts emergency financial assistance had on students' educational success (Broton et al., 2014; Gonzalez, 2011). These testimonials coupled with prior research on the topic of student emergency assistance, although limited (Broton et al., 2014; Dachelet & Goldrick-Rab, 2015), has demonstrated success in keeping students effected by financial emergency situations enrolled in college (Geckeler et al., 2008; Goldrick-Rab et al., 2013; Single Stop USA, 2015). These conclusions provide context to the positive findings of research question three beyond statistical significance.

Implications for Practice

The national focus on effective practices to improve college completion and retention, with a specific focus at the community college level, continues to be an area of

abundant interest in higher education (Barnett, 2011; Chen & St. John, 2011; Kelly & Schneider, 2012; McKinney & Roberts, 2012). Prior research on the positive relationship of student financial aid to academic success and persistence (College Board, 2010; Dynarski & Scott-Clayton, 2013; Jensen, 1981; McKinney & Roberts, 2012) established specific financial aid functions as potential emphasis areas for further research and analysis on program effectiveness and best practices. This study addressed one function, student emergency financial assistance, which contributed to an under-evaluated sector of financial aid research (Broton et al., 2014; Dachelet & Goldrick-Rab, 2015) and provided several implications for future practice in higher education.

Comprehensive approach to student emergency financial assistance. Although the quantitative results obtained from this study were not found to be of positive statistical significance, research emerged from the literature review conducted in Chapter Two which provided characteristics of successful student emergency financial assistance programs (Baum et al., 2014; Chaplot et al., 2015; Goldrick-Rab et al., 2014; Orozco & Mayo, 2011). These findings evolved into recommendations related to the programmatic structure of emergency aid programs and potential best practices for community colleges.

Alignment of education and social policy. Successfully addressing student success and higher education attainment for low-income community college students impacted by financial emergencies and high levels of unmet financial need will require a comprehensive approach (Baum et al., 2014; Goldrick-Rab et al., 2013; Price, Long, Quast, McMaken, & Kioukis, 2014; Orzoco & Mayo, 2011). To allow institutions the capacity to create effective student emergency financial assistance programs, bridging the

gap between education and social policy and practice will first be required (Goldrick-Rab et al., 2013). Policy reforms to address public benefits to improve college success and completion will be essential (Price et al., 2011). For the low-income student group, "education alone will never end poverty, and educational practices will never be sufficient to ameliorate the impacts of poverty on educational attainment" (Goldrick-Rab et al., 2013, p. 3). The integration of social and educational policy strategies and practices will prove to be more effective in positively impacting low-income student success (Goldrick-Rab et al., 2013).

Institutional support of student emergency financial assistance program. The interrelationship of educational and social policy and practice must also be systematically supported at the institution-level to ensure programmatic success (Goldrick-Rab et al., 2013; Grossman et al., 2015; Price et al., 2011). College boards and administration must fully embrace a comprehensive structure to student emergency financial assistance (Chaplot et al., 2015; Price et al., 2011). Administrative support must also be reflected at all levels of faculty and staff to aid in achieving greater educational outcomes for students (Rutschow et al., 2011).

It has long been advocated by Achieving the Dream, a national nonprofit leader focused on student success, that community colleges leaders' commitment to student success must first be solidified to ensure improvement in positive educational outcomes for students (Rutschow et al., 2011). The organization notes (Rutschow et al., 2011):

> Presidential leadership is essential to bring about institutional change that will improve student outcomes. The president or chancellor must have a vision for

> student success and equity and must be able to mobilize broad support for that vision throughout the college and community. (p. 19)

The importance of a strong leadership commitment to programs geared towards improving student outcomes, such as student emergency financial assistance programs, will be essential to their success (Goldrick-Rab et al., 2013; Price et al., 2011; Rutschow et al., 2011).

Comprehensive student emergency financial assistance program structure. Beyond policy measures and institutional support, specific structures to student emergency financial assistance programs have been shown to be successful in the promotion of increased educational success for students (Baum et al., 2014; Goldrick-Rab et al., 2014; Orozco & Mayo, 2011). Student emergency financial assistance programs that offer a combination of cash and non-cash benefits, and are comprehensive in nature, have been documented as successful approaches to increasing educational success for students who have requested emergency financial assistance (Baum et al., 2014; Chaplot et al., 2015; Goldrick-Rab et al., 2014). The alignment of monetary benefits with social service resources such as, benefit enrollment assistance, health insurance, counseling, case management services, tax preparation, child-care assistance, and other funding streams beyond the current financial-aid system, can create stability for students experiencing a financial emergency situation (Baum et al., 2014; Chaplot et al., 2015; Goldrick-Rab et al., 2013). Programs of this structure have been successful in many community colleges throughout the nation, and emerged as a best practice for improving rates of student success for the identified population (Baum et al., 2014; Chaplot et al., 2015; Goldrick-Rab et al., 2014).

As community colleges look to the future, addressing student emergency financial needs will continue to be an issue of importance (Baum et al., 2014; Chaplot et al., 2015; Dachelet & Goldrick-Rab, 2015). The implications for practice addressed by this research should be considered as institutions look to effectively address emergency financial needs of students to improve rates of educational success. From national- and state-level policy recommendations, widespread institutional support and buy-in, to programmatic structure and benefit delivery, these recommendations provide a roadmap of best practices for institutions to serve students impacted by a financial emergency (Baum et al., 2014; Chaplot et al., 2015; Goldrick-Rab et al., 2013; Grossman et al., 2015; Price et al., 2011).

Recommendations for Future Research

As improving higher education retention and completion rates remains a priority in postsecondary education, research on effective practices to improve student success, retention, and completion will continue to be a prominent issue (Bragg & Durham, 2012; Chen & St. John, 2011; College Board, 2012; McKinney & Roberts, 2012; Prescott & Longanecker, 2014). This warrants additional research on the topic of student emergency financial assistance be conducted (Broton et al., 2014; Dachelet & Goldrick-Rab, 2015). To build on the findings and conclusions of this study, several modifications to this study's methodology were suggested for future research.

Population and sample demographics. The findings from this research may be limited or unique to the institution studied due to the limited sample size (Punch, 2014). The use of only one institution for analysis has potential to limit the scope of the research conducted, and may also introduce bias to the results (Punch, 2014; Sarantakos, 2013).

To address this potential limitations in future research, a broader sample and population could be crafted. Multiple institutions could be studied to expand both the size and demographic diversity of the student sample. The selection of institutions from varying geographic types and locations could also ensure that both urban and rural colleges are represented. These modifications would contribute to creating a larger, more representative study population and sample to strengthen levels of research validity and generalizability (Babbie, 2015; Creswell, 2014; Fraenkel et al., 2015; Johnson & Christensen, 2014).

Factors influencing educational outcomes. Students' educational success can be attributed to a wide-range of varying factors (Blackwell & Pinder, 2014; Brock et al., 2007; Kotamraju & Blackman, 2011). This study focused on only one factor, student emergency financial assistance. Analysis of only one factor that contributes to students' educational success limited the study's potential reach and diminished a more comprehensive scope (Nakajima et al., 2012; Punch, 2014). For the purposes of future research, examining additional elements that may contribute to students' educational success such as the receipt of any form of financial aid (Cho et al., 2013; McKinney & Novak, 2012; Zhang et al., 2013), student demographic characteristics (Nakajima et al., 2012), or a combination of several measures, are all potential options for future analysis. Analyzing multiple factors which contribute to positive educational outcomes for students, in addition to emergency financial assistance, could lessen research limitations to broaden the view of the study (Nakajima et al., 2012; Punch, 2014) and provide a more comprehensive and useful analysis (Nakajima et al., 2012).

Student emergency financial assistance program structure. Program structure and design of emergency financial assistance programs vary greatly by individual institution (Ajose et al, 2007; Dachelet & Goldrick-Rab, 2015; Geckeler et al., 2008). Community colleges throughout the nation operate a variety of student emergency financial assistance programs of all calibers (Baum et al., 2014; Chaplot et al., 2015; Dachelet & Goldrick-Rab, 2015; Fishman, 2015). These efforts are diverse in structure and operation, but remain centered on the focus of assisting students with unexpected financial emergencies or unmet need (Ajose et al, 2007; Geckeler et al., 2008). This study's focus on only one student emergency financial assistance program could be modified for future research purposes. Future research could examine student emergency financial assistance programs of differing size and structure. These efforts would be beneficial to a field in which limited research currently exists (Broton et al., 2014; Dachelet & Goldrick-Rab, 2015).

Metrics for success. The educational success outcomes analyzed by this study sought to capture a comprehensive view of success through short-, mid-, and long-term indicators. The use of multiple measures to quantify students' educational success provided a broad assessment but was not inclusive of all potential measurements of educational success. For purposes of future research, analysis on additional or varying metrics for success beyond the topics discussed in this study can be explored. In the community college sector, persistence could be viewed as an annual measurement, such as remaining enrolled from the fall to the following fall semester (Reyna, 2012). Transfer rates to four-year institutions could also be analyzed in relationship to student success, as transferring is the educational goal of many community college students (Mullin, 2011;

Shapiro et al., 2012). The use of varying measures of educational success beyond those identified in this study would expand the scope and provide a more comprehensive analysis of student emergency financial assistance in relationship to the overall educational success of community college students (Nakajima et al., 2012; Punch, 2014).

Research methodology. To contribute further knowledge on this topic to future research, methodologies other than quantitative should be considered (Creswell, 2014; Punch, 2014). Analysis of the topic of student emergency financial assistance could be explored through a qualitative study. Qualitative research on this topic could be used to gain a deeper understanding of student issues or circumstances to discover underlying meanings or patterns of relationships (Babbie, 2015; Creswell, 2014; Fraenkel et al., 2015). This work could supplement the quantitative analysis of student emergency financial assistance conducted in this study.

Beyond the use of only one research methodology, a mixed-methods research approach to this topic should also be considered for future research. Mixed-methods research combines both quantitative and qualitative research design elements (Creswell, 2014; Fraenkel et al., 2015) and can provide researchers with a comprehensive understanding of research problems (Fraenkel et al., 2015). Exploring these additional methodologies for future research may minimize limitations to data analysis and research findings (Creswell, 2014; Punch, 2014).

Summary

At community colleges throughout the nation, students are faced with financial emergencies or gaps beyond the scope of traditional financial aid (Ajose et al., 2007; Chaplot et al., 2015; Geckeler et al., 2008). This lack of financial resources many low-

income students are challenged with often leaves basic needs such as food, shelter, healthcare, and transportation unmet (Ajose et al., 2007; Castleman et al., 2015; Chaplot et al., 2015; Fishman, 2015; Goldrick-Rab et al., 2013; Johnson, 2015; Terry et al., 2015). Community colleges have identified student financial emergencies as critical to the educational success of students (Castleman et al., 2015; Dachelet & Goldrick-Rab, 2015; Geckeler et al., 2008; Patel & Assaf, 2013). This acknowledgement has prompted institutions nationwide to establish emergency financial assistance programs to support students with immediate emergency financial needs (Geckeler et al., 2008; Patel & Assaf, 2014).

To address high levels of unmet student need and financial emergencies, this study analyzed one community college student emergency financial assistance program in the Midwest. The research examined the potential positive quantitative impact the receipt of student emergency financial assistance had on the educational outcomes of student success, persistence, and completion rates. The analysis was conducted by comparing the success, persistence, and completion rates of a sample group of students who received emergency financial assistance to a similarly-crafted comparison sample student group who did not receive emergency financial aid.

For each educational outcome studied, the data were averaged for both sample groups to obtain student success, persistence, and completion rates. The rates for each educational outcome were then used to determine if a positive difference existed between the student emergency financial assistance group and the comparison student group. The directional nature (Cooksey, 2014; Coolidge, 2013; Huck, 2012; Fraenkel et al., 2015; Szafran, 2012; Vogt et al., 2014; Wrench et al., 2013) of the study's research questions

and hypotheses called for only educational outcome rates of the student emergency financial assistance group that were greater than the comparison sample student group to be analyzed for statistical significance.

Through inferential statistics and hypothesis testing (Coolidge, 2013; Creswell, 2014; Fraenkel et al., 2015; Johnson & Christensen, 2014; Mitchell & Jolley, 2013; Szafran, 2012), quantitative analysis, when appropriate, was conducted. To determine if a statistically significant positive difference existed between the emergency financial assistance comparison sample group and the group of students who did not receive emergency aid, a one-tailed *t*-test assuming equal variance was performed for each research question that required statistical analysis.

A review of student success and persistence rates for both sample groups revealed a lack of positive difference in success and persistence rates for the emergency financial assistance sample student group. Thus, no statistical analysis was conducted due to the positive directional nature of the study's research questions and hypotheses (Cooksey, 2014; Coolidge, 2013; Huck, 2012; Fraenkel et al., 2015; Szafran, 2012; Vogt et al., 2014; Wrench et al., 2013). However, a review of student completion rates for each group resulted higher completion rates for the student emergency financial assistance sample group as compared to the sample group of students who did not receive emergency aid. This positive difference required statistical analysis on the data be conducted. A one-tailed *t*-test assuming equal variance was conducted to determine if a statistically significant positive difference existed in completion rates between the two sample student groups.

To analyze these data through commonly accepted statistical analysis procedures, (Coolidge, 2013), the *p* value obtained by the *t*-test was used to evaluate the null (H_0) and alternative hypothesis (H_a). An alpha level of .05 was selected as the appropriate level of significance for testing *p* values in this study (Cooksey, 2014; Coolidge, 2013; Fraenkel et al., 2015; Huck, 2012; Kent, 2015; Mitchell & Jolley, 2013). The *p* value for completion rates in this study, .06, was greater than alpha, .05; therefore, the null hypothesis was not rejected (Cooksey, 2014; Huck, 2012; Fraenkel et al., 2015; Kraemer & Blasey, 2015; Mitchell & Jolley, 2013). Consequently, the observed difference in completion rates was determined to be not statistically significant (Cooksey, 2014; Coolidge, 2013; Fraenkel et al, 2015; Kraemer & Blasey, 2015; Mitchell & Jolley, 2013).

Although current research on the topic of student emergency financial assistance cites the practice as valuable to increasing student success rates and mitigating disenrollment for financial insecure community college students (Castleman et al., 2015; Fishman, 2015; Patel & Assaf, 2013), quantitative findings from this study did not support this. The unexpected lack of positive statistical findings for each research question presented in this study prompted further analysis by the researcher. This additional analysis gleaned several meaningful conclusions to complete the study.

The researcher hypothesized the unanticipated lack of statistically significant positive findings for the study's three research questions could be attributed to several variables. As a foundation, the researcher argued the unmet basic human needs students experienced as a results of a financial emergency situation positioned them as unable to achieve successful educational outcomes (Broton et al., 2014; Goldrick-Rab et al., 2014; Patton-Lopez et al., 2014). Additionally, the negative impacts associated with financial

need and external financial circumstances (Ajose et al., 2007; Bean & Metzner, 1985; Cunningham, 2010) could be too great for the monetary form of emergency financial assistance analyzed by this study to have a statistically significant positive impact to the student success, persistence, and completion rates of community college students (McKinney & Novak, 2012; Stahl & Pavel, 1992). Lastly, the researcher cited the lack of comprehensive aid services provided to students by the emergency financial assistance program studied to be a potential contribution to the lack of positive statistical findings for the study's research questions (Baum et al., 2014; Chaplot et al., 2015; Goldrick-Rab et al., 2014).

The researcher expanded study conclusions related to research question three due to the positive difference in completion rates observed for the student emergency financial assistance sample student group. The evidence of a positive difference, although not statistically significant, in completion rates for the student group who received emergency financial assistance studied by research question three prompted additional analysis beyond statistical significance and quantitative measures. The researcher concluded that the positive difference in completion rates for students who received emergency financial assistance from the institution studied promoted the concept of practical application (Fraenkel et al., 2015; Huck, 2012), as well as an exploration of the positive qualitative findings which emerged through the study's literature review in support of student emergency financial assistance program to increase student success (Broton et al., 2014; Gonzalez, 2011; Koehler, 2012; Ross, 2012).

These conclusions led to the development of several implications for future practice in relationship to student emergency financial assistance. Through a

comprehensive approach to student emergency financial assistance, the researcher suggested implications for practice to strengthen levels of educational success for students through the receipt of emergency financial assistance. At the state- and national-level, the integration of social and education policy will be essential addressing the success of low-income students with emergency financial need (Goldrick-Rab et al., 2013). This reform coupled with the systematic support for student emergency financial assistance efforts from college faculty, staff, and administration will also be critical to improved levels of student success (Chaplot et al., 2015; Goldrick-Rab et al., 2013; Grossman et al., 2015; Price et al., 2011).

Policy measures and institutional support should further be coupled with a student emergency financial assistance program structure that combines monetary solutions with social services and benefit access to comprehensively address students' unmet emergency financial need (Baum et al., 2014; Chaplot et al., 2015; Goldrick-Rab et al., 2014). This program structure has been demonstrated to be successful in increasing levels of student success and educational attainment for students who have experienced a financial emergency (Baum et al., 2014; Chaplot et al., 2015; Goldrick-Rab et al., 2014).

To conclude the study, final recommendations for future research were given. Several adaptations to the study methodology were suggested to build on research findings presented in this analysis. Expanding the population and sample size of the study, exploring factors that influence educational success outside of emergency financial assistance, analyzing emergency aid programs of varying size and structure, evaluating measures for student success beyond the topics discussed in this study, and altering the research methodology used, were all recommendations proposed by the researcher. The

proposed recommendations for future research provide guidance to further analyze student emergency financial assistance and the impact to student success, persistence, and completion rates for community college students.

Appendix A

Application for Student Emergency Financial Assistance from Institution Studied

APPLICATION FOR STUDENT EMERGENCY ASSISTANCE

PURPOSE

Emergency funds have been donated by [redacted] employees and friends who are interested in helping students succeed. When funding is available, grants are provided to meet emergency needs that would otherwise prevent students from continuing their education at [redacted]

CONDITIONS

- Funds are intended solely for emergency circumstances.
- Funds may not be used for tuition, books, school supplies, or housing/rent. Students are encouraged to apply for financial aid or scholarships to help with these expenses.
- Funds are paid directly to the owed party or company or given as a gift card for food or gas.
- Students are encouraged to write a "thank you" note or email to foundation@[redacted]edu.

INSTRUCTIONS

1. The student will meet with a financial aid advisor to determine if a recommendation for student emergency assistance can be made.
2. It is recommended that the student speak to Counseling Services for further resources.
3. The student will bring a completed signed application to the Foundation office.

STUDENT INFORMATION

Name: _____ Student ID:_____ Phone: _____

Address:_____

Marital Status: _____ Number of Dependents: _____ Monthly Income: _____

Please provide a brief explanation for your emergency circumstances: _____

_____

_____

What type of assistance is being requested? _____

_____

_____

By signing this application, I certify the information is complete, true and accurate.

Student Signature:_____Date: _____

FINANCIAL AID RECOMMENDATION

Program Enrolled: _____

Amount to be refunded to student: $_____ Date to receive refund: _____

Student is Pell grant eligible: _____ Student has applied for emergency loan: _____

Comments:

_____

_____

Financial Aid Signature:_____Date: _____

FOR STUDENTS REFERRED BY [redacted] COUNSELING SERVICES

I,_____, give permission for [redacted] Counseling Services staff to release information about me to the [redacted] Foundation for purposes of verifying this request. I understand that Counseling Services will only share information that is relevant to the Foundation's request process. This release of information will expire six (6) months from the date of signature.

Student Signature:_____Date: _____

Comments:

_____

_____

Counseling Services Signature:_____Date: _____

Appendix B

Application for Student Emergency Financial Assistance from Peer Institution Two

[redacted] EMERGENCY FINANCIAL ASSISTANCE APPLICATION

THE PROGRAM

The [redacted] Emergency Financial Assistance program helps [redacted] provide assistance to [redacted] students at risk of dropping out due to unexpected financial dilemmas. Unforeseen crises contribute to high rates of attrition among college students. They also affect graduation rates and, ultimately, pose a challenge to creating a secure financial future.

The [redacted] fund has long supplied financial assistance to students in need. The generous additional contribution from the [redacted] makes these funds available in a continued and more substantial way. As funding is limited, not all requests for funding can be approved. **Please note that funding cannot be used to pay off debt owed to [redacted] Community College.**

ELIGIBILITY

Applicants to the [redacted] Emergency Financial Assistance program must meet the following criteria:

- Students enrolled in a degree or certificate seeking program
- Successfully completed at least 12 credit hours at [redacted]
- Enrolled in at least 3 [redacted] credit hours during the semester that the application is received
- In good academic standing, as defined by the federal Satisfactory Academic Progress guidelines
- Must be willing to complete a FAFSA for the current school year

Assistance is granted without regard to race, color, creed, religion, sexual orientation, age, gender, disability, or national origin.

APPLICATION PROCESS

Interested students must complete the application and attach a letter explaining the nature of the emergency and copies of bills or estimates. Please answer all questions as completely as possible, as applications are evaluated on information supplied. Incomplete applications will not be evaluated. After submitting an application, the student may be asked to participate in a short interview to determine eligibility.

ASSISTANCE PAYMENTS

The maximum grant should not exceed $500/semester. Students are only eligible to receive a grant once per semester. Lifetime maximum of award cannot exceed $1500/student.

TO APPLY

Submit materials to: [redacted]

[redacted] EMERGENCY FINANCIAL ASSISTANCE APPLICATION

APPLICANT INFORMATION

Name:		
Date of birth:	Student ID#:	Phone:
Current address:		
City:	State:	ZIP Code:
Home Phone:	Cell Phone:	Email Address:
Are you the first in your family to go to college? ❑ Yes ❑ No	Employment Status: ❑ Full-Time ❑ Part-Time ❑ Not Employed	

CURRENT COLLEGE DATA

Current year in school: ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5 ❑ 6+

Enrollment Status: ❑ Full-Time Student ❑ Part-Time Student

[redacted] Credits Earned to Date:	[redacted] Credits in Current Term:	Cum. GPA:
Program of Study:	Anticipated Date of Graduation: Month_____ Year _____	

Current Degree Type: ❑ Associate of Arts ❑ Associate of Applied Science ❑ Certificate Program

GOALS AND ASPIRATIONS

What are your plans as they relate to your future educational goals and aspirations? (Select one)

☼ Graduate from [redacted] and immediately enter the workforce

☼ Graduate from [redacted] and transfer to a 4-year institution

☼ Other, please briefly explain: _____

ASSISTANCE REQUEST

Please select the category for which you are requesting emergency funds.

☼ Textbooks
☼ Utilities
☼ Housing/Rent
☼ Food/Meals
☼ Medical/Dental Expenses
☼ Other, please briefly explain: _____

❑ Personal automobile expenses
❑ Public transportation/Bus pass
❑ Child Care
❑ Gas

Amount of funds requested: $_____	Have you **applied** for emergency funds before? ❑ Yes ❑ No Have you **received** emergency funds before? ❑ Yes ❑ No

To whom should the check be made payable? _____

FINANCIAL INFORMATION

Have you completed the Free Application for Federal Student Aid (FAFSA) for this academic year?
☼ Yes ❑ No (If no, please see the Financial Aid Office

Are you currently receiving any other scholarship or financial aid? ❑ Yes ❑ No

[redacted] PROMOTION

How did you learn about this emergency assistance program?

☼ Financial Aid Office ❒ Classmate ❒ [redacted] Website

☼ Other Student Services Office ❒ Flier

☼ Instructor _____

☼ Other, please briefly explain _____

APPLICATION CHECKLIST

This application becomes complete and will be processed when all of the following materials have been received:

☼ Complete application form

☼ Letter of application explaining the nature of the emergency

☼ Documentation of need (receipt, bill, or estimate)

CERTIFICATION

I hereby certify that the information provided is complete and accurate to the best of my knowledge. As a condition of receipt of [redacted] Emergency Financial Assistance, I hereby agree to supply [redacted] with documentation of need prior to payment, and I agree to supply [redacted] with a receipt detailing that assistance was applied as intended. **I understand that failure to comply may result in a hold on my registration, a hold on my transcripts, and/or may preclude me from future [redacted] Emergency Assistance funding.** I also agree to allow [redacted] to share information about my application with the [redacted] Foundation office.

Student Applicant's Signature:	Date:

FOR OFFICE USE ONLY

I hereby certify that:

1. The student has completed a FAFSA application for this academic year. ☼ Yes ☼ No
2. The student is currently receiving student financial aid. ☼ Yes ☼ No
3. The student has attached documentation of need, or will provide a receipt. ☼ Yes ☼ No
4. The student has been given information about relevant financial resources. ☼ Yes ☼ No

Printed first and last name of college official _____

Signature of college official _____ Date _____

☼ Approved: $ _____ ☼ Not Approved: $_____

If approved, date documentation of the emergency situation's resolution was received: _____

If not approved, reason for non-approval:

☼ Not an emergency expense

☼ Doesn't meet eligibility requirements

☼ Needs to complete FAFSA

☼ Has received award maximum number of times

☼ Has received maximum award amount

☼ Other _____

Appendix C

Lindenwood University IRB Permission to Conduct Research

LINDENWOOD

LINDENWOOD UNIVERSITY ST. CHARLES, MISSOURI

DATE:	October 13, 2015
TO:	Abigail Benz
FROM:	Lindenwood University Institutional Review Board
STUDY TITLE:	[801055-1] A Quantitative Study on Student Emergency Financial Assistance: The Impact on Community College Student Success, Persistence, and Completion Rates
IRB REFERENCE #:	
SUBMISSION TYPE:	New Project
ACTION:	DETERMINATION OF EXEMPT STATUS
DECISION DATE:	October 13, 2015
REVIEW CATEGORY:	Exemption category

Thank you for your submission of New Project materials for this research study. Lindenwood University Institutional Review Board has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will put a copy of this correspondence on file in our office.

If you have any questions, please send them to mwoods1@lindenwood.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Lindenwood University Institutional Review Board's records.

Appendix D

Institution Studied IRB Permission to Conduct Research

From: [redacted].
Sent: Thursday, October 22, 2015 7:56 AM
To: BENZ, ABIGAIL S. [redacted]
Subject: IRB Approval

Your IRB Application for A Quantitative Study on Student Emergency Financial Assistance: The Impact on Community
College Student Success, Persistence, and Completion Rates has received IRB approval in the exempt category.

Have a great day!

[redacted]

Appendix E

Email Request for Emergency Student Assistance Data

Hello [name of potential respondent],

This email is to request data related to the college's student emergency fund for the research study, *A Quantitative Study on Student Emergency Financial Assistance: The Impact on Community College Student Success, Persistence, and Completion Rates*, being conducted through Lindenwood University by Abby Benz under the guidance of Dr. Vivian Elder.

This study is structured to examine student success, persistence, and completion rates of students who have received emergency student assistance through the college's foundation, when compared to a group of similar students who have not received emergency aid. To establish the student sample, a request for information on student emergency fund recipients is necessary.

Please provide a Microsoft Excel file to include a comprehensive list of student emergency fund recipients during the timeframe of fall 2007 to summer 2015. Please include all data elements, including student identification number collected by the foundation on student emergency fund recipients in this request. Please remove other identifying information, such as first and last name, for each record included in this request.

To complete this study, this group of students will be compared to a similar group of students who have not received emergency financial assistance from the foundation. The college's institutional research office will create the comparison group based on the characteristics of the sample provided by the foundation. Once the foundation has collected the requested information, please email the Excel spreadsheet to the College

Director of Research and Strategic Planning, [redacted] and myself at [redacted]

If you have any questions related to this request, please contact me at [redacted]. Thank you for your assistance.

Thank you,

Abby Benz

Appendix F

Email Request for Emergency Student Assistance Comparison Sample Data

Hello [name of potential respondent],

This email is to request data related to the college's student emergency fund for the research study, *A Quantitative Study on Student Emergency Financial Assistance: The Impact on Community College Student Success, Persistence, and Completion Rates*, being conducted through Lindenwood University by Abby Benz under the guidance of Dr. Vivian Elder.

This study is structured to examine student success, persistence, and completion rates of students who have received emergency student assistance through the college's foundation, when compared to a group of similar students who have not received emergency aid. To establish the student sample for this study, a request for information on student emergency fund recipients, as well as the creation of an appropriate comparison group is necessary.

The foundation office at the college will provide a Microsoft Excel file to the chief institutional research officer that includes a comprehensive list of student emergency fund recipients during the timeframe of fall 2007 to summer 2015. All data elements collected by the foundation on student emergency fund recipients will be included in this in file. A comparison sample will need to be created based on the identified demographic characteristics of this group. In addition to the creation of the student comparison sample, the educational outcomes identified by this study will also need to be collected for each student.

To collect the necessary data elements for this study and create the comparison sample, please provide the following information for each student included in the file provided by the foundation office: sex, ethnicity, age, enrollment status, Expected Family Contribution Score (EFC) score, and enrollment in semester(s) that fall within the study timeframe of fall 2007 to summer 2015. Based on the obtained demographic characteristics of the student emergency financial assistance recipients, the comparison student sample can be developed. Please use propensity score matching to develop an appropriate comparison sample for this study. Please include the demographic characteristics listed above in the data for the student comparison sample.

Once the comparison sample has been developed, please provide the status of students in both samples related to the studied educational outcomes of success, persistence, and completion. Student success will be measured by if the student successfully completed the courses, with a grade of C or better, they were enrolled in the semester aid was received, or a comparable semester for the comparison students. Data on student persistence should also be included. Student persistence will be defined as whether or not the student enrolled in the semester directly following the receipt of aid, or a comparable semester for the comparison group. Students who graduated in the same semester aid was received will be counted as a student who persisted. The final educational outcome to be included will be student completion, defined by if the student graduated from the institution. Although not all students in the sample groups may be eligible to graduate at the time of the study, please calculate completion rates on the entire sample size to ensure consistency in results.

Upon receipt of the specified data from the foundation office, creation of the comparison sample, and addition of educational outcome data for each student, please email both the student emergency financial assistance data and the comparison student data including all demographic and educational outcome information in a Microsoft Excel file to the researcher. Additionally, please remove any identifying information, such as first or last name, for each record included in this request before providing it to the researcher.

If you have any questions please contact me at [redacted]. Thank you for your assistance.

Sincerely,

Abby Benz

References

Abel, J. R., Deitz, R., & Su, Y. (2014). Are recent college graduates finding good jobs?. *Current Issues in Economics and Finance, 20*(1), 1-8. Retrieved from http://www.newyorkfed.org/research/current_issues/ci20-1.pdf

Advisory Committee on Student Financial Assistance. (2012). *Pathways to success: Integrating learning with life and work to increase national college completion.* Retrieved from http://www2.ed.gov/about/bdscomm/list/acsfa/ptsreport2.pdf

Ajose, L., MacGregor, C., Yan, L., & Pih, M. (2007). *Emergency financial aid for community college students: Implementation and early lessons from the dreamkeepers and angel fund programs.* Retrieved from http://www.mdrc.org/sites/ default/files/full_83.pdf

Alvarez, J., Canduela, J., & Raeside, R. (2012). Knowledge creation and the use of secondary data. *Journal of Clinical Nursing, 21*, 2699-2710. doi:10.1111/j.1365-2702.2012.04296.x

American Association of Community Colleges. (2012). *Reclaiming the American dream: A report from the 21st-century commission on the future of community colleges.* Retrieved from http://www.aacc.nche.edu/21stCenturyReport

American Association of Community Colleges. (2014). *Empowering community colleges to build the nation's future: An implementation guide.* Retrieved from http://www.aacc21stcenturycenter.org/wp-content/uploads/2014/04/EmpoweringCommunityColleges_final.pdf

American Association of Community Colleges. (2015a). *2015 fact sheet.* Retrieved from http://www.aacc.nche.edu/AboutCC/Documents/FactSheet2015.pdf

American Association of Community Colleges. (2015b). *Community college completion: Progress toward goal of 50% increase.* Retrieved from http://www.aacc.nche.edu/ AboutCC/ Trends/Documents/completion_report_05212015.pdf

American Association of Community Colleges. (2015c). *Who attends community college?* Retrieved from http://www.aacc.nche.edu/Publications/datapoints/ Documents/ WhoAttendsCC_1_MD.pdf

American Association of Community Colleges., American Association of State Colleges and Universities., & Association of Public and Land-Grant Universities. (2015). *Advancing a comprehensive study of post-collegiate outcomes: Framework and toolkit.* Retrieved from http://www.aacc.nche.edu/AboutCC/Trends/pco/ Documents/PCO_FullSet.pdf

American Institutes for Research. (2012). *The institutional costs of student attrition.* Retrieved from http://www.deltacostproject.org/sites/default/files/products/Delta-Cost-Attrition-Research-Paper.pdf

Archuleta, K. J., Dale, A., & Spann, S. M. (2013). College students and financial distress: Exploring debt, financial satisfaction, and financial anxiety. *Journal of Financial Counseling and Planning, 24*(2), 50-62. Retrieved from http://www.afcpe.org/ assets/pdf/v24_2_50-62.pdf

Association of Community College Trustees, & Single Stop USA. (2012). *Association of community college trustees and single stop USA: Partnership report.* Retrieved from http://www.singlestopusa.org/wp-content/uploads/2012/10/ACCT_Report _03.pdf

Babbie, E. R. (2015). *The practice of social research* (14th ed.). Boston, MA: Cengage Learning.

Bailey, T. R. (2012). Equity and community colleges. *Chronicle of Higher Education, 58*(40), 10. Retrieved from http://eds.a.ebscohost.com/ehost/detail/detail?sid=2edf17e1-1888-4261-bbf9-767ba0c1773b%40sessionmgr4003&vid=5&hid=4202&bdata=JnNpdGU9ZWhvc3QtbGl2ZQ%3d%3d#db=tfh&AN=77939638

Barnett, E. A. (2011). Validation experiences and persistence among community college students. *The Review of Higher Education, 34*(2), 193-230. doi:10.1353/rhe.2010.0019

Barreno, Y., & Traut, C. A. (2012). Student decisions to attend public two-year community colleges. *Community College Journal of Research and Practice, 36,* 863-871. doi:10.1080/10668920903505007

Bastedo, M. N., & Jaquette, O. (2011). Running in place: Low-income students and the dynamics of higher education stratification. *Educational Evaluation and Policy Analysis, 33*(3), 318-339. doi:10.3102/0162373711406718

Baum, S. (2007). Hard heads and soft hearts: Balancing equity and efficiency in institutional student aid policy. *New Directions for Higher Education, 140,* 75-85. doi:10.1002/he.282

Baum, S., Kurose, C., & Ma, J. (2013). *How college shapes lives: Understanding the issues.* Retrieved from http://trends.collegeboard.org/sites/default/files/education-pays-2013-how-college-shapes-lives-report.pdf

Baum, S., McDemmond, M., & Jones, G. (2014). *Institutional strategies for increasing affordability and success for low-income students in the regional public four-year sector: Tuition and financial aid.* Retrieved from http://hcmstrategists.com/maximizingresources/images/Tuition_Paper.pdf

Beach, J. M. (2011). *Gateway to opportunity: A history of the community college in the United States.* Sterling, VA: Stylus Publishing.

Bean, J. P., & Metzner, B. S. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research, 55*(4), 485-540. Retrieved from http://www.jstor.org/stable/pdf/1170245.pdf?acceptTC=true

Belfield, C. R., & Bailey, T. (2011). The benefits of attending community college: A review of the evidence. *Community College Review, 39*(1), 46-48. doi:10.1177/0091552110395575

Bers, T., & Schuetz, P. (2014). Nearbies: A missing piece of the college completion conundrum. *Community College Review, 42*(3), 167-183. doi:10.1177/0091552114525834

Blackwell, E., & Pinder, P. J. (2014). What are the motivational factors of first-generation minority college students who overcome their family histories to pursue higher education?. *College Student Journal, 48*(1), 45-56. Retrieved from http://eds.a.ebscohost.com/ehost/detail/detail?vid=6&sid=7ad779f2-31c9-4f9b-9294-44595e9d9916%40sessionmgr4003&hid=4205&bdata=JnNpdGU9ZWhvc3QtbGl2ZQ%3d%3d#AN=96336710&db=eft

Bluman, A. (2010). *Elementary statistics: A step by step approach, a brief version* (5th ed.). New York, NY: McGraw-Hill.

Boggs, G. R. (2011). The American community college: From access to success. *About Campus, 16*(2), 2-10. doi:10.1002/abc.20055

Bradley, P. (2011). A graduating crisis. *Community College Week, 23*(25), 6-8. Retrieved from http://eds.a.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=12&sid=2edf17e1-1888-4261-bbf9-767ba0c1773b%40sessionmgr4003&hid=4202

Bragg, D. D. (2001). Community college access, mission, and outcomes: Considering intriguing intersections and challenges. *Peabody Journal of Education*, *76*(1), 93-116. doi:10.1207/S15327930PJE7601_06

Bragg, D. D., & Durham, B. (2012). Perspectives on access and equity in the era of (community) college completion. *Community College Review, 40*(2), 106-125. doi:10.1177/00915521124444724

Brock, T., Jenkins, D., Ellwein, T., Miller, J., Gooden, S., Martin, K., MacGregor, C., Pih, M., Miller, B., & Geckler, C. (2007). *Building a culture of evidence for community college student success: Early progress in the achieving the dream initiative.* Retrieved from http://www.mdrc.org/sites/default/files/building_a_culture_of_evidence_fr.pdf

Broton, K., Frank, V., & Goldrick-Rab, S. (2014). *Safety, security, and college attainment: An investigation of undergraduates' basic needs and institutional response.* Retrieved from http://wihopelab.com/publications/APPAM.Draft.10.28.2014.pdf

Broton, K., & Goldrick-Rab, S. (2013). *Housing instability among college students.* Retrieved from http://strategylabs.luminafoundation.org/wp-content/uploads/2013/10/Sara-Goldrick-Rab-Housing-Policy-FINAL-copy.pdf

Broton, K., & Goldrick-Rab, S. (2014). *The problem of college students without reliable housing.* Retrieved from http://thesocietypages.org/ssn/2014/03/06/students-without-housing/

Burke, L. H. (2013). Why we can't wait: Diversity planning in community colleges. *Community College Journal of Research and Practice, 37,* 839-843. doi:10.1080/10668921003744934

Cady, C. L. (2014). Food insecurity as a student issue. *Journal of College and Character, 15*(4), 265-271. doi:10.1515/jcc-2014-0031

Carlson A., & Zaback, K. (2014). *Moving the needle: How financial aid policies can help states meet student completion goals.* Retrieved from http://www.sheeo.org/sites/ default/files/ publications/Moving_the_Needle_041414.pdf

Carnevale, A. P., & Rose, S. J. (2011). *The undereducated american.* Retrieved from https://cew.georgetown.edu/wp-content/uploads/2014/11/undereducatedamerican.pdf

Castleman, B. L., Schwartz, S., & Baum, S. (2015). *Decision making for student success: Behavioral insights to improve college access and persistence.* New York, NY: Routlege.

Chaplot, P., Cooper, D., Johnstone, R., & Karandjeff, K. (2015). *Beyond financial aid: How colleges can strengthen the financial stability of low-income students and improve student outcomes.* Retrieved from http://www.luminafoundation.org/ files/publications/BFA/Beyond.Financial.Aid.pdf

Chen, R., & DesJardins, S. L. (2008). Exploring the effects of financial aid on the gap in student dropout risks by income level. *Research in Higher Education, 49*(1), 1-18. doi:10.1007/s11162-007-9060-9

Chen, R., & St. John, E. (2011). State financial policies and college student persistence: A national study. *The Journal of Higher Education, 82*(5), 629-660. Retrieved from http://dx.doi.org/10.1353/jhe.2011.0032

Chen, R., & Weiderspan, M. (2014). Understanding the determinants of debt burden among college graduates. *The Journal of Higher Education, 85*(4), 565-598. Retrieved from http://eds.b.ebscohost.com/ehost/pdfviewer/pdfviewer?sid=257b50be-373d-429d-9a4a-3af7d555df03%40sessionmgr113&vid=0&hid=111

Choitz, V., & Reimherr, P. (2013). Mind the gap: High unmet financial need threatens persistence and completion for low-income community college students. *Center for Postsecondary and Economic Success, April,* 1-2. Retreived from http://www.clasp.org/resources-and-publications/files/CLASP-Unmet-Need-Brief-041213-final-ab-2.pdf

Cho, S., Jacobs, J., & Zhang, C. (2013). *Demographic and academic characteristics of pell grant recipients at community colleges.* Retreived from http://ccrc.tc.columbia.edu/media/k2/attachments/demographic-academic-characteristics-pell-grant.pdf

Clark, L. (2012). When nontraditional is traditional: A faculty dialogue with graduating community college students about persistence. *Community College Journal of Research and Practice, 36,* 511-519. doi:10.1080/10668926.2012.664090

Clotfelter, C. T., Ladd, H. F., Muschkin, C. G., & Vigdor, J. L. (2013). Success in community college: Do institutions differ? *Research in Higher Education, 54,* 805-824. doi:10.1007/s11162-013-9295-6

Cohen, A. M., Brawer, F. B., & Kisker, C. B. (2014). *The American community college* (6th ed.). San Francisco, CA: Jossey-Bass.

Coleman-Jensen, A., Gregory, C., Singh, A. (2014). *Household food security in the united states in 2013*. Retrieved from http://www.ers.usda.gov/media/1565415/ err173.pdf

Coley, R. J. (2000). *The American community college turns 100: A look at its students, programs, and prospects.* Retrieved from https://www.ets.org/Media/Research/ pdf/PICCC.pdf

College Board. (2010). *Successful practices that address the underutilization of financial aid in community colleges.* Retreived from http://www.aacc.nche.edu/Advocacy/ Documents/ 10b_1790_FAFSA_Exec_Report_WEB_100517.pdf

College Board. (2012). *The completion arch: Measuring community college student success.* Retrieved from http://media.collegeboard.com/digitalServices/pdf/ advocacy/arch/10b-3074_Completion_Arch_Web_120410.pdf

College Board. (2014). *Trends in college pricing 2014.* Retreived from https://secure-media.collegeboard.org/digitalServices/misc/trends/2014-trends-college-pricing-report-final.pdf

Committee for Economic Development. (2012). *Boosting postsecondary education performance.* Retrieved from http://files.eric.ed.gov/fulltext/ED531575.pdf

Cooksey, R. W. (2014). *Illustrating statistical procedures: Finding meaning in quantitative data* (2nd ed.). Prahran, Australia: Tilde Publishing and Distribution.

Coolidge, F. L. (2013). *Statistics: A gentle introduction* (3rd ed.). Thousand Oaks, CA: SAGE Publications, Inc.

Crellin, M., Kelly, P., & Prince, H. (2012). Increasing college attainment in the united states: Variations in returns to states and their residents. *Change, 44*(4), 35-41. doi: 10.1080/00091383.2012.691863

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: SAGE Publications, Inc.

Cunningham, A. (2010). *Factors associated with the persistence of students receiving learning support in a two-year college* (Unpublished doctoral dissertation). The University of Georgia, Athens, GA.

Dachelet, K., & Goldrick-Rab, S. (2015). *Investing in student completion: Overcoming financial barriers to retention through small-dollar grants and emergency aid programs.* Retrieved from http://wihopelab.com/publications/Investing-in-Student-Completion-WI-Hope_Lab.pdf

Dassance, C. R. (2011). The next community college movement?. *New Directions for Community Colleges, 156,* 31-39. doi:10.1002/cc.464

David, K. M., Lee, M. E., Bruce, J. D., Coppedge, B. R., Dickens, D., Friske, J., Hall, A. J., Singleton, M., Swicegood, J., & Thorman, J. (2015). Barriers to success predict fall-to-fall persistence and overall gpa among community college students. *Journal of Applied Research in the Community College, 21*(1), 5-13. Retrieved from http://crawl.prod.proquest.com.s3.amazonaws.com/fpcache/

d5e32bc767c9a2821a4339e5007d8b21.pdf?AWSAccessKeyId=AKIAJF7V7KNV2KKY2NUQ&Expires=1434650074&Signature=EK8IBd17AgU7uCYYAZIW%2F3fQ%2BIo%3D

Davidson, J. C. (2013). Why community college students are so poor, but only 16.9% received federal pell grants. *Community College Journal of Research and Practice, 37*, 503–513. doi:10.1080/10668926.2012.752771

Davidson, J. C. (2015a). Examining zero expected family contribution as a new criterion for "low income": Comparing the impact on student persistence at two- and four-year institutions. *Community College Journal of Research and Practice, 39*(5), 442-460. doi:10.1080/10668926.2013.837414

Davidson, J. C. (2015b). Improving the financial aid process for community college students: A literature review of FAFSA simplification, information, and verification. *Community College Journal of Research and Practice, 39*(5), 397-408. doi:10.1080/10668926.2013.820157

Deaton, R., & Wright, D. L. (2014). *A student level analysis of financial aid*. Retrieved from http://www.luminafoundation.org/files/publications/ideas_summit/A_Student_Level_Analysis_of_Financial_Aid.pdf

Dempsey, M. (2009). *Enrollment management administrators' perceptions of community college student retention practices* (Doctoral dissertation). Retrieved from Marshall Digital Scholar. (61)

Domina, T. (2014). Does merit aid program design matter? A cross-cohort analysis. *Research in Higher Education, 55*(1), 1-26. doi:10.1007/s11162-013-9302-y

Dougherty, K. (1987). The effects of community colleges: Aid or hindrance to socioeconomic attainment?. *Sociology of Education, 60*(2), 86-103. Retrieved from http://www.jstor.org/stable/2112584

Doyle, T. (2011). *Learner-centered teaching: Putting the research on learning into practice* (1st ed.). Sterling, VA: Stylus Publishing, LLC.

Doyle, W. (2010). Does merit-based "crowd out" need-based aid?. *Research in Higher Education, 51,* 397-415. doi:10.1007/s11162-010-9166-3

Dynarski, S., & Scott-Clayton, J. (2013). Financial aid policy: Lessons from research. *The Future of Children, 23*(1), 67-91. Retrieved from http://www.jstor.org/stable/23409489

Dynarski, S., & Wiederspan, M. (2012). *Student aid simplification: Looking back and looking ahead.* Retrieved from http://www.nber.org/papers/w17834.pdf

Eberly, J., & Martin, C. (2012). *The economic case for higher education.* Retrieved from https://www.treasury.gov/connect/blog/Documents/20121212_Economics%20of%20Higher%20Ed_vFINAL.pdf

Economic Modeling Specialists Intl. (2014). *Where value meets values: The economic impact of community colleges.* Retrieved from http://www.aacc.nche.edu/About/Documents/USA_AGG_MainReport_Final_021114.pdf

Ek. R. (2011). Single stop USA moves forward to help community colleges support ongoing learning. *Policy & Practice, 69*(4), 16-18. Retrieved from http://eds.a.ebscohost.com/ehost/pdfviewer/pdfviewer?sid=e8c25b9e-3754-457d-bc99-a0757dc6c103%40sessionmgr4002&vid=0&hid=4213

England-Siegerdt, C. (2011). Do loans really expand opportunities for community college students?. *Community College Journal of Research and Practice, 35*, 88-98. doi:10.1080/10668926.2011.525180

Everett, J. B. (2015) Public community colleges: Creating access and opportunities for first-generation college students. *The Delta Kappa Gamma Bulletin, 81*(3), 52-58. Retrieved from http://eds.b.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=3&sid=acf56ad3-4932-4455-b833-7125804a4ca4%40sessionmgr111&hid=103

Feeding America (2014). *Hunger in America 2014: National report.* Retrieved from http://help.feedingamerica.org/HungerInAmerica/hunger-in-america-2014-full-report.pdf?s_src=W157ORGSC&s_referrer=google&s_subsrc=http%3A%2F%2Fwww.feedingamerica.org%2Fhunger-in-america%2Four-research%2Fhunger-in-america%2F%3Freferrer%3Dhttps%3A%2F%2Fwww.google.com%2F&_ga=1.84169881.1298149064.1438120238

Fishman, R. (2015). *Community college online.* Retrieved from http://dev-edcentral.pantheon.io/wpcontent/uploads/2015/02/Community_College_Online_2.13.2015.pdf

Fonte, R. (2011). The community college alternative. *Academic Questions, 24*(4), 419-428. doi:10.1007/s12129-011-9255-6

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2015). *How to design and evaluate research in education.* (9th ed.). New York, NY: McGraw-Hill.

Freudenberg, N., Manzo, L., Jones, H., Kwan, A., Tsui, E., & Gagnon, M. (2011). *Food insecurity at CUNY: Results from a survey of CUNY undergraduate students (Healthy CUNY Initiative).* New York, NY: City University of New York.

Gailmard, S. (2014). *Statistical modeling and inference for social science*. New York, NY: Cambridge University Press.

Geckeler, C., Beach, C., Pih, M., & Yan, L. (2008). *Helping community college students cope with financial emergencies: Lessons from the dreamkeepers and angel fund emergency financial aid programs.* Retrieved from http://www.mdrc.org/sites/ default/ files/ full_383.pdf

Geher, G., & Hall, S. (2014). *Straightforward statistics: Understanding the tools of research*. New York, NY: Oxford University Press.

Gieser, J. D. (2012). Financial aid through a bourdieu-ian lens: Inequality perpetuated or an opportunity for change?. *Journal of College Admission, 216*, 8-14. Retrieved from http://eds.b.ebscohost.com/ehost/pdfviewer/pdfviewer?sid=01eaf627-a611-4ac4-9a81-f8f1420c35d3%40sessionmgr111&vid=0&hid=111

Goldrick-Rab, S. (2010). Challenges and opportunities for improving community college student success. *Review of Educational Research, 80*(3), 437–469. doi:10.3102/0034654310370163

Goldrick-Rab, S., Broton, K., & Eisenberg, D. (2015). *Hungry to learn: Addressing food & housing insecurity among undergraduates.* Retrieved from http://wihopelab. com/publications/Wisconsin_hope_lab_hungry_to_learn.pdf

Goldrick-Rab, S., Broton, K., & Frank, V. M. (2014). *Single stop USA's community college initiative: Implementation assessment.* Retrieved from http://wihopelab. com/projects/SSUSA-Implementation-Assessment.pdf

Goldrick-Rab, S., Broton, K., & Gates, C. (2013). *Clearing the path to a brighter future: Addressing barriers to community college access and success.* Retrieved from http://kresge.org/sites/default/files/White-paper-barriers-to-community-college%20access-success.pdf

Gonzalez, J. (2011). Antipoverty group works with community colleges to graduate more students. *Chronicle of Higher Education, 58*(3). Retrieved from http://chronicle.com/article/Antipoverty-Group-Works-With/128874

Graham, S. E., & Kurlaender, M. (2011). Using propensity scores in educational research: General principles and practical applications. *The Journal of Educational Research, 104*(5), 340-353. doi:10.1080/00220671.2010.486082

Groen, J. A. (2011). Do merit-aid programs help states build skilled workforces?. *Change, 43*(6), 33-37. doi:10.1080/00091383.2011.618080

Grossman, J. B., Quint, J., Gingrich, J., Cerna, O., Diamond, J., Levine, A., & Willard, J. (2015). *Changing community colleges: Early lessons from completion by design.* Retrieved from http://www.mdrc.org/sites/default/files/changing_community_college_2015.pdf

Grossett, J.M. (1989). *A conceptual framework for describing the causes of student attrition.* Retrieved from http://files.eric.ed.gov/fulltext/ED310819.pdf

Guo, S. & Fraser, M. W. (2015). *Propensity score analysis: Statistical methods and applications.* Thousand Oaks, CA: SAGE Publications, Inc.

Guo, Y., Wang, S., & Johnson, V. & Diaz, M. (2011). College students' stress under current economic downturn. *College Student Journal, 45*(3), 536-543. Retrieved from http://eds.b.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=3&sid=aec31e7c-d742-4300-bcff-d073c6544b03%40sessionmgr111&hid=103

Gurantz, O. (2015). Who loses out? Registration order, course availability, and student behaviors in community college. *The Journal of Higher Education, 86*(4), 524-563. Retrieved from http://eds.b.ebscohost.com/ehost/pdfviewer/pdfviewer?sid=6ec50bfe-afbb-4e1c-8c36-c2ddec6e35ae%40sessionmgr112&vid=0&hid=112

Gutter, M., & Zeynep, C. (2011). Financial behaviors and financial well-being of college students: Evidence from a national survey. *Journal of Family and Economic Issues, 32*(4), 699-714. Abstract retrieved from http://link.springer.com/article/10.1007/ s10834-011-9255-2

Hershbein, B., & Hollenbeck, K. M. (Eds.). (2015). *Student loans and the dynamics of debt.* Kalamazoo, Michigan: W.E. Upjohn Institute for Employment Research.

Higher Learning Commission. (2015). *Policy Book.* Retrieved from http://download.hlcommission.org/policy/HLCPolicyBook_POL.pdf

Hoffman, L., & Reindl, T. (2011). *Complete to compete: Improving postsecondary attainment among adults.* Retrieved from http://files.eric.ed.gov/fulltext/ED517015.pdf

Huck, S. W. (2012). *Reading statistics and research* (6th ed.). Boston: MA: Pearson Education, Inc.

Hughes, R., Serebryanikova, I., Donaldson, K., & Leveritt, M. (2011). Student food insecurity: The skeleton in the university closet. *Nutrition & Dietetics, 68*(1), 27–32. doi:10.1111/j.1747-0080.2010.01496.x

Jenkins, D., & Cho, S. (2012). *Get with the program: Accelerating community college students' entry into and completion of programs of study.* Retrieved from http://ccrc.tc.columbia.edu/media/k2/attachments/accelerating-student-entry-completion.pdf

Jensen, E. L. (1981). Student financial aid and persistence in college. *The Journal of Higher Education, 52*(3), 280-294. Retrieved from http://www.jstor.org/stable/1981036

Johnson, J. M. (2015). Back to the basic: Meeting the needs of marginalized populations on campus. *The Vermont Connection, 35*(18), 137-142. Retrieved from http://scholarworks.uvm.edu/cgi/viewcontent.cgi?article=1034&context=tvc

Johnson, R. B., & Christensen, L. (2014). *Educational research: Quantitative, qualitative, and mixed approaches* (5th ed.). Thousand Oaks, CA: Sage Publications, Inc.

Kalsbeek, D. H. (2013). Framing retention for institutional improvement: A 4 ps framework. *New Directions for Higher Education, 161,* 5- 14. doi:10.1002/he.20041

Kelly, A. P., & Schneider, M. (Eds.). (2012). *Getting to graduation: The completion agenda in higher education.* Baltimore, MD: The Johns Hopkins University Press.

Kent, R. (2015). *Analyzing quantitative data: Variable-based and case-based approaches to non-experimental datasets.* London, UK: Sage Publications Ltd.

Kezar, A. (Ed.). (2011). *Recognizing and serving low-income students in higher education.* New York, NY: Routledge.

Kim, J. (2012). Exploring the relationship between state financial aid policy and postsecondary enrollment choices: A focus on income and race differences. *Research in Higher Education, 53,* 123-151. doi:10.1007/s11162-011-9244-1

Kimball, B. A. (2014). The rising cost of higher education: Charles Eliot's "free money" strategy and the beginning of Howard Bowen's "revenue theory of cost," 1869-1979. *The Journal of Higher Education, 85*(6), 886-912. Retrieved from http://eds.a.ebscohost.com/ehost/pdfviewer/pdfviewer?sid=5b34d1e9-b65c-4d58-8097-32140d5d71c5% 40sessionmgr4005&vid=9&hid=4105

Knight, A. (2014). Excellence in community college student affairs. *New Directions for Community Colleges, 166,* 5-12. doi:10.1002/cc.20096

Koehler, S. (2012, May 24). Student pays it forward with loan repayment. [Web log comment]. Retrieved from https://news.otc.edu/student-pays-it-forward-with-loan-repayment/

Kotamraju, P., & Blackman, O. (2011). Meeting the 2020 American Graduation Initiative (AGI) goal of increasing postsecondary graduation rates and completions: A macro perspective of community college student educational attainment. *Community College Journal of Research and Practice, 35,* 202-219. dio:10.1080/10668926.2010.526045

Kraemer, H. C., & Blasey, C. (2015). *How many subjects? Statistical power analysis in research* (2nd ed.). Thousand Oaks, CA: SAGE Publications, Inc.

Kruse, T., Starobin, S. S., Chen, Y. A., Baul, T., & Laanan, F. S. (2015). Impacts of intersection between social capital and finances of community college students' pursuit of STEM degrees. *Community College Journal of Research and Practice, 39,* 324-343. doi:10.1080/10668926.2014.981893

Laskey, M. L., & Hetzel, C. J. (2011). Investigating factors related to retention of at-risk college students. *Learning Assistance Review, 16*(1), 31-43. Retrieved from http://files.eric.ed.gov/fulltext/EJ919577.pdf

Levine, J. S., & Kater, S. T. (2013). *Understanding community colleges.* New York, NY: Routledge.

Liao, H., Edlin, M., & Ferdenzi, A. C. (2014). Persistence at an urban community college: The implications of self-efficacy and motivation. *Community College Journal of Research and Practice, 38,* 595-611. doi:10.1080/10668926.2012.676499

Loseke, B. R. (2013). *Methodological thinking: Basic principles of social research design.* Thousand Oaks, CA: SAGE Publications, Inc.

Lumina Foundation. (2013). *Strategic plan: 2013 to 2016.* Retrieved from http://www.luminafoundation.org/files/file/2013-lumina-strategic-plan.pdf

Lumina Foundation. (2015). *A stronger nation through higher education.* Retrieved from http://www.luminafoundation.org/files/publications/A_stronger_nation_through_higher_education-2015.pdf

Maroto, M. E., Snelling, A., & Linck, H. (2015). Food insecurity among community college students: Prevalence and association with grade point average. *Community College Journal of Research and Practice, 39*(6), 515-526. doi:10.1080/10668926.2013.850758

Martin, K., Galentino, R., & Townsend, L. (2014). Community college student success: The role of motivation and self-empowerment. *Community College Review, 42*(3), 221-241. doi:10.1177/0091552114528972

Mayer, A. K., Cerna, O., Cullinan, D., Fong, K., Rutschow, E. Z., & Jenkins, D. (2014). *Moving ahead with institutional change: Lessons from the first round of achieving the dream community colleges.* Retrieved from http://www.mdrc.org/sites/default/files/Moving_Ahead_FR.pdf

Mayer, A. K., Richburg-Hayes, L., & Diamond, J. (2015). *Promoting innovation to improve college access and completion.* Retrieved from http://www.mdrc.org/sites/default/files/promoting_innovation_testimony.pdf

McClenney, K. M. (2015). *Strengthening college readiness, access, and success: Community college roles.* Retrieved from http://www.luminafoundation.org/files/resources/strengthening-college-readiness.pdf

McKinney, L., & Novak, H. (2012). The relationship between FAFSA filing and persistence among first-year community college students. *Community College Review, 41*(1), 63-85. doi:10.1177/0091552112469251

McKinney, L., & Roberts, T. (2012). The role of community college financial aid counselors in helping students understand and utilize financial aid. *Community College Journal of Research and Practice, 36*, 761-774. doi:10.1080/10668926.2011.585112

McKinney, L., Roberts, T., & Shefman, P. (2013). Perspectives and experiences of financial aid counselors on community college students who borrow. *Journal of Student Financial Aid, 43*(1), 3-17. Retrieved from http://publications.nasfaa.org/cgi/viewcontent.cgi?article=1001&context=jsfa

Melguizo, T., Kienzl, G. S., & Alfonso, M. (2011). Comparing the educational attainment of community college transfer students and four-year college rising juniors using propensity score matching methods. *The Journal of Higher Education, 82*(3), 265-291. doi:10.1186/s12874-015-0049-3:

Mellow, G. O., & Heelan, C. (2008). *Minding the dream: The process and practice of the American community college.* Lanham, MD: Rowman & Littlefield Publishers, Inc.

Mertes, S. J., & Hoover, R. E. (2014). Predictors of first-year retention in a community college. *Community College Journal of Research and Practice, 38*(7), 651-660. doi:10.1080/10668926.2012.711143

Metropolitan Community College. (2016). *Neeland emergency financial aid assistance.* Retrieved from http://www.mcckc.edu/financialaid/types/scholarships/neeland.aspx

Miller, M., Grover, K. S., & Kacirek, K. (2014). The organization and structure of

community education offerings in community colleges. *Community College Journal of Research and Practice, 38,* 242-249. doi:10.1080/10668926.2014.851974

Missouri Department of Higher Education. (2003). *Public policy guidelines on lower division coursework, lower division certificate, and associate degree delivery.* Retrieved from http://dhe.mo.gov/policies/lower-division-review.php

Mitchell, M. L., & Jolley, J. M. (2013). *Research design explained* (8th ed.). Belmont, CA: Wadsworth.

Morrow, V., Boddy, J., & Lamb, R. (2014). *The ethics of secondary data analysis: Learning from the experience of sharing qualitative data from young people and their families in an international study of childhood poverty.* Retrieved from http://sro.sussex.ac.uk/49123/1/NOVELLA_NCRM_ethics_of_secondary_analysis.pdf

Moschetti, R.V., & Hudley, C. (2015). Social capital and academic motivation among first-generation community college students. *Community College Journal of Research and Practice, 39,* 235-251. doi:10.1080/10668926.2013.819304

Mullin, C. M. (2011). *The road ahead: A look at trends in the educational attainment of community college students.* Retrieved from http://www.aacc.nche.edu/Publications/Briefs/Documents/PB_RoadAhead.pdf

Myran, G., Parsons, M. H. (2013). Overview: The future of the urban community college. *New Directions for Community Colleges, 162,* 7-18. doi:10.1002/cc.20054

Nakajima, M. A., Dembo, M. H., & Mossler, R. (2012). Student persistence in

community colleges. *Community College Journal of Research and Practice, 36*(8), 591–613. doi:10.1080/10668920903054931

Ocean, M., Hawkins, D., & Chopra, K. (2014). Racial disparities, perceptions, and evaluations: Counseling model choice and the Florida college system. *Community College Journal of Research and Practice, 38,* 1142-1156. doi:10.1080/10668926.2012.752770

Orozco, V., & Mayo, L. (2011). *Keeping students enrolled: How community colleges are boosting financial resources for their students.* Retrieved from http://www.demos.org/sites/default/files/publications/KeepingStudentsEnrolled_Demos.pdf

Pan, W., & Bai, H. (2015). Propensity score interval matching: Using bootstrap confidence intervals for accommodating estimation errors of propensity scores. *BMC Medical Research Methodology, 15*(53), 1-9. doi:10.1186/s12874-015-0049-3

Patel, K., & Assaf, F. (2013). *Improving the financial stability of community college students.* Retrieved from http://www.hks.harvard.edu/index.php/content/ download/ 67661/1243454/ version/1/ file/Patel_FINAL.pdf

Patton-Lopez, M. M., Lopez-Cevallos, D. F., Cancel-Tirado, D. I., & Vazquez, L. (2014). Prevalence and correlates of food insecurity among students attending a midsize rural university in Oregon. *Journal of Nutrition Education and Behavior, 46*(3), 209-214. doi:10.1016/j.jneb.2013.10.007

Phelps, L. A. (Ed.). (2012). *Advancing the regional role of two-year colleges.* Hoboken, NJ: Wiley Periodicals, Inc.

Phillippe, K. A., & Patton, M. (2000). *National profile of community colleges: Trends &*

statistics (3rd. ed.). Retrieved from http://files.eric.ed.gov/fulltext/ ED440671.pdf

Phillips, B. C., & Horowitz J. E. (Eds.). (2014). *The college completion agenda: Practical approaches for reaching the big goal.* Hoboken, NJ: Wiley Periodicals, Inc.

Piccone, J. E. (2015). Improving the quality of evaluation research in corrections: The use of propensity score matching. *The Journal of Correctional Education, 66*(3), 28-46. Retrieved from http://eds.a.ebscohost.com/ehost/pdfviewer/pdfviewer?sid=226ce3a0-daed-4db3-b8fb-96a344e1187d%40sessionmgr4005&vid=0&hid=4205

Porchea, S. F., Allen, J., Robbins, S., & Phelps, R. P. (2010). Predictors of long-term enrollment and degree outcomes from community college students: Integrating academic, psychosocial, socio-demographic, and situational factors. *The Journal of Higher Education, 81*(6), 680-708. Retrieved from http://www.jstor.org/stable/40929572

Porter, S. R. (2014). *Competency-based education and federal student aid.* Retrieved from http://www.luminafoundation.org/files/resources/competency-based-education-and-federal-student-aid.pdf

Prescott, B., & Longanecker, D. (2014). *States in the driver's seat: Leveraging state aid to align policies and promote access, success, and affordability.* Retrieved from http://www.wiche.edu/info/publications/States_in_the_Drivers_Seat.pdf

Price, D., Long, M., Quast, S. S., McMaken, J., & Kioukis, G. (2014). *Public benefits and community colleges: Lessons from the benefits access for college completion evaluation.* Retrieved from http://www.equalmeasure.org/wp-content/uploads/2014/12/BACC-Final-Report-FINAL-111914.pdf

Pruett, P. S., & Absher, B. (2015). Factors influencing retention of developmental education students in community college. *The Delta Kappa Gamma Bulletin, 81*(4), 32-40. Retrieved from http://eds.b.ebscohost.com/ehost/pdfviewer/pdfviewer?sid=a2d3113d-6be4-4c2a-94d3-f58f10206638%40sessionmgr112&vid=0&hid=112

Punch, K. F. (2014). *Introduction to social research: Quantitative and qualitative approaches* (3rd ed.). London, UK: SAGE Publications Ltd.

Quaye, S. J., & Harper, S. R. (2015). *Student engagement in higher education: Theoretical perspectives and practical approaches for diverse populations.* (2nd ed.). New York, NY: Routledge.

Reyna, R. (2010). *Complete to compete: Common college completion metrics.* Retrieved from http://www.nga.org/files/live/sites/NGA/files/pdf/1007COMMONCOLLEGEMETRICS.PDF

Romano, J. C., Gallagher, G., & Shugart, S. C. (2010). More than an open door: Deploying philanthropy to student access and success in American community colleges. *New Directions for Student Services, 130,* 55-70. doi:10.1002/ss.360

Romano, R. M. (2011). A brief look at what economists are saying about the community college. *Community College Review, 39*(1), 69-87. doi:10.1177/0091552110396209

Rose, S. (2013). The value of a college degree. *Change, 45*(6), 24-32. doi:10.1080/00091383.2013.842101

Ross, A. (2012, December 1). More attention, resources focusing on homeless college

students as numbers rise. *The Palm Beach Post*, Retrieved from http://www.palmbeachpost.com/news/news/more-attention-resources-focusing-on-homeless-coll/nTKyh/

Rubin, R. B. (2011). The pell and the poor: A regression-discontinuity analysis of on-time college enrollment. *Research in Higher Education, 52*(7), 675-692. doi:10.1007/s11162-011-9215-6

Russell, A. (2011). A guide to major U.S. college completion initiatives. *American Association of State Colleges and Universities: Policy Matters, October*, 1-17. Retrieved from http://www.isac.org/dotAsset/dbf0788e-4c9b-4ccd-8649-65361d6ff059.pdf

Rutschow, E. Z., Richburg-Hayes, L., Brock, T., Orr, G., Cerna, O., Cullinan, D., Kerrigan, M. R., Jenkins, D., Gooden, S., & Martin, K. (2011). *Turning the tide: Five years of achieving the dream in community colleges.* Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2031257

Sarantakos, S. (2013). *The Palgrave Macmillan social research* (4th ed.). London, UK: Palgrave Macmillan.

Savage, S., & Graves, E. (2015). *A resource handbook on building financial capabilities of community college students.* Retrieved from http://www.bostonfed.org/education/financial-capabilities/handbook/financial-capabilities-handbook.pdf

Schudde, L., & Goldrick-Rab, S. (2015). How sociologists think about community colleges. *Community College Review, 43*(1), 27-45. Retrieved from http://eds.b.ebscohost.com/ehost/detail/detail?vid=3&sid=c523fea2-b6d8-4d47-

b757-fa80ee0ccf59%40sessionmgr198&hid=103&bdata=
JnNpdGU9ZWhvc3QtbGl2ZQ%3d%3d#db=tfh&AN=99752727

Shapiro, D., Dundar, A., Chen, J., Ziskin, M., Park, E., Torres, V., & Chiang, Y. (2012). *Completing college: A national view of student attainment rates.* Retrieved from http://files.eric.ed.gov/fulltext/ED538117.pdf

Simmons, D. L. (1995). Retraining dislocated workers in the community college: Identifying factors for persistence. *Community College Review*, *23*(2), 47-58. Retrieved from http://eds.b.ebscohost.com/ehost/detail/detail?sid=a50c3b88-6fd5-4cba-b960-d2b09f9a4b29%40sessionmgr111&vid=0&hid=117&bdata=
JnNpdGU9ZWhvc3QtbGl2ZQ%3d%3d#db=afh&AN=9512014549

Single Stop USA. (2015, October 22). *Community Colleges.* Retrieved from http://singlestopusa.org/program/community-colleges/

St. Louis Community College. (n.d.). *Student assistant program.* Retrieved from http://www.stlcc.edu/Student_Resources/Student-Assistance-Program/index.html

Stahl V. V., & Pavel, M. D. (Eds.). (1992). Proceedings from Annual Meeting of the American Educational Research Association '92: *Assessing the Bean and Metzner Model with Community College Student Data.* San Francisco, CA.

Strom, P. S., & Strom, R. D. (2013). Collaboration and support for student success. *Community College Journal of Research and Practice*, *37*(8), 585-595. doi:10.1080/10668926.2012.753851

Szafran, R. F. (2012). *Answering questions with statistics.* Thousand Oaks, CA: SAGE Publications, Inc.

Terry, M. S., Shepherd, N., Hammonds, J., Hearnsberger, B., & Decker, S. (2015).

Addressing campus food issues through student organization collaborations. Retrieved from http://scholarworks.sfasu.edu/cgi/viewcontent.cgi?article=1037&context=brightideas

Tharp, J. (1998). Predicting persistence of urban commuter campus students utilizing student background characteristics from enrollment data. *Community College Journal of Research and Practice, 22*(3), 279-294. doi:10.1080/1066892980220307

The Century Foundation, Inc. (2013). *Bridging the higher education divide: Strengthening community colleges and restoring the American dream.* New York, NY: The Century Foundation Press.

The Executive Office of the President. (2014). *Increasing college opportunity for low-income students: Promising models and a call to action.* Retrieved from: https://www.whitehouse.gov/sites/default/files/docs/white_house_report_on_increasing_college_opportunity_for_low-income_students_1-16-2014_final.pdf

Topper, A. M., & Powers, J. M. (2013). Democracy's college: The American community college in the 21st century: Framing the issue. *Education Policy Analysis Archives, 21*(14), 1-8. Retrieved from http://epaa.asu.edu/ojs/article/view/1319/1069

Trostel, P. (2015). *It's not just the money: The benefits of college education to individuals and to society.* Retrieved from https://www.luminafoundation.org/files/resources/its-not-just-the-money.pdf

Tschechtelin, J. D. (2011). Increased enrollment + student success – funding = ?. *New Directions for Community Colleges, 156,* 49-59. doi:10.1002/cc.466

U.S. Department of Education. (2014). *The EFC formula, 2015-2016.* Retrieved from https://www.ifap.ed.gov/efcformulaguide/attachments/090214EFCFormulaGuide1516.pdf

U.S. Department of Homeland Security. (2012). *What is community college?* Retrieved from https://studyinthestates.dhs.gov/2012/03/what-is-community-college

U.S. Department of Housing and Urban Development. (2015). *Barriers to success: Housing insecurity for U.S. college students.* Retrieved from http://www.huduser.org/ portal/ periodicals/insight/insight_2.pdf

Vartanian, T. P. (2011). *Secondary data analysis.* New York, NY: Oxford University Press, Inc.

Vaughan, G. B. (1985). *The community college in America: A short story.* Retrieved from http://files.eric.ed.gov/fulltext/ED255267.pdf

Venkatesh, V., Brown, S. A., & Bala, H. (2013). Bridging the qualitative-quantitative divide: Guidelines for conducting mixed methods research in information systems. *Management Information Systems Quarterly, 37*(1), 21-54. Retrieved from http://aisel.aisnet.org/cgi/viewcontent.cgi?article=3083&context=misq

Vogt, W. P., Gardner, D. C., & Haeffele, L. M. (2012). *When to use what research design.* New York, NY: The Guilford Press.

Vogt, W. P., Vogt, E. R., Gardner, D. C., & Haeffele, L. M. (2014). *Selecting the right analysis for your data: Quantitative, qualitative, and mixed methods.* New York, NY: The Guilford Press.

Webb, M. (1989). A theoretical model of community college student degree persistence.

Community College Review, *16*(4), 42-49. doi:10.1177/009155218901600406

Weimer, M. (2006). *Enhancing scholarly work on teaching and learning: Professional literature that makes a difference.* San Francisco, CA: John Wiley & Sons, Inc.

Welbeck, R., Diamond, J., Mayer, A., Richburg-Hayes, L., Gutierrez, M., & Gingrich, J. (2014). *Piecing together the college affordability puzzle: Student characteristics and patterns of (un)affordability.* Retrieved from http://www.mdrc.org/sites/default/files/Piecing_together_the_College_affordability_puzzle.pdf

Wells, R. S., & Stage, F. K. (Eds.). (2015). *New scholarship in critical quantitative research – part 2: New populations, approaches, and challenges.* Hoboken, NJ: Wiley Periodicals, Inc.

Wilson, T. J., Hu, X., Basham, M., & Campbell, D. F. (2015). 20 years of best practices: 2014 community college futures assembly raises questions on 2020 community colleges. *Community College Journal of Research and Practice, 39,* 1192-1195. doi:10.1080/10668926.2014.993442

Windham, M. H., Rehfuss, M. C., Williams, C. R., Pugh, J. V., & Tincher-Ladner, L. (2014). Retention of first-year community college students. *Community College Journal of Research and Practice, 38,* 466-477. doi:10.1080/10668926.2012.743867

Woodwell, D. (2014). *Research foundations: How do we know what we know?.* Thousand Oaks, CA: SAGE Publications, Inc.

Wrench, J. S., Thomas-Maddox, C., Richmond, V. P., & McCroskey, J. C. (2013) *Quantitative research methods for communication: A hands-on approach* (2nd ed.). New York, NY: Oxford University Press.

Young, E. (2014, January 1). Community college grapples with ways to help students without housing. *Diverse Issues in Higher Education.* Retrieved from http://diverseeducation.com/article/59823/

Yu, H. (2014). At issue: The relationship between student loans and low-income students' baccalaureate attainment: A literature review. *The Community College Enterprise, 20*(1), 50-59. Retrieved from http://eds.a.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=3&sid=4fc10f11-6c3c-44c0-903f-fc550976b2fc%40sessionmgr4004&hid=4205

Zaback, K., Carlson, A., & Crellin, M. (2012). *The economic benefit of postsecondary degrees.* Retrieved from http://files.eric.ed.gov/fulltext/ED540267.pdf

Zhang, L., Shouping, H., & Sensenig, V. (2013). The effect of Florida's bright futures program on college enrollment and degree production: An aggregated-level analysis. *Research in Higher Education, 54*(7), 746-764. doi:10.1007/s11162-013-9293-8

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