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Predicting Academic Outcomes of Reinstated Technical College Students Following an Academic Suspension

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By

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This dissertation has been examined and approved by the following members of the student's committee.

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I have heard that the successful completion of a doctorate should result in the realization that there is so much yet to learn. If this is true, I can claim that I have fully realized this accomplishment and eagerly look forward to the lifelong process of navigating the unknown with the heart of a student.

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Abstract

This study explored the academic outcomes of two-year college students who were reinstated following an academic suspension at a small, Midwestern technical college. Binary logistic regression was used to identify factors that were predictive of student reinstatement outcomes (reinstatement success or reinstatement nonsuccess). The analysis included independent variables of age, gender, cumulative quality point status, term of dismissal quality point status, and evidence of a mental health concern. As an independent variable, evidence of a mental health concern was dichotomous (yes or no) and a qualitative review of suspension appeal paperwork submitted by students was used to identify any self-reported or documented evidence of a mental health concern. The overall model, which included all independent variables, was found to be statistically significant and correctly predicted 65.7% of all cases. A significant relationship was also identified between student reinstatement outcomes and the independent variables of age and cumulative quality point status. In accordance with the findings of this study, limitations, recommendations for future research, and implications for future practice are discussed.

Chapter 1: Introduction

In the United States, higher education has historically been viewed as essential to the advancement of one's self and society (Shehan Hughes, 2016). As such, the rates of enrollment at higher education institutions are on the rise (U.S. Department of Education, 2018b). One of the driving forces behind this trend includes the meaningful impact higher education has on employability and earning potential. Those who complete some form of higher education are more likely to earn more than the median national income (U.S. Department of Education, 2015) and are less likely to experience unemployment (U.S. Department of Education, 2016a). In 2017, approximately 17 million people within the United States were enrolled at higher education institutions (McFarland et al., 2019). Of this population, approximately 11 million students were enrolled at universities, also referred to as four-year institutions, and approximately six million were enrolled at two-year institutions, including community and technical colleges (McFarland et al., 2019).

Although many people choose to pursue higher education, only a portion persist to graduation. On average, 40% of all full-time university students seeking a bachelor's degree do not graduate within six years of when they first enroll (McFarland et al., 2019). At two-year colleges, including community and technical colleges, this rate is even higher. Of all two-year college students who are enrolled full-time, approximately 68% do not graduate within 150% of the normal timeframe required to complete their program (e.g., graduating from a two-year program within three years; McFarland et al., 2019). Stated differently, approximately only one in three students who enroll at a two-year college will persist to graduation within an expected timeframe (McFarland et al., 2019).

One reason for these high attrition rates, or the rate at which students leave a higher education institution prior to graduation, is the failure of students to maintain satisfactory academic progress (SAP) standards (Schudde & Scott-Clayton, 2014). In order to access federal funding for education, the Higher Education Act dictates that higher education institutions must monitor and enforce SAP standards (Campbell, Deil-Amen, & Rios-Aguilar, 2015; Schudde & Scott-Clayton, 2014). Higher education institutions have some autonomy in establishing specific SAP standards; however, they are required to develop minimum standards which include an assessment of grade point average (GPA) and a minimum percentage of work or credits successfully completed in order to determine whether reasonable progress is being made toward graduation (Campbell et al., 2015; Schudde & Scott-Clayton, 2014). Most commonly, higher education institutions assess SAP standards at the end of each semester or term and require a student to maintain a cumulative grade point average (CGPA) of 2.0 or higher and a cumulative credit completion rate (CCCR) of 67% or higher (Kopp & Shaw, 2016; Schudde & Scott-Clayton, 2014). If a student fails to meet SAP standards, they are at risk for being placed on academic suspension. On academic suspension students are ineligible to enroll in classes or receive federal financial aid.

A large percentage of students are at risk for failing to meet SAP standards. In a review of data from the National Postsecondary Student Aid Study in 2012, approximately 20% of all postsecondary students failed to meet the CGPA SAP standard during their first year of enrollment (Schudde & Scott-Clayton, 2014). However, the actual rate of SAP failure is likely much higher because this data only included one of the

two required SAP standards and did not include an assessment of SAP failure related to the co-requisite minimum percentages of work or credits successfully completed. In a closer look at more detailed data obtained from over 50 community colleges in 2008, approximately 42% of students failed to meet overall SAP standards, including both CGPA and CCCR requirements, within their first term of enrollment (Schudde & Scott-Clayton, 2014). This suggests that there is evidence to indicate that 40% of two-year, community college students are at risk for an academic suspension within months of first starting college.

There are substantial negative implications of such high rates of failure to meet SAP standards, both for students and higher education institutions. For many higher education institutions, financial survival requires retaining current students because potential new students in any given community are limited and efforts to attract new prospective students can be costly. Students who are placed on academic suspension due to a failure to meet SAP standards may experience a variety of negative consequences, including challenges related to the money, time, and energy invested into education without an earned credential (Campbell et al., 2015). Additionally, students who fail to meet SAP standards are at risk for experiencing a number of emotional difficulties including feelings of denial, depression, humiliation, shame, embarrassment, sadness, worthlessness, fear, shock, disappointment, and anxiety (C. Carter, 2013; Houle, 2013; Suchan, 2016).

Federal legislation allows higher education institutions the option of waiving an academic suspension on the basis of institutionally determined *special circumstances* and

academically suspended students are given the option of submitting an appeal in order to request reinstatement (Schudde & Scott Clayton, 2014). Most often, academic suspension appeals include an explanation from the student as to why the suspension occurred and a description of their plan for achieving academic success if reinstated. Students may also include documentation related to extenuating circumstances experienced during the term of dismissal. Appeal approval rates may vary greatly by institution, as each institution may have different philosophies related to the process of reviewing appeals and making decisions. To make these decisions, institutions may have an academic suspension appeals committee who review the paperwork submitted by academically suspended students and attempt to predict whether or not each student would experience academic success if reinstated.

Unfortunately, academic suspension appeal committees and other higher education professionals who make the important decisions related to suspension appeals often fail to accurately predict which students will experience academic success after reinstatement. Research indicates that the vast majority of students who are reinstated following an academic suspension fail to meet minimum academic standards after reinstatement (with reinstatement nonsuccess rates reported in the literature ranging from approximately 55% to 67%), and therefore, are suspended again (Dole, 1963; Santa Rita, 1998; Summers, 2005).

The low rate of academic success after reinstatement following an academic suspension is seriously problematic due to the vast negative implications for higher education institutions and students. Higher education institutions often invest a great

amount of time and resources in reinstating suspended students, monitoring their academic progress, and possibly, in providing support services and facilitating interventions in an attempt to promote retention (Hall & Gahn, 1994). Even more concerning is that the negative consequences experienced by students at the time of their initial academic suspension may be only amplified if they are reinstated and suspended again. As previously mentioned, academically suspended students may receive no tangible gain from all of the money, time, and other resources invested in their education, and it is possible that reinstated students who are unsuccessful upon their return may experience even more hardships related to the loss of these resources. Additionally, experiencing academic nonsuccess after reinstatement following an academic suspension is likely to impact the future academic self-efficacy of students (Saunders, 2008) and may limit their potential likelihood of exploring educational options at a later point in life.

There is very limited research related to reinstatement outcomes following an academic suspension for two-year college students (G. Carter, 2013) even though this student population is at a higher risk for leaving college prior to graduation when compared to university students (McFarland et al., 2019). Although there are a number of reasons for the discrepancy in completion rates for two-year college students and university students, two core reasons include the major differences in institutional practices of two-year colleges and universities and the unique demographics of two-year college students.

For instance, the vast majority (over 98%) of public two-year colleges have an open admissions policy, meaning that the institutions accept all applicants who apply

regardless of their academic preparation for college, whereas only 24% of public universities share this practice (McFarland et al., 2019). Therefore, two-year colleges enroll many individuals who have test scores below college-level thresholds, have experienced academic difficulties in the past, or have been declined acceptance at universities. Additionally, rolling admission processes, common at many two-year colleges, allow prospective students to apply, be accepted, and register for classes virtually right up until the start of any given term. This lack of admission deadlines increases access for last-minute prospective students and increases final enrollment numbers for the college, but it may also encourage the enrollment of students who are unprepared to start classes or have undeveloped academic plans.

There are also major differences in the student populations served by two-year colleges and universities, with two-year colleges serving a larger percentage of traditionally marginalized students. On average, two-year colleges serve a larger percentage of racially and ethnically diverse students, older students, part-time students, and female students (McFarland et al., 2019). Additionally, two-year college students are also more likely to have a mental health diagnosis when compared to university students and the types of mental health disorders reported by two-year college students are, in general, characterized as more persistent and more severely debilitating (Katz & Davison, 2014).

Due to the unique experiences and needs of two-year college students, as well as the increasing rates of enrollment at two-year colleges over the past two decades (U.S. Department of Education, 2018c), the lack of research focused on factors related to

academic progress of this student population is concerning. Moreover, the majority of existing research on two-year colleges is focused on the community college student population and there is very little research available specifically focused on technical college students (Murtaugh, 2010). Technical colleges, focused on training and educating students in specific technical skills designed to meet labor needs in a given community (Carruthers & Sanford, 2018; Murtaugh, 2010), serve a noteworthy number of students pursuing higher education and therefore, warrant equitable attention in higher education research efforts.

Differences aside, for universities, community colleges, and technical colleges, the lack of clearly defined criteria to measure the likelihood of an academically suspended student to experience success or nonsuccess, if reinstated, is likely one of the primary reasons for the poor prediction rates when making decisions on academic suspension appeals. For this reason, a number of factors have been researched in an attempt to predict the potential academic success or nonsuccess of reinstated students following an academic suspension (Cogan, 2011).

Researchers have examined demographic and socioeconomic factors, factors related to secondary education and academic preparedness for higher education, a variety of postsecondary academic factors, and a number of miscellaneous factors. Much of the literature focused on these factors have included the exploration of the relationship between the factors and student retention or completion, overall academic progress, or academic success or nonsuccess specifically after reinstatement following an academic suspension.

The majority of empirical findings are contradictory or inconclusive (Cogan, 2011). In many cases, this is likely due to the complexity and multifaceted nature of the factors explored. Additionally, there is some evidence to suggest that certain factors may be useful predictors of academic success or nonsuccess with specific student populations but may not be generalizable to other student populations. For example, research focused on reinstatement outcomes of university students may not align with those of technical college students due to the meaningful differences between these groups. Even so, there is some support in the literature for a limited number of factors which may hold predictive value when attempting to forecast the academic progress of a reinstated student following an academic suspension.

Gender is one of these factors. Although there are studies which report opposing results, there is some evidence to suggest that female students are less likely to leave an institution due to poor academic progress (Kopp & Shaw, 2016) and are significantly more likely than male students to persist to graduation after reinstatement following an academic suspension (Denovchek, 1992). There is also evidence, as obtained in a study of community and technical college students in the 1990s, to suggest that a larger percentage of male students are placed on academic warning or academic suspension as compared to female students (Jones, 2000). When considering an attempt to predict the academic outcome of two-year college students following an academic suspension, including an exploration of gender as a factor is warranted due to the fact that two-year colleges serve a larger percent of female students when compared to universities (McFarland et al., 2019).

The average age of two-year college students is also different than that of the average university student, with older student populations at two-year colleges (McFarland et al., 2019). For this reason, results of studies which have included age as a factor may be somewhat contradictory and may report different results depending on the type of higher education institution researched. For example, in a study of technical college students, age was found to be a significant factor related to student graduation within three years, with older students being more likely to graduate when compared to their younger peers (Murtaugh, 2010). Interestingly, a study of community and technical college students found that students who were placed on academic warning or an academic suspension had a significantly higher average age when compared to those in good standing (Jones, 2000). Results of these studies could possibly indicate that older two-year college students may be more likely to experience academic challenges, but they may also be more likely to respond to these challenges in a successful manner and persist to graduation.

On the other hand, there is some evidence to suggest that age is not a significant predictive factor of academic success or nonsuccess for university students who are reinstated following an academic suspension (Brady, 2008; Cobble & Hohengarten, 1998; Meador, 2012). These conflicting results may highlight the lack of generalizability when including age as a factor when attempting to predict the academic progress of specific student populations; and therefore, affirms the need to explore such factors when researching less studied student populations, such as technical college students.

Factors specifically related to prior academic progress in higher education have also been explored as variables to predict the future academic progress of students, including GPA and quality point status (QPS), which is a number calculated using GPA and credits attempted to indicate distance from meeting a minimum academic requirement. In fact, these factors are considered by some to be the only variables that can consistently predict academic success or nonsuccess after reinstatement following an academic suspension (Saunders, 2008). There is also some evidence to suggest that GPA holds predictive value as a factor for the less studied technical college student population. For example, first term GPA has been found to be a significant predictor of technical college student graduation within three years (Murtaugh, 2010) and GPA has been used to successfully predict future academic suspensions of technical college students (Colwell, 1988). QPS, which includes a calculation of both GPA and CCR, may hold even more value in predicting academic success or nonsuccess of students due to the comprehensive nature of this variable (Cogan, 2011; Kelly, 2010). However, studies which have explored the use of QPS as a factor have been primarily focused on university student populations; therefore, whether QPS holds value as a predictive factor for less studied populations, such as technical college students, is yet to be known.

Lastly, mental health is a factor that may greatly influence the academic progress of postsecondary students; however, research on the impact or influence of mental health concerns on the academic success or nonsuccess of students after reinstatement following an academic suspension is very limited. Within the United States, approximately one in

three college students reported having at least one mental health diagnosis within their lifetime (Auerbach et al., 2018).

On average, two-year college students report higher rates of mental health diagnoses when compared to university students (Katz & Davison, 2014). One reason for this includes the demographic makeup of student populations at these institutions. Female students and older students have significantly higher rates of both lifetime and 12-month prevalence of mental health diagnoses (Auerbach et al., 2018) and two-year colleges, including technical colleges, serve a larger percent of female students and older students when compared to universities (McFarland et al., 2019). There is also evidence to suggest that college students who had low academic high school rankings are significantly more likely to report having a mental diagnosis (Auerbach et al., 2018). Two-year colleges, which typically have open-enrollment practices, may serve a larger percentage of students who struggled academically while in high school when compared to universities. Furthermore, two-year college students are more likely to report mental health diagnoses which are generally more pervasive and debilitating in nature, such as schizophrenia, than university students (Katz & Davison, 2014).

Regardless of the specific diagnosis, there is a great deal of evidence to indicate that the presence of a mental health concern is associated with decreased academic functioning (Bruffaerts et al., 2018; Kernan, Wheat, & Lerner, 2008), lower college GPA (De Luca, Franklin, Yueqi, Johnson, & Brownson, 2016), and an increased potential for dropping out of college (Auerbach et al., 2016; Lockard, 2016). However, there is limited research specifically related to the relationship between the presence of a mental health

concern and academic success or nonsuccess after reinstatement following an academic suspension. This lack of research is concerning as there is some evidence to suggest that mental health concerns are one of the most cited reasons for the occurrence of an academic suspension (Jevons & Lindsay, 2018) and it is possible that students placed on academic warning, academic suspension, or academic probation have higher rates of diagnosed or undiagnosed mental health concerns. Due to the high rates of mental health diagnoses for two-year college students and evidence to strongly suggests that the presence of a mental health concern is associated with decreased academic functioning, this factor warrants exploration in research specifically focused on academic progress following reinstatement after an academic suspension for technical college students.

Overall, the literature suggests possible links between factors, such as age, gender, GPA and QPS, and evidence of a mental health concern, and the ability to predict academic success or nonsuccess after reinstatement following an academic suspension. Furthermore, there is a lack of research specifically focused on these factors with two-year student populations, including technical college students. Due to the vast negative consequences of reinstating students who are not successful following an academic suspension, these factors warrant additional exploration.

Statement of the Problem

Based on the literature, including the limited research on two-year college students, there is evidence to suggest that anywhere from 20% to 42% of students are at risk for experiencing an academic suspension within their first year of pursuing higher education (Dole, 1963; Himmelreich, 1967; Schudde & Scott-Clayton, 2014) with two-

year college students, including technical college students, being the least likely to persist to graduation (McFarland et al., 2019). Prior studies have explored possible methods for predicting academic success or nonsuccess of students who are reinstated following an academic suspension; however, the collective results of this research are mostly contradictory or inconclusive. This is problematic as there is evidence to indicate that anywhere from 55% to 67% of students who are reinstated to higher education institutions following an academic suspension, fail to achieve future academic success (Dole, 1963; Santa Rita, 1998; Summers, 2005) and reinstating students who are unlikely to be successful may result in a number of negative consequences, including challenges related to the money, time, and energy invested into education without an earned credential, diminished academic self-efficacy (Saunders, 2008), and emotional distress (C. Carter, 2013; Houle, 2013; Suchan, 2016).

One reason for the high rate of academic nonsuccess after reinstatement following an academic suspension is the difficulty in accurately predicting the future academic potential of students during the suspension appeal review process. Although this topic has received some attention, much of the research related to reinstatement outcomes following an academic suspension has been focused on university students (G. Carter, 2013) and the results of these studies may not be generalizable to other student populations, such as technical college students, due to unique demographics and major differences in institutional practices.

Furthermore, much of the research related to reinstatement outcomes have not included the consideration of student mental health concerns. This is a noteworthy

oversight as approximately one in three college students within the United States have reported having at least one mental health diagnosis within their lifetime (Auerbach et al., 2018) and rates are even higher for two-year college student populations (Katz & Davison, 2014). This is concerning as there is a great deal of evidence to indicate that the presence of a mental health disorder is associated with decreased academic functioning (Bruffaerts et al., 2018; Kernan et al., 2008), lower college GPA (De Luca et al., 2016), and an increased potential for dropping out of college (Auerbach et al., 2016; Lockard, 2016). Additionally, there is some evidence to suggest that mental health concerns are one of the most cited reasons for the occurrence of an academic suspension (Jevons & Lindsay, 2018) and it is possible that students placed on academic warning, academic suspension, or academic probation have higher rates of diagnosed or undiagnosed mental health concerns.

Much of the research focused on reinstatement outcomes following an academic suspension report contradictory or inconsistent results, and results of studies which provide more conclusive evidence may not be generalizable to technical college student populations. It has yet to be determined if a number of the factors reviewed in prior studies, focused primarily on university students, are relevant to the technical college student population. Additionally, the relationship between evidence of a mental health concern and reinstatement outcomes following an academic suspension has yet to be systematically investigated.

Purpose of the Study

The purpose of this study was to add to the limited research related to reinstatement outcomes following an academic suspension for two-year technical college students; a population which is both understudied and less likely to persist to graduation (McFarland et al., 2019). This research study examined how factors explored in prior research primarily focused on university students, including the academic variables of cumulative grade point average (CGPA), cumulative quality point status (CQPS), and term of dismissal quality point status (QPS), relate to the reinstatement outcomes of technical college students. Additionally, this study aimed to address the research gap related to mental health concerns and reinstatement outcomes, as well as examining any relationships present when considering the demographic factors of age and gender, due to the increased rates of mental health diagnoses for older students and female students (Auerbach et al., 2018), both of which are student populations who make up a larger percentage of total enrollment at two-year colleges when compared to universities (McFarland et al., 2019). For the purpose of this study, indications of a mental health concern included either self-reported or documented mental health concerns as evident in suspension appeal paperwork submitted by students. At the institution from which the archival data for this study was obtained, the standardized suspension appeal process required all students who wished to appeal their suspensions to submit an essay outlining the reason why the academic suspension occurred and any attempts that had been made to resolve issues impacting academic progress. As part of this process, students were also encouraged to submit any relevant documentation to support their essay and overall

appeal. Evidence of a mental health concern, for the purpose of this study, was determined through a qualitative review of these student-submitted essays and related documentation.

Due to a number of negative consequences related to reinstating students who fail to achieve academic success following an academic suspension, it is important to learn more about this complex issue. In adding to, and expanding upon, the current literature, this research may assist higher education professionals in the process of making evidence-based decisions when reviewing academic suspension appeals. Furthermore, this research may promote an awareness of how high-risk student populations, such as students with a mental health diagnosis, are impacted by the academic suspension and reinstatement process. Lastly, this research may also assist in the process of prioritizing and developing retention-focused support services specifically designed to assist students who may be less likely to meet academic standards if reinstated following an academic suspension.

Research Questions

Several research questions guided this investigation with the goal of adding to the limited research related to reinstatement outcomes following an academic suspension for two-year technical college students.

Research question one. Will demographic variables (age and gender) and academic variables (CGPA, CQPS, term of dismissal QPS) significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at

the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college?

Hypothesis one. Demographic variables (age and gender) and academic variables (CGPA, CQPS, term of dismissal QPS) will significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college.

Research question two. Will evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college?

Hypothesis two. Evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), will significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college.

Research question three. Will demographic variables (age and gender), academic variables (CGPA, CQPS, term of dismissal QPS), and evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), significantly predict the reinstatement outcome (reinstatement

success or reinstatement nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college?

Hypothesis three. Demographic variables (age and gender), academic variables (CGPA, CQPS, term of dismissal QPS), and evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), will significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college.

Definitions of Key Terms

Academic suspension. This term is defined as a status used by higher education institutions to indicate students who are ineligible to enroll in classes or receive financial aid due to poor academic progress (U.S. Department of Education, 2012).

Continued probation. This term is defined as a status used by higher education institutions to indicate students who are reinstated following an *academic suspension* and during the *term of reinstatement* make satisfactory progress toward repairing academic deficiencies but fail to meet cumulative academic requirements to return to *good academic standing* (U.S. Department of Education, 2012). For the purpose of this study, students who were placed on continued probation did not meet the cumulative requirements of *good academic standing*, but did earn a *term of reinstatement grade point average (GPA)* of 2.5 or higher and a *term of reinstatement credit completion rate (CCCR)* of 100%. Students on continued probation are eligible for continued enrollment and their academic status is reassessed at the end of each term.

Credit completion rate (CCR). This term is defined as a number that represents the percentage of credits a student has earned versus the total number of credits attempted (U.S. Department of Education, 2012). To calculate CCR, the total number of credits a student has earned is divided by their total number of attempted credits. To earn credit, a student must earn a passing grade in the respective class. No credit is earned when a class is failed or withdrawn from.

Cumulative credit completion rate (CCCR). This term is defined as the cumulative calculation of *credit completion rate (CCR)* for all credits a student has attempted at a single institution.

Good academic standing. This term is defined as a status used by higher education institutions to indicate students who have met or exceeded cumulative academic expectations at the end of the academic term and therefore, are making *satisfactory academic progress (SAP).* For the purpose of this study, good academic standing represented a *cumulative grade point average (CGPA)* of 2.0 or higher and a *cumulative credit completion rate (CCCR)* of 67% or higher.

Grade point average (GPA). This term is defined as a number which indicates the average grades of a student (Cogan, 2011). GPA is calculated using the number of credits a student attempts and the related letter grade earned for all credits. Commonly, a GPA of 4.0 indicates an average of A grades, a GPA of 3.0 indicates an average of B grades, a GPA of 2.0 indicates an average of C grades, and a GPA of 1.0 indicates an average of D grades. A GPA of zero indicates a student who has not yet completed any

credits or has an average of F grades. Most often, GPA is calculated by term as well as calculated cumulatively for all credits a student has attempted at a single institution.

Cumulative grade point average (CGPA). This term is defined as the cumulative calculation of *grade point average (GPA)* for all credits a student has attempted at a single institution.

Evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork. This term was used in this study to represent a dichotomous variable and is defined as the indication or lack of indication of a mental health concern in *academic suspension* appeal paperwork. This variable was determined through a qualitative review of paperwork submitted by students as part of a suspension appeal process standardized by the institution, which required all students who wished to appeal their suspensions to submit an essay outlining the reason why the academic suspension occurred and any attempts that had been made to resolve issues impacting academic progress, as well as any documentation to support the essay and overall appeal. Indications of a mental health concern included either self-reported or documented mental health concerns.

Quality point status (QPS). This term is defined as a negative, neutral, or positive number, calculated using *grade point average (GPA)* and credits attempted, which indicates distance from meeting a minimum academic requirement (Cogan, 2011). Using this approach, the minimum academic requirement, typically a *cumulative grade point average (CGPA)* of 2.0, is equal to a neutral QPS of zero. When QPS is a negative number, it indicates that a student has not met minimum standards and when QPS is a

positive number, it indicates that a student has exceeded minimum standards. The greater the distance QPS ranges from zero, in either a negative or positive direction, the further a student is from the minimum academic requirements.

Cumulative quality point status (CQPS). This term is defined as the cumulative calculation of *quality point status (QPS)* for all credits a student has attempted at a single institution (Cogan, 2011).

Term of reinstatement. For the purpose of this study, this phrase is defined as the term, or semester, in which a student reenrolls at an institution after appealing an *academic suspension*.

Reinstatement outcome. For the purpose of this study, this term is defined as the determination of either *reinstatement success* or *reinstatement nonsuccess* during the *term of reinstatement* following an *academic suspension*.

Reinstatement success. For the purpose of this study, at the end of the *term of reinstatement*, reinstatement success is defined as an academic status of *good academic standing* (requiring a *cumulative grade point average [CGPA]* of 2.0 or higher and a *cumulative credit completion rate [CCCR]* of 67% or higher) *or* an academic status of *continued probation* (requiring a *term of reinstatement grade point average [GPA]* of 2.5 or higher and a *term of reinstatement credit completion rate [CCR]* of 100%). Either of these academic statuses indicated that a student would be allowed continued enrollment and had made progress in repairing academic deficiencies following an *academic suspension*.

Reinstatement nonsuccess. For the purpose of this study, at the end of the *term of reinstatement*, reinstatement nonsuccess is defined the academic status of an *academic suspension*. An *academic suspension* status would be reapplied at the end of the *term of reinstatement* if a student failed to achieve requirements to achieve *good academic standing* (requiring a *cumulative grade point average [CGPA]* of 2.0 or higher and a *cumulative credit completion rate [CCCR]* of 67% or higher) *and* failed to achieve the academic status of *continued probation* (requiring a *term of reinstatement grade point average [GPA]* of 2.5 or higher and a *term of reinstatement credit completion rate [CCR]* of 100%). A student who has returned to an *academic suspension* status has not demonstrated satisfactory progress toward repairing academic deficiencies.

Satisfactory academic progress (SAP). This term is defined as the minimum academic requirements set and monitored by higher education institutions in order to assess student progress and to stay in compliance with requirements for federal funding (U.S. Department of Education, 2012).

Term of dismissal. For the purpose of this study, this phrase is defined as the semester or term immediately prior the occurrence of an *academic suspension* (e.g., if a student was academically suspended after final grades were posted at the end of the fall 2019 term, the term of dismissal is the fall 2019 term).

Term of dismissal quality point status. This phrase is defined as the calculation of *quality point status (QPS)* for all credits a student has attempted during the term of dismissal.

Summary

In this chapter, a discussion was provided about the academic outcomes of postsecondary students who are reinstated following an academic suspension. It focused on the high rate of academic failure of reinstated students (Dole, 1963; Santa Rita, 1998; Summers, 2005) and prior research focused on identifying specific factors to better predict academic success or nonsuccess of reinstated students. Additionally, this discussion highlighted the lack of research focused on the academic progress of two-year college students, including technical college students, when compared to university students, even though two-year college students are less likely to persist to graduation (McFarland et al., 2019). This chapter also included information related to student mental health and evidence which indicates that the presence of a mental health concern is associated with decreased academic functioning (Bruffaerts et al., 2018; Kernan et al., 2008). This chapter concluded with an overview as to why additional research is needed specifically focused on technical college students and factors that may be related to reinstatement outcomes following an academic suspension, including factors that are particularly relevant to the unique demographic makeup of technical college student populations. In chapter two, a more comprehensive review of the literature focused on higher education, SAP standards, and factors for predicting academic success or nonsuccess following reinstatement after an academic suspension is provided.

Chapter 2: Literature Review

Introduction

An overview of higher education within the United States is provided in this literature review, including a brief history, rates of enrollment, common preparation practices for higher education, types of higher education institutions, issues of retention, attrition, and completion, related theories and models, and satisfactory academic progress (SAP) standards. Additionally, this literature review includes a summary of factors that have been identified in the research as being related to, or predictive of, academic success or nonsuccess in higher education. These include variables related to demographic and socioeconomic factors, factors related to secondary education and academic preparedness for higher education, a variety of postsecondary academic factors, and a number of miscellaneous factors. These factors are explored in terms of how they relate to student retention or completion, academic success or nonsuccess, or academic success or nonsuccess specifically after reinstatement following an academic suspension.

Higher Education in the United States

Higher education, or postsecondary education, within the United States can be broadly defined as education obtained after the completion of compulsory secondary education requirements, and although views regarding the value of higher education vary, it has historically been viewed by many as essential to the advancement of one's self and the advancement of society (Shehan Hughes, 2016).

The current higher education model is based on a long and complex history of both structured and unstructured methods of education. Educational developments of this

type first emerged through the efforts of scribes, theological schools, and philosophers, who shared knowledge and information through lectures and the written word, and eventually organized into scholarly groups with structured leadership (Van Patten, 2009). Scholarly groups developed into institutions of learning, and in the 1600s, universities, which were modeled on higher education institutions in England, were first developed in the eastern United States. At this time, most students enrolled at universities were young men from wealthy families who could afford the money and time needed to invest in education (Shehan Hughes, 2016).

In the 1800s women were first provided with the opportunity to seek higher education by enrolling in women's colleges, and later were permitted to study at coeducational colleges (Rudolph & Thelin, 1990; Shehan Hughes, 2016). In the mid-1800s, the development of Black colleges within the south gave way to more educational opportunities to Black Americans, and shortly after, the Morrill Acts of 1862 and 1890 increased educational access to women and Black Americans due to changing admission requirements and an asserted need for equal consideration (Altbach, Gumport & Berdahl, 2011; Rudolph & Thelin, 1990; Shehan Hughes, 2016). Additional demographic changes for American institutions of higher education occurred in the mid-1900s as a wave of veterans with GI Bill benefits chose to take advantage of their educational benefits by enrolling at higher education institutions (Thelin, 2010; Van Patten, 2009).

Although these major demographic shifts and the steadily increasing diversity of the national population has also resulted in an increase in the diversity of higher education student populations, educational inequality in higher education continues to be

a challenge. Racial and ethnic disparities in higher education are evident in rates of both student enrollment and completion, and these disparities have influenced discrepancies in income and employment for marginalized populations (U.S. Department of Education, 2016a). Higher education institutions are challenged to continue fostering the evolution of practices, policies, and procedures in a way that promotes accessibility and equality for diverse populations and meets the changing needs of students from various backgrounds, including diversity of socioeconomic status, gender, race, ethnicity, ability-status, and more.

Higher education involvement. In 2017, approximately 17 million people enrolled at degree-granting higher education institutions within the United States, which is an increase of 27% from 2000 (McFarland et al., 2019). In 1990, 32% of 18 to 24-year-old adults were enrolled at higher education institutions and in 2013, this number rose to 40% (U.S. Department of Education, 2016a). These increases in higher education enrollment levels have, over time, influenced rates of educational attainment, or the highest level of education an individual has completed. From 2000 to 2017, rates of educational attainment have risen for people ages of 25 to 29 in all higher education attainment levels (U.S. Department of Education, 2018c).

Reasons for pursuing higher education may vary; however, driving forces include labor market demands and the potential for increased income. Currently within the United States, the level of education one holds is strongly correlated with the ability to earn a living wage. In 2011, the majority of adults between the ages of 25 and 64 within the United States (68%) who had completed some form of higher education earned more

than the median income (U.S. Department of Education, 2015). In comparison, only 15% of adults between the ages of 25 and 64 who did not complete their high school education earned more than the median income in this same year (U.S. Department of Education, 2015).

Additionally, higher education influences the likelihood of experiencing unemployment. The unemployment rate for people who have completed some level of higher education is significantly less than the national average (U.S. Department of Education, 2016a). In 2016, 65% of all employed workers within the United States held some level of higher education (U.S. Department of Education, 2016a). Technological changes have also increased the need for skilled and educated workers and many new jobs require some level of higher education (U.S. Department of Education, 2016a). Due to the meaningful impact higher education has on employability and earning potential, higher education has been viewed by some as being synonymous with financial security.

Preparation for higher education. Although the expansive development of higher education institutions over time indicates the perceived value of educational advancement, the actual purpose of higher education has been a source of debate both historically and in the current day. There are those who view higher education as a means to providing a broad and general education to an individual, while others assert that education must be more pragmatic in nature and have a direct correlation to workforce skills (Dougherty & Lombardi, 2016). The combination of these philosophical differences and labor market demands over time has resulted in the development of many

different types of higher education institutions and different levels of available educational attainment, each of which tend to have unique preparatory pathways.

Preparation for higher education and admissions standards vary by institution and academic program. For most students, secondary education (or high school education), is considered the primary preparation for future academic studies. Rates of high school completion within the United States are on the rise. In 2017, 92% of people between the ages of 25 and 29 had at least a high school diploma or equivalent (U.S. Department of Education, 2018c), which is an increase of 4% from 2000. These increased rates of high school graduation hold true for Latino, Black, White, and Asian people; however, there continues to be a significant discrepancy between the rate of high school graduation for White students and students of color (U.S. Department of Education, 2016a).

High school education is designed primarily to provide the knowledge and skills necessary to manage adult life and would theoretically prepare high school graduates to be positioned for success in higher education (Shehan Hughes, 2016); however, many higher education institutions require additional admission requirements beyond a high school diploma to indicate college readiness, including standardized test scores, high school grade requirements, and demonstrated involvement in extracurricular activities.

For some, preparation for higher education can begin as early as elementary school as students learn about career opportunities and the education required to pursue each career option (Shehan Hughes, 2016). More intensive preparatory efforts may peak in middle and high school as students take standardized tests, visit higher education institutions, and explore educational programs (Shehan Hughes, 2016). However, for

others, these types of higher education preparations may not be as commonplace. Factors related to socioeconomic status may impact the availability of resources invested in promoting preparedness of an individual for higher education and may create disparities in student experiences which have the potential to influence future higher education attainment (U.S. Department of Education, 2016a).

Resources, preparatory efforts, and prior educational experiences may influence future educational goals. Those who do choose to pursue higher education within the United States may have a number of options to choose from in regard to the type of academic program, the level of educational attainment, and the higher education institution to attend. Although some maintain the philosophical argument that higher education is essential to the betterment of self and society, many students pursue specific forms of higher education for much more overt reasons, including the potential for increased income and enhanced job opportunities, and these reasons greatly influence the choice of educational institution.

Types of higher education institutions. The secondary educational experience of a student may be one of many factors related to whether or not they choose to explore higher education opportunities, and if so, which type of institution and program they choose to pursue. In general, prospective higher education students within the United States have the option to choose between short-term training programs (certificates, diplomas, associate degrees) or bachelor's degrees. Those who earn a bachelor's degree may also choose to continue their education as a graduate student by earning a master's degree or a doctoral degree. A variety of educational institutions may offer these

programs; however, most commonly a student will have the option of choosing between a two-year college or a four-year university.

Universities most commonly offer bachelor's degree programs with the expectation that students will have a foundational knowledge of general education as well as a specialized knowledge of their field of study. Although the length of time a student is enrolled before completion of a bachelor's degree varies, universities are often referred to as four-year institutions due to the general expectation that a bachelor's degree could be completed within four years for a full-time student. Universities may also serve students who choose to continue their education beyond a bachelor's degree by providing master's and doctoral degree programs.

Two-year colleges, often referred to as community colleges or technical colleges, offer subbaccalaureate educational programs including short-term training programs, certificates, diplomas, and associate degrees. Although the length of time a student may be enrolled at a community college or technical college may vary considerably due to their choice of academic program and academic credit load, these colleges are often referred to as two-year colleges due to the general expectation that the associate degree, often the highest degree obtained from these institutions, could be completed within two years for a full-time student. Although community colleges and technical colleges typically have somewhat different missions, there are also blended colleges, often referred to as "community and technical colleges," which offer an assortment of educational programs typical to both standalone community colleges and standalone technical colleges.

Enrollment at two-year colleges has increased over the past two decades and a meaningful portion of all higher education students are served by this type of institution (Thelin, 2010; U.S. Department of Education, 2018c). In 2010, approximately 43% of all undergraduate students in the United States were enrolled at two-year colleges (Cooper, 2010) and in 2017, 46% of people between the ages of 25 and 29 held an associate degree or higher (U.S. Department of Education, 2018c), which is an increase of 8% from the year 2000.

The demographics of students who attend two-year colleges vary significantly from that of universities. Two-year colleges often serve a more racially and ethnically diverse student population and a higher percentage of female students. In 2013, 41% of Latino high school graduates, 32% of Black high school graduates, 27% of White high school graduates, and 25% of Asian high school graduates were enrolled at two-year institutions (U.S. Department of Education, 2016a).

Two-year colleges also tend to serve an older population of students (U.S. Department of Education, n.d.-a), who are sometimes referred to as nontraditional students. The term *nontraditional student* has typically been used within higher education institutions to indicate an older student who is not seamlessly continuing their education following high school graduation. Although this term is commonly used, the term nontraditional student for those who attend community colleges or technical colleges may be misleading since these colleges often serve a higher than average number of older students (Frye, 1997). The reasons for a higher percentage of older students enrolling at two-year colleges may include a variety of convenience factors, increased flexibility,

lower costs, and shorter program offerings. Additionally, older students may be more skeptical regarding the benefits of obtaining a four-year degree due to an increased awareness of the possible risks, including the potential for dropping out, high costs, and no guarantee of future employment (Carruthers & Sanford, 2018) and therefore, they may choose to enroll at two-year colleges as an alternate to a university.

As mentioned, community colleges and technical colleges often differ in their primary mission and educational focus. Community colleges may offer some technical training programs, or programs which provide specific career-related skills, and opportunities to transfer to a university. Many students who choose to enroll at a community college do so because of convenience factors and the generally lower cost of two-year college tuition. These students may choose to complete general education courses or an associate degree with the future goal of transferring to a bachelor's degree program elsewhere.

Technical colleges are unique in the offerings they provide to students. Although technical colleges share some similarities with community colleges, they are often much more focused on training and educating students in specific technical skills designed to meet labor needs in a given community (Carruthers & Sanford, 2018; Murtaugh, 2010) rather than preparing students to transfer to a university. Technical colleges often emphasize both didactic and experiential learning, which provides students with the opportunity to practice skills in a hands-on environment (Shehan Hughes, 2016). These educational experiences may be part of a short-term certificate, a diploma, or an associate

degree, some of which may include a limited number of general education requirements in subjects such as English, math, or communication.

The decision related to the type of program a student chooses may be based on a variety of factors, including personal career or academic goals and the amount of time and money available to invest into education. However, the length of academic program is likely to be directly correlated with future earnings, as research suggests that associate degrees increase earnings more so than diplomas, and diplomas increase earnings more so than certificates (Carruthers & Sanford, 2018). For this reason, some technical colleges may offer "stackable" academic programs which allow students to complete a certificate program and then choose to continue to a diploma program, and then eventually to an associate degree program if desired.

Interestingly, a technical college student could also expect increased earnings even before the completion of an academic program. In a study of technical college students, findings indicated that currently enrolled students, who had not yet completed a program and were employed, earned more on average than non-students who had similar work histories (Carruthers & Sanford, 2018). Although this finding bodes well for the value of a postsecondary technical education, it also highlights a potential reason for a student not to graduate from their declared academic program as it is not uncommon to have a student dropout of college before graduation due to an employment offer or an increased wage at a current job.

Workforce demands within the local area surrounding a technical college often determine what types of academic programs are offered. Stakeholders in the community,

including many employers, are often highly involved in advisory groups designed to chart the future development of in-demand academic programs. For this reason, technical colleges offer training opportunities in a variety of fields and currently health sciences represents the most common field of study for students enrolled in postsecondary technical education programs (U.S. Department of Education, n.d.-a) due to the increased demand for health care workers with technical skills and training.

The students enrolled in postsecondary technical and career programs are quite diverse. According to data from the 2013-2014 academic year, approximately 47% of all students enrolled in postsecondary career and technical education programs across the country were students of color (U.S. Department of Education, 2016b). In this same academic year, approximately 14% of enrolled postsecondary career and technical education students were Black and 17% were Latino (U.S. Department of Education, 2016b). Even when compared to the diverse demographics of community colleges, technical colleges enroll a higher percentage of female students and Black students (U.S. Department of Education, n.d.-a).

Although technical colleges serve a significant number of postsecondary students within the United States, there is limited research related to the experience of students enrolled at these institutions. Although there are numerous studies focused on retention and academic completion at universities (G. Carter, 2013), technical colleges are understudied and there is limited research available to indicate to what extent public technical college students are academically successful (Murtaugh, 2010). Furthermore, research that does exist for two-year college populations often refer to the higher

education institution as a community college, regardless of whether the institution provides technical training (Murtaugh, 2010), which makes it challenging to isolate meaningful research results for application in the unique setting of a technical college. In addition to the lack of generalized research related to technical colleges, there is also a lack of research focused on career and technical education for marginalized student populations, which is a source of concern as information regarding the experience and benefit of career and technical education for these populations is important since these student groups are overrepresented in career and technical education training programs (Dougherty & Lombardi, 2016). In sum, more information is needed to understand the complexity of the higher education experience for technical college students.

Attrition, Retention, and Completion

Within higher education institutions, much time and energy has been spent focused on issues surrounding retention and completion rates of students. Retention, within higher education institutions, typically refers to the continued enrollment of a student. Completion rates may be defined in various ways, but most commonly refer to the rate of students who successfully graduate from an institution or transfer to another higher education institution. An attrition rate is the rate at which students leave a higher education institution; however, there is no clear consensus in research regarding what makes up an attrition rate due to the various possible definitions and factors at play and this wide definition makes estimating accurate attrition rates quite challenging (Pantages & Creedon, 1978; Thelin, 2010). An attrition rate may be based on the number of students who do not stay enrolled at a given institution, those who do not complete their

program within a specified timeframe, or those who leave an institution and do not transfer to another institution.

Students leave higher education institutions for both voluntary and involuntary reasons, meaning that a student either chooses to no longer enroll or the higher education institution determines that the student is no longer eligible to reenroll. In most cases, when a higher education institution determines that a student is no longer eligible to enroll, this is due to a failure to meet academic standards. Another complicating factor relating to attrition is that students may also choose to leave a higher education institution on a temporary or permanent basis. Some students do not stay continuously enrolled at a higher education institution but eventually graduate from an academic program. Students who are not continuously enrolled but do eventually continue to complete an academic program (e.g., one or more term of non-enrollment after starting an academic program) may be referred to as *stop-outs*, whereas students who enroll, but never return to complete a degree program may be referred to as *drop-outs* (Grosset, 1993).

High attrition rates may have a negative impact on both students and higher education institutions. Due to the investment of both money and time, students who enroll at higher education institutions but do not successfully complete an academic program may experience significant financial burdens. Additionally, high attrition rates are also problematic to higher education institutions due to the difficulties of managing general operations and the negative financial impact for the institution (Pantages & Creedon, 1978).

Rates of attrition, retention, and completion typically vary by the type of higher education institution. On average, 40% of all full-time university students seeking a bachelor's degree fail to graduate within six years of when they first enrolled (McFarland et al., 2019). This statistic is meaningful as it suggests that students enrolling in bachelor's degree programs have only slightly better than a one-in-two chance of completing their academic program within a reasonable timeframe. At two-year colleges, including community and technical colleges, the attrition rate is even higher. Of all full-time two-year college students, approximately 68% fail to graduate within 150% of the reasonable timeframe required for completing their program (e.g., graduating from a two-year program within three years; McFarland et al., 2019). Stated differently, approximately only one in three students who enroll at a two-year college will persist to graduation within an expected timeframe (McFarland et al., 2019).

One possible explanation for high attrition rates of two-year college students may include the fact that these institutions are more likely to serve a high population of students at risk for not maintaining SAP standards (Schudde & Scott-Clayton, 2014). The results of a study of students enrolled in an associate degree engineering technology program in the late 1980s highlights this possibility (Colwell, 1988). Although this is not a recent study, the results provide an indication of how academic dismissals impact overall attrition rates with a two-year college population (Colwell, 1988). Of the students included in this study, 42% of students dropped out within two years of their initial enrollment. Of this group, 73% of students were academically dismissed due to poor academic performance and 27% left for reasons unrelated to an academic dismissal

(Colwell, 1988). Stated differently, almost three in four students in this study who left the institution did so involuntarily.

Due to the impact of high attrition rates on both students and higher education institutions, issues of retention and completion have been the primary topic of many research studies within the field of higher education; however, results of these studies are often contradictory (Meador, 2012) and there is no clear consensus on what specifically causes high attrition rates. Additionally, even though two-year colleges have higher attrition rates and serve a high-risk student population, they receive less attention in the research compared to universities, and there is limited research specifically related to the attrition rate of adult students enrolled at community and technical colleges (Frye, 1997).

One of the reasons for contradictory research on this topic may be the complexity of factors related to attrition, retention, and completion. The consideration of whether a student dropping out was due to voluntary or involuntary reasons is one example of a complex factor related to attrition. Research studies focused on college student retention often fail to discriminate between an academic dismissal and a voluntary dropout (Beck, 1996). Additionally, research studies often do not differentiate between students who permanently drop out of college and those who *stop-out*, or temporarily drop out and reenroll at a later point in time (Pantages & Creedon, 1978). Although some researchers claim that differentiating between voluntary and involuntary reasons for dropping out of a higher education institution is important to understanding attrition, others suggest that no distinction should be made between voluntary and involuntary dropouts since the end result of these two experiences is the same, and that focusing on the element of choice in

dropping out is a distraction from the actual reason the dropout occurred (Pantages & Creedon, 1978). For instance, the factors that may have resulted in a voluntary dropout of one student may have resulted in poor grades, and the same factors may have resulted an eventual involuntary dropout due to an academic dismissal for another (Pantages & Creedon, 1978).

In an attempt to better understand the complex issue of attrition, researchers have made efforts to identify the reasons why students leave their educational programs. Although the decision to leave an educational program may in some cases be impulsive, there is evidence to suggest that the decision to drop out of a higher education program often comes after a period of deliberation in which many students consult with family, friends, or higher education professionals (Pantages & Creedon, 1978). Reasons for leaving an educational institution may vary; however, commonly cited reasons include academic concerns, including low grades and dissatisfaction with the learning experience, and financial difficulties (Pantages & Creedon, 1978).

In order to reduce the number of students who drop out, either for voluntary or involuntary reasons, many higher education institutions engage in interventions designed to promote student retention and completion and these student support services are often viewed as critical to academic success (Cooper, 2010). In fact, some researchers suggest that higher education institutions should invest more time and energy into prevention efforts, by way of retention-focused interventions and the evaluation of interventions, rather than attempting to predict factors related to attrition (Pantages & Creedon, 1978). However, research on retention interventions is vast and often contradictory, and the

success of intervention programs vary significantly by approach, targeted student populations, and type of higher education institution.

For example, in a study of community college students, students on academic warning who participated in an intervention program, were no more successful than students who did not participate in the intervention program (Olson, 1990). Alternatively, an intervention program for students who were reinstated at a university after an academic dismissal reported more successful results (Berkovitz & O'Quin, 2006). The students who participated in the intervention program were more likely to graduate than those who did not participate in the intervention program (Berkovitz & O'Quin, 2006).

One reason for the deviating success rates of these programs could be the approach each took in an attempt to promote retention. Intervention programs may include anything from developmental coursework, instruction related to the development of student success skills (such as time management skills and study skills), support groups, peer tutoring, and meetings with academic advisors or other higher education professionals (Berkovitz & O'Quin, 2006; Olson, 1990). Although the approaches taken to promote retention are incredibly diverse, one commonality shared by all intervention programs is the philosophical assumption that an intervention can promote the potential of a student to be academically successful or can reduce the influence of negative external factors (Kelley, 1996).

Overall, the issue of higher education student attrition is a complex concern that has warranted much attention by higher education institutions and researchers. However, the extent of concern raised by this issue and the attention focused on it has not been

enough to resolve the high attrition rates at many institutions. Efforts to reduce attrition rates and promote completion rates have been split between a focus on identifying predictive factors that may indicate the potential for dropping out or graduating, and a focus on facilitating interventions designed to promote student retention.

Theories and models. In an attempt to better understand issues of higher education student attrition, retention, and completion, a number of theories and models have been developed. These theories and models work to provide a guide to understanding and explaining this complex phenomenon.

Student involvement theory. One theory of higher education student development is the student involvement theory (Astin, 1999). This theory emphasizes the quantity and quality of the investment of a student, in terms of physical and psychological energy, and how it relates to the overall experience of higher education. The theory suggests that the more a student is involved in the college experience, including involvement in academics, extracurricular activities, and relationships with higher education professionals, the greater their potential for learning and personal development (Astin, 1999). Therefore, in order to promote student engagement and learning, higher education institutions should implement policies and practices which increase the potential for student involvement in academics, extracurricular activities, and interactions with higher education professionals (Astin, 1999). Those who influence policies and practices are also encouraged to view the time and energy of a student as institutional resources, which should be strategically invested (Astin, 1999). Additionally, this theory suggests that higher education institutions can evaluate their efforts in retaining students by assessing to what extent

each action an institution takes encourages or discourages student involvement (Astin, 1999).

Structural model of college student performance, satisfaction, and retention. The structural model of college student performance, satisfaction, and retention highlights the importance of both the student experience and the influence of major external factors (Aitken, 1982). The student experience may include satisfaction or dissatisfaction with elements of the higher education experience such as academic programs, the living environment, involvement in extracurricular activities, and overall academic performance (Aitken, 1982). These experiences are then influenced by major external factors, such as serious medical issues, or family and personal problems (Aitken, 1982). According to this model, the decision of a student to persist at a specific institution is directly related to their experience and any external factors.

Theoretical model of dropout behavior. Similar to other theories and models referenced, the theoretical model of dropout behavior considers the importance of the involvement of students at higher education institutions (Tinto, 1975). This model considers the higher education environment to be a social system and suggests that student involvement within the social system is directly related to the potential for dropping out (Tinto, 1975). This model highlights both the goals and institutional commitments of a student as significant factors (Tinto, 1975). These goals and institutional commitments are based on the individual characteristics of a student and prior experiences (Tinto, 1975). In addition to goals and institutional commitments, external impacts influence the potential for dropping out (Tinto, 1975). External impacts

may include the consideration of a cost-benefit analysis in which a student concludes that the investment of time, energy, or money into their higher education is no longer worthwhile in comparison to other options (Tinto, 1975). For example, if the goal of a student is to earn a living wage for their family, they may choose to leave a higher education institution if offered a high-paying job before the completion of their academic program.

This model suggests that institutional commitments are established based on the development of social connections within the higher education environment (Tinto, 1975). Therefore, institutions which offer many opportunities for students to develop positive social connections may have higher retention rates (Tinto, 1975). Specifically, larger institutions may have lower rates of voluntary dropout, due to the existence of a variety of subcultures making it more likely that a student will develop social connections. Alternatively, a small college may not have the student population to support a sustainable club or organization that may flourish at a larger university.

Three-stage model of academic probation. The three-stage model of academic probation focuses specifically on the experience of students with poor academic performance (Kelley, 1996). Although the model uses the term probation, the term warning will be used in its place because the definition used in the model of probation matches the definition of warning used in this literature review. An academic warning can be defined as a set amount of time in which a student has been made aware that their academic performance is not meeting institutional requirements. When a student has been notified of an academic warning they are not dismissed from the institution, rather, they

are given an opportunity to enroll for an additional term. This model examines the purpose of an academic warning process within a higher education institution (Kelley, 1996). Higher education institutions may use an academic warning status as a form of punishment or motivation, an attempt to express the seriousness of poor academic performance, or as a way to categorize students in order to better recognize which students are academically at risk (Kelley, 1996). According to this model, higher education institutions which implement interventions for students on academic warning are functioning with three primary assumptions (Kelley, 1996). These assumptions include that students with on academic warning have the potential to be academically successful, that the development of certain skills will help these students to become academically successful, and that all students on academic warning could benefit from intervention programs (Kelley, 1996). Additionally, this model also addresses the student experience related to being placed on academic warning. The model suggests that performance feedback, including the notification of an academic warning status, results in emotional, cognitive, and behavioral reactions (Kelley, 1996). Emotional reactions to the notification of an academic warning may include feelings such as sadness, shame, or anger (Kelley, 1996). These emotional reactions may be more intense if the academic performance of a student deviates significantly from their overall self-expectations (Kelley, 1996). After processing the emotional reaction to the notification of an academic warning, students are then positioned to cognitively determine the reason for the academic warning taking place (Kelley, 1996). This includes the process of determining whether the academic warning status was controllable or uncontrollable, and whether the

warning was due to internal factors or external factors (Kelley, 1996). An example of an internal factor is intelligence and an example of an external factor is bias of an instructor in grading. The self-esteem of a student may influence their cognitive determination of the reason for the academic warning. For example, a student with low self-esteem may attribute the academic warning to an internal factor (e.g., low intelligence), regardless of whether or not there were external factors at play. Some students may choose to cognitively determine that an academic warning occurred due to an uncontrollable, external factor in order to decrease uncomfortable feelings of shame and public embarrassment (Kelley, 1996). The cognitive determination made by a student will then influence the behavioral reaction to the academic warning (Kelley, 1996). For example, students who cognitively determine that an academic warning was due to an uncontrollable factor will be less likely to put effort into improving their performance (Kelley, 1996). Alternatively, students who cognitively determine that an academic warning was due to a controllable factor may make the decision to engage in behaviors that promote future academic success (Kelley, 1996). Therefore, understanding the cognitive reaction of a student who is placed on academic warning may be helpful in the process of implementing behavioral interventions, rather than functioning on the assumption that all interventions for students on academic warning will be beneficial to all students.

Overall, the three-stage model of academic probation includes the full consideration of the student experience related to the notification of poor academic performance, including the emotional, cognitive, and behavioral reactions that occur

(Kelley, 1996). This model also highlights the need to explore how mental health is impacted by the notification of poor academic performance, as well as the need to consider how mental health concerns may influence the emotional, cognitive, and behavioral reactions of students. Lastly, this model also addresses the philosophical assumptions of higher education institutions as they relate to the implementation of academic warning statuses and retention efforts (Kelley, 1996).

Satisfactory academic progress (SAP) standards. One major consideration related to the potential of a student to successfully complete an academic program includes the requirements of SAP standards. The Higher Education Act of 1965 first introduced a reference to SAP in federal financial aid legislation in order to emphasize the requirement that students enrolled at higher education institutions must demonstrate consistent movement toward obtaining a postsecondary credential (Schudde & Scott-Clayton, 2014). Therefore, in order to access federal funding, higher education institutions were required to implement SAP policies and students were required to meet minimum academic performance standards. At this time, the evaluation of student performance typically occurred once each academic year.

In 2011, an update to federal policy added the requirement to warn students before terminating their access to federal funding (Schudde & Scott-Clayton, 2014). This resulted in higher education institutions evaluating students at the end of each academic term, or semester, rather than at the end of each academic year in order to allow for an adequate period of warning (Schudde & Scott-Clayton, 2014).

Most commonly, higher education institutions use three statuses to indicate the academic progress of a student (Schudde & Scott-Clayton, 2014). Good standing is often used as a status to indicate those who meet or exceed academic expectations at the end of the academic term and therefore, are deemed to be meeting SAP standards. Academic warning is typically used as a status to indicate students who failed to meet cumulative academic standards at the end of an academic term (Schudde & Scott-Clayton, 2014). When a student is placed on academic warning, they may still receive federal financial aid for one additional academic term as this aligns with the federal policy to provide students with an adequate period of warning before they lose access to federal funds (Schudde & Scott-Clayton, 2014). At the end of the term of academic warning, students who successfully meet cumulative SAP standards may return to good standing; however, students who fail to meet cumulative SAP standards are placed on academic and financial aid suspension and are no longer eligible to access federal financial aid (Schudde & Scott-Clayton, 2014). Academic suspension is the terminology most often used to indicate a student who was dismissed from a higher education institution due to poor academic progress.

Higher education institutions typically provide an option for students to appeal a suspension due to poor academic progress (Schudde & Scott-Clayton, 2014). Suspension appeal requirements may vary by institution, but most require a written statement recounting the reasons for the poor academic performance that lead to the dismissal and a plan for future academic success (Meador, 2012). Students whose appeals are approved are then eligible to return on a probationary status (Schudde & Scott-Clayton, 2014).

Probation is the status most often used to indicate a student who is eligible to reenroll on a provisional status after successfully appealing a suspension. The academic requirements for students on probation may be different than the cumulative SAP standards of an institution (Schudde & Scott-Clayton, 2014). Students who are reinstated after a suspension may return facing heightened academic requirements, which they are often required to agree with as part of their academic plan accompanying the suspension appeal.

For example, an institution may have SAP standards which require a minimum 2.0 cumulative grade point average (CGPA) or higher and a minimum 67% cumulative credit completion rate (CCCR) or higher. A credit completion rate (CCR) is calculated by dividing the total number of credits a student has earned by their total number of attempted credits. To earn credit, a student must earn a passing grade in a class. No credit is earned when a class is failed or withdrawn from. During the term of probation, this same institution may implement a different standard, such as a term grade point average (GPA) of 2.5 or higher and a term CCR of 100%. At the end of the probationary term, students who fail to meet cumulative SAP standards, but are successful in meeting probationary standards, may be eligible to continue for one additional academic term on continued probation (Schudde & Scott-Clayton, 2014). Alternatively, at the end of the probationary term, students who fail to meet cumulative SAP standards and probationary standards will be placed again on academic suspension (Schudde & Scott-Clayton, 2014).

The Higher Education Act requires institutions to evaluate SAP standards at the end of each academic year; however, as previously mentioned, most higher education

institutions evaluate the progress of their students at the end of each term (Schudde & Scott-Clayton, 2014). The Higher Education Act requires that higher education institutions monitor both GPA and a minimum percentage of work or credits successfully completed; however, specific SAP standards are defined by each higher education institution. Although higher education institutions have some flexibility in developing SAP standards, the Higher Education Act requires minimum SAP standards to align with standards for graduation. For example, if a higher education institution requires a minimum 2.0 CGPA to graduate, SAP standards must also require a minimum 2.0 CGPA. Although higher education institutions may choose to implement different standards, a review of institutional policies of 110 universities revealed that all examined institutions used a minimum 2.0 CGPA as one of the indicators of SAP (Kopp & Shaw, 2016). Most commonly, higher education institutions require students to maintain a minimum 2.0 CGPA and to maintain a minimum 67% CCCR (Schudde & Scott-Clayton, 2014).

Overall, higher education institutions must monitor the academic progress of their students in accordance with federal policy in order to provide access to federal financial aid. Students who choose to enroll at higher education institutions are required to meet these standards in order to make satisfactory progress toward graduation and to maintain eligibility for federal funding.

Academic suspensions and dismissals. The percentage of students who are dismissed from higher education institutions due to a suspension caused by poor academic performance may have a significant influence on the overall attrition rate of an

institution. In most cases, failure to meet SAP standards, resulting in an academic warning, typically occurs in the first term of enrollment at a higher education institution (Schudde & Scott-Clayton, 2014). For example, in the late 1950s, approximately 20% of all freshman students at the University of Hawaii were academically suspended at the end of their first year (Dole, 1963). Similarly, in the late 1960s, approximately 20% of all freshman students at the University of Nebraska were academically suspended at the end of their first year (Himmelreich, 1967). Comparable results were found more recently in a national review of academic progress across higher education institutions. In 2012, approximately 20% of first-year higher education students failed to meet SAP standards due to a GPA less than 2.0 (Schudde & Scott-Clayton, 2014). This result is consistent with the studies from the 1950s and 1960s; however, the rate of students who fail to meet SAP standards rises significantly when accounting for both of the mandatory SAP factors (CGPA and CCCR) rather than just CGPA. In a closer look at more detailed data obtained from over 50 community colleges in 2008, approximately 42% of students failed to meet overall SAP standards, including both CGPA and CCCR standards, within their first term of enrollment (Schudde & Scott-Clayton, 2014).

The high rate of failure to meet SAP standards negatively impacts both students and higher education institutions. For higher education institutions, acquiring new students is costly and often prospective students are not in endless supply, meaning that the survival of most higher education institutions is dependent on retaining students. From the perspective of a suspended student, the time, money, and energy invested into higher education with no earned credential may seem like a waste. Although students

who are academically suspended due to a failure to meet SAP standards may have earned some college credit, their academic history likely indicates that they enrolled in, and paid for, many classes for which credit was not earned. Additionally, experiencing an academic suspension may be emotionally challenging for students. Students who have been placed on academic suspension have reported experiencing a variety of difficult emotions including denial, depression, humiliation, shame, embarrassment, sadness, worthlessness, fear, shock, disappointment, and anxiety (C. Carter, 2013; Houle, 2013; Suchan, 2016).

After an academic suspension, some students may be able to successfully appeal the suspension and continue pursuing their education. Academic suspension appeals typically require students to explain the reason the suspension occurred. In a study of appeal statements from academically suspended students from a large research university, a number of reasons were cited for the academic suspension, including themes related to academics, family issues, social behaviors, and financial concerns (Saunders, 2008). These reasons are typically considered as institutions attempt to determine whether a student on suspension has potential for future academic success. For example, a student who experienced an extenuating circumstance, such as an emergency surgery which resulted in poor grades or unearned credit, may be viewed as having the potential to be successful in future terms due to the natural resolution of the situational concern. Additionally, students who experienced a suspension due to controllable factors may have the potential for academic success in future terms if appropriate behavioral changes take place. Although some suspended students may choose the option of appealing, other

students may choose to no longer pursue their higher education, whereas others may submit an appeal and are denied, or submit an appeal and are approved to be reinstated only to be suspended again.

Each higher education institution may have a different philosophy related to reviewing suspension appeals. Some institutions may be quite selective and only approve appeals in which a student can demonstrate significant extenuating circumstances. At one university, a study revealed that approximately 22% of students were approved to return after an academic suspension (Dooley, 2000). Other institutions may be more open to approving a high percentage of appeals reviewed. There may be a number of reasons that an institution may approve a high percentage of suspension appeals. For example, some higher education institutions may be motivated to readmit suspended students in order to maintain enrollment levels and some higher education professionals who participate in the process of reviewing appeals may feel emotionally inclined to provide students with another chance to demonstrate academic success. However, allowing students who are unlikely to be successful after reinstatement following an academic suspension will not only negatively impact the student financially but may also negatively impact the future academic self-efficacy of the student (Saunders, 2008). Therefore, one could argue that there is an ethical component to the decision-making process of an appeals committee and that in order to best serve a student, an appeals committee would successfully predict whether or not that student is likely to be academically successful if reinstated, and if the student is unlikely to be successful the ethical decision would be to deny the appeal.

Unfortunately, a significant number of students who appeal a suspension and are reinstated fail to meet the minimum academic requirements of probation. In a study of 160 university students who were reinstated after an academic suspension, only 50% successfully achieved the required academic standards to avoid a second suspension (Hall & Gahn, 1994). In a similar example, a study of 153 university students revealed that approximately 40% did not meet academic standards within the first term following readmission (Himmelreich, 1967). Results of another study of university students reported that 63% of students who were suspended and later reinstated failed to meet the academic requirements to stay enrolled, and therefore, were suspended again (Summers, 2005). Similar results were reported in a study of community college students which indicated that approximately 55% of students who were reinstated following an academic suspension failed to meet minimum academic requirements in the term following the suspension (Santa Rita, 1998). In a longitudinal study of 389 university students who were reinstated after an academic suspension, only 25% of students were either still enrolled or had graduated five to eight years after the suspension occurred (Denovchek, 1992). An older study, of university students in the 1950s, highlights a similar theme. Of all University of Hawaii students in the 1950s who were academically suspended and later reinstated, approximately only 33% were academically successful (earning a minimum term GPA of 2.0 or higher) upon their return (Dole, 1963). And lastly, a study of impressive size, reviewed the academic progress of 1,390 university students who were placed on academic suspension (Dooley, 2000). Of the students studied, only 1.22% (17 students) successfully appealed their suspension and eventually graduated within six

years (Dooley, 2000). These studies indicate that a high percentage of students who are reinstated after an academic suspension may not achieve future academic success. Additionally, these studies suggest that suspension appeal committees tend not to accurately predict the potential of a student to achieve future academic success. Many studies have revealed prediction rates of 50% or less, indicating that suspension appeal committees successfully predict future academic success less than half the time; however, there is limited research available to inform the process of more accurately assessing suspension appeals (Cogan, 2011; Saunders, 2008).

Predictive Factors

The research that is available on the topic of predicting the future academic performance of students covers a wide variety of factors in an attempt to identify influencers of academic success or nonsuccess, as well as reliable predictors of academic success or nonsuccess specifically following an academic suspension. Predictive factors explored in the research include demographics and socioeconomic factors, factors related to secondary education and academic preparation for higher education, postsecondary academic factors, and a number of miscellaneous factors.

Demographic and socioeconomic factors. A number of demographic and socioeconomic factors have been studied in an attempt to identify ways in which to predict the potential of a student to experience academic success or nonsuccess in higher education. These factors include gender, race and ethnicity, age, parental education, and financial resources, including employment, income, and financial aid.

Gender. Many research studies attempting to identify predictive factors of academic success or nonsuccess in higher education include gender as a variable. Some studies have found gender to be a significant factor, whereas others revealed no significant relationship between gender and academic success or nonsuccess.

Research which has revealed a significant relationship between gender and academic progress includes a large study of 110 universities. In this study, researchers found that male students were more likely to leave an institution due to poor academic progress when compared to female students (Kopp & Shaw, 2016). Similarly, results of a study of community and technical college students in the 1990s suggested that a larger percentage of male students are placed on academic warning or academic suspension when compared to female students (Jones, 2000). Female students also may be more likely to experience academic success, when compared to male students, after reinstatement following an academic suspension. For instance, in a study of 389 university students who were reinstated after an academic suspension, it was found that female students were significantly more likely than male students to persist to graduation (Denovchek, 1992). A significant relationship between gender and academic progress following an academic suspension was also uncovered in a study of university students who were reinstated following an academic suspension (Cogan, 2011). Results of this study indicated that gender was the only demographic variable which was significantly related to academic success or nonsuccess in the term of reinstatement.

One possible explanation for the significant relationship found between gender and academic progress could be that female students may experience a higher rate of

uncontrollable, external factors which result in poor academic performance. For example, when appeal statements from academically suspended university students were reviewed, female students were more likely than male students to cite obligations to care for ill family members or responsibilities related to the death of a family member as a reason for their poor academic progress (Saunders, 2008). Therefore, it is possible that female students may be faced with more short-term extenuating circumstances due to the traditional gender role women hold as caretakers within their family systems. As a result, when these extenuating circumstances naturally resolve, female students may be positioned to more fully exercise their academic potential. This possibility is supported by the results a study of first-term community college students which reported that female students identified higher levels of perceived barriers or stressors related to academic performance than male students; however, female students were also indicated to have more skills to help manage academic performance and had higher CGPAs (Heller & Cassady, 2017).

Although there is research to support gender as a significant factor related to academic progress, there are also many studies that report opposing results. In an extensive review of research from 1950 to 1975, researchers revealed that gender is likely not a significant factor related to higher education attrition or completion (Pantages & Creedon, 1978). Similarly, results from a study of first-year university students suggest that gender was not a significant predictor of the likelihood of a student to return to the university for a second year (Aitken, 1982). More recently, a study of technical college

students produced similar results. This study found gender to be nonsignificant in predicting graduation within three years (Murtaugh, 2010).

Additionally, there are also studies which have found gender to be nonsignificant as a factor related to predicting success or nonsuccess after reinstatement following an academic suspension. In a study of 113 private university students, no significant relationship was found between gender and the potential of a student to return, or make meaningful progress toward returning, to good academic standing in the term after being readmitted following an academic suspension (Kelly, 2010). Similar results were found in another study of private university students, which revealed no significant relationship between gender and whether or not a student returned to good academic standing within one year of being reinstated following an academic suspension (Meador, 2012). These results were also mirrored in studies of public university students. For instance, a study of 196 university students revealed that gender was not a significant predictive factor related to academic success or nonsuccess after reinstatement following an academic suspension (Cobble & Hohengarten, 1998), and similar results were reported in a more recent study of 348 university students (Brady, 2008). In this study, gender was also found to be nonsignificant in predicting graduation of students who were reinstated following an academic suspension and enrolled in an intervention program designed to provide disadvantaged students with more equitable opportunities in higher education (Berkovitz & O'Quin, 2006).

Overall, there have been a number of studies that have explored gender in an attempt to identify predictive factors for academic success or nonsuccess. There is some

evidence to suggest that female students are less likely to leave an institution due to poor academic progress (Jones, 2000; Kopp & Shaw, 2016) and are significantly more likely than male students to persist to graduation after reinstatement following an academic suspension (Denovchek, 1992). However, there are also a number of studies which have revealed gender to be nonsignificant in predicting graduation, as well as nonsignificant in predicting academic success or nonsuccess after reinstatement following an academic suspension. One reason for contradictory results may include the possibility that studies focused on the factor of gender are measuring other variables related to gender, such as family responsibilities. Even so, gender as a factor may warrant attention in future research due to the varied demographic makeup of certain higher education institutions, such as two-year colleges, which serve a larger percent of female students when compared to universities (McFarland et al., 2019).

Race and ethnicity. Race and ethnicity have also been explored as factors potentially related to the likelihood of a student to experience academic success or nonsuccess. Similar to gender, results from studies which have explored the factors of race and ethnicity are complex and often contradictory.

There is some evidence to suggest that the factors of race and ethnicity are significantly related to academic performance in higher education and that underrepresented college students are less likely to experience academic success. For example, in a large study of 110 universities, researchers found that racially underrepresented students were more likely to leave their institution due to poor academic performance when compared to their peers (Kopp & Shaw, 2016). Similar

results were revealed in a study of technical college students. In this study researchers revealed that White students were significantly more likely to graduate within three years when compared to students from an underrepresented racial or ethnic group (Murtaugh, 2010).

Similar to the variable of gender, these results indicate the presence of other variables related to race and ethnicity which are influencing academic progress. For example, in a study of appeal statements from academically suspended university students, researchers found that when compared to their peers, racially underrepresented students were more likely to cite difficulties with the adjustment to college as a reason for their academic suspension (Saunders, 2008). Therefore, a strong possibility could be that issues related to race or ethnicity, such as racism, oppression, and discrimination, could result in challenges that negatively influence the potential of a student to achieve academic success.

Although there is some research to suggest a connection between race and ethnicity and overall academic progress, many studies have revealed race and ethnicity to be nonsignificant in predicting academic success or nonsuccess after reinstatement following an academic suspension. For example, two studies involving university students, who were reinstated following an academic suspension, reported race and ethnicity as not significant in predicting academic success or nonsuccess (Brady, 2008; Cobble & Hohengarten, 1998). Similar results were revealed in a study of students who were reinstated after an academic suspension and were enrolled in an intervention program designed to provide disadvantaged students with more equitable opportunities in

education (Berkovitz & O'Quin, 2006). This study reported that race was not significant in predicting eventual graduation (Berkovitz & O'Quin, 2006).

In summary, the demographic factors of race and ethnicity are intricate and the exact influence these variables have on academic progress, either in general or specifically after reinstatement following an academic suspension, is unclear. Although some studies have found race and ethnicity to not be significant in predicting academic success or nonsuccess, there is also evidence to suggest that challenges related to racism, oppression, and discrimination may influence overall academic progress.

Age. Age, as a variable, has also received attention in higher education literature as a potential predictive factor of academic success or nonsuccess. Similar to other demographic factors, such as of gender, race, and ethnicity, many attempts to determine the influence of age on academic progress have produced equivocal results.

Some studies, which have included age as a factor in exploring academic progress, have reported significant results. For example, in a study of technical college students, age was found to be a significant factor related to student graduation within three years (Murtaugh, 2010). Students age 45 and older were significantly more likely to graduate within three years when compared to their younger peers (Murtaugh, 2010). In fact, results revealed that 65% of the students involved in the study who were age 45 and older successfully graduated from their academic program within three years (Murtaugh, 2010), which is a completion rate that is much higher than the typical average.

Since age is a complex variable, there may be many reasons for this finding. For example, older students may have more responsibilities and situational challenges,

whereas younger students may be challenged by emotional or self-management issues. For example, in a study of first-term community college students, students ages 23 and older reported higher levels of perceived external barriers to academic success, such as family issues, and students under the age of 23 reported more perceived internal barriers to academic success, such as anxiety related to academic performance (Heller & Cassady, 2017). Additionally, it is also possible that older students have had more opportunities to practice self-management skills which promote academic success and may also be inclined to prioritize their academics due to sacrifices made to pursue their education (e.g., leaving a full-time job, spending less time with children, etc.).

However, these findings may not hold true for all student populations and higher education institutions. For example, in a study of community and technical college students, students who were placed on academic warning or an academic suspension had a significantly higher average age when compared to those in good standing (Jones, 2000). Similar studies which have explored academic success or nonsuccess after reinstatement following an academic suspension have also produced conflicting results regarding the influence of age. For example, in a study of students who were reinstated after an academic suspension and were enrolled in an intervention program designed to provide disadvantaged students with more equitable opportunities in education, age was the only significant demographic variable that predicted eventual graduation (Berkovitz & O'Quin, 2006). Younger students were more likely to persist to graduation (Berkovitz & O'Quin, 2006). In contrast to some of the reasons why older students may achieve academic success, as a result of this study, researchers theorized that younger students

may have fewer outside responsibilities and obligations, allowing younger students to spend more time focused on academics (Berkovitz & O'Quin, 2006). A study of appeal statements from academically suspended university students also may highlight a potential reason for why younger students were more likely to persist to graduation. This study revealed that older students, when compared to their younger peers, were more likely to cite difficulties with the teaching methods of their instructors or professors as a reason for their academic suspension (Saunders, 2008). This finding may suggest that older students encounter more challenges adjusting to the teaching methods used in their classes, or that teaching methods tend to cater toward the experiences and skills of younger students (e.g., the use of new technologies, online learning, etc.).

Conversely, several studies have reported age as not significant as a predictive factor of academic success or nonsuccess after reinstatement following an academic suspension. For example, a study of private university students revealed no significant relationship between student age and whether or not students return to good academic standing within one year of reinstatement following an academic suspension (Meador, 2012). Likewise, a study of 196 university students (Cobble & Hohengarten, 1998) and a similar study of 348 university students, both found that age was not a significant predictive factor of academic success or nonsuccess after reinstatement following an academic suspension (Brady, 2008).

Overall, research which has included the consideration of age as a predictive factor for academic success or nonsuccess has produced conflicting results. There is opposing evidence regarding any influence of age on academic progress, either in general

or specifically after reinstatement following an academic suspension. These conflicting results may highlight the lack of generalizability when using age as a factor in attempts to predict the academic progress of specific student populations, such as two-year college students who are, on average, older than university students (McFarland et al., 2019). Furthermore, similar to other demographic factors, age may influence numerous variables which impact academic progress, such as the extent of personal responsibilities and obligations, self-management skills, and preferred approaches to learning. Overall, collective results from studies which have explored age as a possible predictive factor are inconclusive.

Parental education. The education level of the parent or parents of a postsecondary student has received much attention within the field of higher education research. Parental education has been explored as a factor related to overall academic progress, as well as a possible predictive factor related to academic success or nonsuccess following an academic suspension.

First-generation is used as a term to describe a subpopulation of higher education students based on the educational history of their parents; however, this term has multiple definitions. The Department of Education provides three definitions, including the legal definition for federal programming and two definitions more commonly used within research (Sharpe, 2017). The legal definition for federal programming recognizes students who have no parent in the household who has earned a bachelor's degree as first-generation students (Sharpe, 2017). In research, the term first-generation may be used to describe a student whose parents have never enrolled in a postsecondary

institution, or a student whose parents have never earned a postsecondary degree (Sharpe, 2017). In addition, higher education institutions or organizations may have their own definition for the term first-generation (Sharpe, 2017). Due to the wide array of possible definitions, in this review of the research, first-generation will be used to broadly describe a student population whose parental education or experience with higher education is limited.

Regardless of the definition used, there is evidence that parental education significantly predicts the likelihood of an individual to enroll in college; the higher the education level of one's parents, the more likely that person will eventually pursue higher education (Choy, 2001). The relationship between parental education and the likelihood of enrolling in a higher education institution is significant, even when controlling for family income, academic preparation, and peer influence (Choy, 2001). Additionally, for those who choose to pursue higher education, parental education may influence the process of selecting a specific institution. In a study of university students from 18 institutions, first-generation students were significantly less likely to attend academically selective institutions when compared to their non-first-generation peers, even when controlling for parental income, levels of academic motivation, and high school grades (Pascarella, Pierson, Wolniak, & Terenzini, 2004).

In addition to influencing the likelihood of enrolling at a higher education institution and the type of higher education institution selected, parental education may also influence the overall higher education experience. First-generation students tend to have limited support in the process of navigating the complex systems of higher

education institutions, including academic, financial, and cultural barriers (Sharpe, 2017). Additionally, results from a study of university students from 18 institutions revealed that first-generation students worked significantly more hours per week, completed significantly less credits, and were significantly less likely to live on campus when compared to non-first-generation students (Pascarella et al., 2004). Although first-generation students have a unique higher education experience and are more likely to encounter a variety of challenges which may impact their ability to achieve academic success in comparison to their non-first-generation peers (Stebleton & Soria, 2012), there is limited research available to promote a more comprehensive understanding of this student population (Pascarella et al., 2004).

Of the research that does exist, there is some evidence to indicate that first-generation status is related to academic success or nonsuccess. In a large study of 110 universities, results revealed that first-generation students were more likely to leave a higher education institution due to poor academic performance when compared to their non-first-generation peers (Kopp & Shaw, 2016). Similarly, a study of university students from 18 institutions revealed that first-generation students had a significantly lower CGPA when compared to their peers (Pascarella et al., 2004). Although there could be a number of reasons for these findings, a study of students from six large public universities found that first-generation students were significantly more likely than their peers to cite family and employment responsibilities, inadequate study skills, and emotional concerns (including feelings of depression, stress, or general upset) as obstacles to academic success (Stebleton & Soria, 2012).

Family cultural capital has also been cited as a potential reason for the discrepancy between the academic performance of first-generation students and non-first-generation students (Pascarella et al., 2004). Family cultural capital is defined as the knowledge and awareness of which type of higher education institutions to attend, and the types of experiences to have while attending higher education institutions (Pascarella et al., 2004). Researchers have suggested that first-generation students with limited family cultural capital may benefit from gaining social cultural capital. Enhanced social cultural capital, which may be acquired by engaging in extracurricular activities and academic or classroom activities, may result in both academic and cognitive benefits. Therefore, it has been suggested that higher education institutions should include the ability to access extracurricular activities and the full range of college experiences as an element of promoting equitable opportunities and access to education (Pascarella et al., 2004).

Although there is evidence to indicate that the parental education of a student influences the potential for academic success or nonsuccess, these findings cannot be viewed as a consistent rule. For example, in a study of technical college students, researchers obtained mixed results when studying the graduation rates of first-generation students (Murtaugh, 2010). Researchers found that results from only one of the three cohort groups studied supported the idea that first-generation students are less likely to graduate; however, targeted retention efforts for first-generation students at this institution may have resulted in higher graduation rates for this population (Murtaugh, 2010). It is possible that retention efforts, including student support services, may have a

positive impact on the academic progress of first-generation students. Often, first-generation students are aware that they face many obstacles that could impact their ability to be academically successful, and therefore, first-generation students may be more willing to access support services on campus (Stebleton & Soria, 2012).

Although there are a number of studies which have explored the influence of parental education on overall postsecondary academic progress, limited research to date has specifically related to the factor of parental education and academic success or nonsuccess after reinstatement following an academic suspension. More research is necessary to determine if the parental education level of an academically suspended student is somehow related to their future academic progress.

Overall, research indicates that parental education has the potential to influence the postsecondary experience of students and that first-generation students experience unique challenges related to higher education when compared to their non-first-generation peers. From having less support in the process of navigating the admissions and enrollment process, to having more responsibilities outside of school, first-generation students may face the need to overcome a variety of obstacles in their efforts to successfully complete an academic program. Although first-generation students may be at an increased risk for experiencing academic difficulty, there is limited research available focused on academic progress after reinstatement following an academic suspension.

Employment, income, and financial aid. Factors related to the financial circumstances of students may also influence overall academic progress within higher education. These include factors related to employment, income, and financial aid.

Many students are employed in order to address costs of living and expenses related to higher education. Although many students would be unable to fully cover the cost of higher education without access to federal financial aid (including grants, loans, and scholarships) even those who receive financial aid may have to work in order to cover additional expenses or to reduce the accumulation of student loan debt.

Employment has been studied as a possible predictive factor related to academic success or nonsuccess after an academic suspension. Although students often cite employment as a reason for poor grades, as highlighted in a study of community college students who indicated that work responsibilities were the primary reason for poor academic progress (Olson, 1990), research suggests that the number of hours a student works while attending a higher education institution may not be significantly related to the potential for academic success or nonsuccess after reinstatement following an academic suspension. For example, a study of community college students who were academically successful after an academic warning or an academic suspension revealed that students worked an average of 32 hours per week, and the number of hours that students worked was not significantly related to academic success (Beck, 1996). Similarly, a study of community college students who were reinstated following an academic suspension, revealed no significant relationship between the number of hours worked each week and academic success or nonsuccess (Liberto, 2002). However,

student interviews from this same study indicated that students reported experiencing difficulties balancing work and education (Liberto, 2002). The students in this study worked an average of 19 hours per week (Liberto, 2002).

Although not directly measured by employment hours, there may be a relationship between experiencing financial difficulties and academic progress. For example, in a study of community college students who were reinstated following an academic suspension, students who reported being concerned about finances were significantly more likely to experience academic success, as measured by achieving a minimum 2.0 GPA for the term following reinstatement, than those who reported no financial concerns (Santa Rita, 1998). This finding is interesting as it suggests the possibility that perhaps the presence of financial concerns may actually increase the potential for academic success following an academic suspension; however, any underlying reason for this is unknown.

Overall, there is some evidence to suggest that the number of hours a student is employed while enrolled in college is not significantly related to the likelihood of achieving academic success or nonsuccess after reinstatement following an academic suspension. Even so, this factor is often cited as a reason for academic difficulty and students indicate experiencing challenges related to managing the extent of their employment and educational responsibilities.

Related to the factor of employment is that of income, which has also been studied as a potential influencer of academic success or nonsuccess. Income, as a factor,

may be considered in terms of the parental family income, the individual income of the student, or the combined income of the student and spouse or legal partner, if applicable.

One way that higher education institutions and researchers identify the income of specific student populations is by using expected the family contribution from the Free Application for Federal Student Aid (FAFSA). According to federal financial aid regulations, students who are under the age of 24 are considered dependent unless they can demonstrate meeting specific criteria, such as being married, having dependents, or being a veteran or active duty member of the U.S. Armed Forces. As a dependent student, a financial aid award is determined based on the income of both the student and the income of their parents or legal guardians. Students age 24 and older, or students who meet the specific criteria previously referenced, are considered independent and therefore, their financial aid award is determined based on their own income and, if applicable, the income of their spouse or legal partner.

Federal financial aid includes grants and loans. The Federal Pell Grant is made available to students who come from the most financially disadvantaged families in the nation, most of whom earn less than $40,000 annually (Schudde & Scott-Clayton, 2014). The Federal Pell Grant program is designed to offset the difficulties faced by low income students in order to encourage enrollment and the successful completion of academic programs (Schudde & Scott-Clayton, 2014). Although the enrollment rates of students from low income and higher income families are slowly becoming more and more similar, the discrepancy between completion rates, or the rate at which students are graduating, is considerable (Schudde & Scott-Clayton, 2014).

There is research to suggest that there is a relationship between family income or Pell Grant eligibility and academic progress. In a large study of 110 university students, researchers found that students from lower income families were more likely to leave an institution due to poor academic progress when compared to their peers (Kopp & Shaw, 2016). More specifically, almost half (45%) of all Pell Grant eligible students entering higher education institutions do not enroll for second year (Schudde & Scott-Clayton, 2014) and a high percentage of these students are likely leave due to poor academic performance. Of all Pell Grant recipients, approximately one in five (21%) are at risk for becoming ineligible for Pell Grant funding due to a failure to meet SAP requirements (Schudde & Scott-Clayton, 2014). In addition, average rates of academic nonsuccess for Pell Grant eligible students are even higher at community colleges. Approximately 40% of Pell Grant eligible students attending community colleges fail to meet SAP requirements due to a low CGPA or CCCR (Schudde & Scott-Clayton, 2014). Therefore, the low-income status of a student, as indicated by their Pell Grant eligibility, may signify a higher risk for experiencing academic failure.

However, there are also studies that have reported less conclusive findings. For example, in a study of technical college students, Pell Grant eligibility was not a significant predictor of student graduation or non-graduation within three years (Murtaugh, 2010). The graduation rate for Pell Grant eligible students in this study was slightly lower than that for students who were not eligible for the Pell Grant; however, this difference was not statistically significant (Murtaugh, 2010).

Additionally, it is not clear whether there is any relationship between family income and academic success or nonsuccess specifically after a student is reinstated following an academic suspension. In one example, the results of a study of 113 students from a selective private university indicated that there is no significant relationship between expected family contribution, as determined by the FAFSA, and the academic success or nonsuccess of a student after reinstatement following an academic suspension (Kelly, 2010).

Overall, available research related to the factor of income, commonly measured by expected family contribution as determined by the FAFSA or Pell Grant eligibility, highlights the complexity of this variable. It is possible that income plays a role in the academic progress of students; however, the multifaceted nature of this factor may lead to inconclusive results in research. Similar to other factors discussed, there may be many other variables at play when considering the influence of income. For example, a student from a low-income family may also be a first-generation student and therefore, may have received limited support or guidance in the process of navigating the higher education experience, as well as having limited financial support. Although there is some evidence to suggest that low income students are at a greater risk for experiencing academic difficulties, it may be challenging to isolate income as a specific predictive factor of academic success or nonsuccess.

In summary, there have been a number of demographic and socioeconomic factors studied in an attempt to identify predictors of higher education academic success or nonsuccess, including gender, race and ethnicity, age, parental education, employment,

income, and financial aid eligibility. Overall, results from research in this area tend to be complex, and the available evidence is often inconclusive or contradictory. Additionally, any relationship or lack of relationship between specific factors and academic progress may not be generalizable across student populations or type of higher education institution. Although some findings suggest significant results that may indicate a relationship between a specific factor and the likelihood of a student to achieve academic success or nonsuccess, caution must be exercised when attempting to draw clear conclusions due to the multifaceted nature of most demographic and socioeconomic factors.

Secondary education and academic preparation factors. In addition to demographic and socioeconomic factors, there are a number of factors related to secondary education and academic preparedness for higher education that have been studied as possible predictors of postsecondary academic success or nonsuccess. These factors include indicators of secondary academic achievement, such as high school GPA and class rank, scores on assessments or placement tests, and enrollment in developmental courses designed to prepare students for college-level coursework in specific discipline areas.

Secondary academic achievement. The academic achievement of a student throughout their secondary, or high school, education is commonly considered as part of the admission process when applying to higher education institutions. Secondary academic achievement, often measured by high school GPA, high school class rank, or

type of secondary credential earned, has also been studied as a potential predictive factor of academic success or nonsuccess in higher education.

Although factors related to secondary academic achievement have been widely studied, results of this research can be somewhat contradictory and may vary based on the type of higher education institution being studied. For example, in a review of the research from 1950 to 1975, secondary academic factors, such as high school GPA, high school class rank, and standardized test scores, were the most successful predictors of higher education completion or attrition (Pantages & Creedon, 1978). Alternatively, in a study of technical college students, researchers found that students who voluntarily dropped out of college within two years of their initial enrollment had similar high school ranks and high school grades as students who persisted at the college (Colwell, 1988).

When focusing specifically on forecasting academic success or nonsuccess following an academic suspension, there are a number of studies which have explored the use of high school GPA as a predictive factor. For example, in a study of 113 students from a selective private university, no significant relationship was found between high school GPA and the probability of a student to return, or to make meaningful progress toward returning, to good academic standing in the term of reinstatement following an academic suspension (Kelly, 2010). Similarly, high school GPA was not found to be a significant predictor of academic success or nonsuccess after reinstatement following an academic suspension in a study of 389 university students (Denovchek, 1992). A similar study, which followed the academic progress of 348 university students who were reinstated following an academic suspension, revealed comparable results (Brady, 2008).

The results from this study indicated that high school GPA was not a significant predictor of academic success or nonsuccess following reinstatement (Brady, 2008). Overall, these studies suggested that the factor of high school GPA is not predictive of academic success or nonsuccess of a reinstated postsecondary student following an academic suspension.

In addition to high school GPA, high school rank has also been studied as a potential factor related to academic progress in higher education. High school rank is a number used to indicate how the grades of a specific student compare to the grades of other students within their high school. Although there is some variation in how high school rank may be calculated, the high school rank of an individual typically provides a general idea of how their high school grades compared to those of their peers.

There is some evidence to suggest that high school rank may be related to postsecondary academic progress. One study, which found high school rank to be predictive of postsecondary academic progress, focused on technical college students enrolled in an associate degree engineering technology program (Colwell, 1988). This study revealed high school rank to be the single best predictor of first quarter college GPA. Of all the students who earned a minimum 2.0 GPA for the first quarter of enrollment, 80% had a high school rank of .50 or above, indicating that these students were in the top half of their high school class (Colwell, 1988).

Alternatively, other studies have not found high school rank to have predictive value, specifically in attempts to use high school rank is a factor to predict postsecondary academic success or nonsuccess following reinstatement after an academic suspension.

For example, in a study of 196 university students who were academically suspended, high school rank was not significantly related to academic success or nonsuccess following reinstatement (Cobble & Hohengarten, 1998). Similar results were highlighted in a more recent study. In this study of 348 university students, high school rank was also not a significant predictive factor of academic success or nonsuccess after reinstatement following an academic suspension (Brady, 2008).

Overall, the literature on high school rank and postsecondary academic progress is inconclusive. There is some evidence to suggest that high school class rank may be related to overall academic progress; however, research specifically focused on high school class rank and academic progress after reinstatement following an academic suspension tends to indicate that there is no significant relationship between these variables.

Another factor related to secondary academic achievement is focused on the type of educational credential a student has earned. More specifically, this factor focuses on comparing the potential for postsecondary academic success or nonsuccess for individuals who have earned a high school diploma versus individuals who have not graduated from high school but instead earned a General Education Development (GED) credential.

Although the research related to this specific factor is limited, there is some evidence to suggest that there is no significant relationship between postsecondary academic progress and having earned a high school diploma or GED. For example, in a study of technical college students, having earned a high school diploma versus a GED

was not a significant predictor of graduation within three years (Murtaugh, 2010). Additionally, in a study of students who were academically suspended from a private university, no significant relationship was found between whether a student had earned a high school diploma or GED, and whether or not the student returned to good academic standing within one year of reinstatement (Meador, 2012).

In summary, factors related to secondary academic achievement, such as high school GPA, high school class rank, and the type of secondary credential earned, have been explored in an attempt to identify predictive factors of academic success or nonsuccess in higher education. However, evidence tends to suggest that any relationship between these factors and postsecondary academic progress is quite inconsistent and often nonsignificant.

Assessments and placement tests. In addition to high school GPA, high school class rank, and the type of secondary credential earned, scores on assessments or placement tests have been explored as potential factors related to academic progress in higher education. Often, these assessments or placement tests, including the ACT and the Scholastic Assessment Test (SAT), are used as a standardized and norm-referenced indication of the academic abilities of a student related to foundational educational topics, such as English, math, reading, science, and writing. Many higher education institutions require assessment or test scores as part of the admissions process and scores on these tests may also be used for course placement. In many cases, if assessment scores do not indicate a preparedness for college-level work, a student may be placed in developmental, or remedial, coursework designed to enhance foundational skills and knowledge.

A number of studies have explored the potential relationship between the assessment or placement test scores of a student and their potential for academic success or nonsuccess. For example, a study of technical college students examined the relationship between Accuplacer reading test scores and student graduation rates (Murtaugh, 2010). The Accuplacer is a placement test commonly utilized at community colleges and technical colleges. Results of this study included that the Accuplacer reading test scores of students who graduated within three years of initial enrollment were significantly higher than those who did not graduate within three years (Murtaugh, 2010). Although this finding indicates a potential connection between the reading comprehension skills of a student and their likelihood to graduate, the researchers implementing this study warned that this finding was not consistent across all student cohorts and therefore, the use of test scores as a singular factor may not be successful in predicting overall academic success or nonsuccess (Murtaugh, 2010). Another study focused on technical college students explored the use of test scores to predict first quarter GPA (Colwell, 1988). Results of this study indicated that SAT scores of students enrolled in an associate degree engineering technology program were not a consistent significant predictor of first quarter GPA (Colwell, 1988). Collectively, these studies do not indicate a consistent relationship between assessment or placement scores and measures of academic progress.

Likewise, studies which have considered assessment or placement scores as a factor related to academic success or nonsuccess after reinstatement following an academic suspension tend to report nonsignificant results. For example, a study of 113

students from a selective private university revealed no significant relationship between SAT scores (including total SAT scores and individual scores for both math and reading) and the likelihood of returning, or making meaningful progress toward returning, to good academic standing in the term following reinstatement after an academic suspension (Kelly, 2010). Similarly, in another study of private university students, no significant relationship was found between math scores on assessment or placement tests at the point of admission to the university, and whether or not a student returned to good academic standing within one year of reinstatement following an academic suspension (Meador, 2012).

Similar results have been reported by studies focused on ACT scores. Four studies, including a study of 160 university students (Hall & Gahn, 1994), a study of 389 university students (Denovchek, 1992), a study of 196 university students (Cobble & Hohengarten, 1998), and a study of 348 university students (Brady, 2008), revealed no significant relationship between ACT scores and the likelihood of a student achieving academic success or nonsuccess after reinstatement following an academic suspension.

In summary, assessment or placement test scores have been considered in a number of studies as potential predictors of academic success or nonsuccess in higher education. Although some studies indicate mixed results related to this factor and indicators of academic progress, such as graduation rates, studies focused on assessment or placement scores and academic success or nonsuccess specifically after reinstatement following an academic suspension tend to produce nonsignificant results.

Developmental coursework. Another factor, often directly related to assessment or placement scores, is enrollment in developmental coursework. Developmental courses, also known as remedial courses, are commonly offered at higher education institutions in order to prepare students with low assessment or placement scores (or other secondary academic deficiencies) for college-level work. These courses, which are often mandatory for those without qualifying placement test scores, may be offered in a variety of subjects, including English, reading, and math.

A number of studies have explored the potential connection between enrollment in developmental coursework and the experience of a student after an academic suspension occurs. Students who were enrolled in developmental coursework prior to an academic suspension may be less likely to submit an academic suspension appeal than those who were not enrolled in developmental coursework (Meador, 2012).

Additionally, for those who do successfully appeal an academic suspension, the likelihood of eventual graduation may be low. For example, in a study of university students who were enrolled in developmental coursework prior to an academic suspension, caused by either low CPGA or not passing developmental courses after two attempts, only two of 272 students graduated within six years (Dooley, 2000). Stated differently, over 99% of all students in this study who were enrolled in developmental coursework prior to an academic suspension did not persist to graduation. However, low graduation rates for students who are reinstated following an academic suspension may not be isolated to those who were enrolled in developmental coursework. In this same study, no significant difference was found between rates of graduation (within six years

of initial enrollment) for students who were enrolled in developmental courses when compared to those who were not enrolled in developmental courses (Dooley, 2000).

Similarly, studies which have specifically explored the relationship between enrollment in developmental courses and academic success or nonsuccess after reinstatement following an academic suspension tend to produce nonsignificant results. For example, in a study of 113 students from a selective private university, no significant relationship was found between enrollment in a developmental math course or enrollment in a developmental reading course and the likelihood of a student returning, or making meaningful progress toward returning, to good academic standing in the term after reinstatement following an academic suspension (Kelly, 2010). Likewise, a study of 348 university students revealed that the level of English or math courses completed (either developmental or college-level) was not a significant predictive factor of academic success or nonsuccess after reinstatement following an academic suspension (Brady, 2008).

In summary, enrollment in developmental coursework, often due to low assessment or placement scores, has been explored in the literature to identify predictive factors of academic success or nonsuccess in higher education. There is some evidence to suggest that students who have a history of enrollment in developmental coursework prior to an academic suspension are less likely to appeal the suspension; however, there is limited evidence to suggest any significant relationship between enrollment in developmental coursework and academic success or nonsuccess for students who are reinstated following an academic suspension.

Overall, factors related to the secondary education of a student and their academic preparedness for higher education, including high school GPA, high school class rank, and type of secondary credential earned, scores on assessments or placement tests, and enrollment in developmental coursework have been explored in attempts to identify predictors of higher education academic success or nonsuccess. Although the assumption may be made that the secondary education of a student would influence postsecondary academic progress, studies focused on comparing each of these factors with the likelihood of experiencing academic success or nonsuccess after reinstatement following an academic suspension tend to report nonsignificant or inconsistent results.

Postsecondary academic factors. In addition to factors related to secondary education and academic preparedness for higher education, there are a number of factors that have been explored in the literature directly related to the postsecondary academic experience. These include factors related to enrollment, academic programs or majors, academic credit loads, length of enrollment prior to an academic suspension and credits attempted, GPA and quality point status (QPS), and academic behaviors and planning.

Enrollment. Factors related to the enrollment of students at higher education institutions have been explored in an attempt to identify predictors of postsecondary academic success or nonsuccess. One of these factors includes the timing of submitted applications for admission in higher education institutions. Although many universities and some selective colleges may have application deadlines that require students to apply well before the start of the term, many community colleges and technical colleges have rolling admission practices which allow prospective students to apply, be accepted, and

register for classes virtually right up until the start of any given term. This lack of admission deadlines increases access for last-minute prospective students and increases final enrollment numbers for colleges, but it may also encourage the enrollment of students who are unprepared to start classes or have undeveloped academic plans.

There is some evidence to suggest that the timing of a student application is related to academic progress. For example, in a study of technical college students, students who applied to the college early on were significantly more likely to graduate within three years than students who applied closer to the term start date (Murtaugh, 2010). The students in this study who graduated within three years applied to the college, on average, 32 days before those who did not graduate within three years (Murtaugh, 2010).

In addition to the timing of submitted applications, the enrollment type of a student has also been explored as a factor potentially related to academic progress. Enrollment type includes whether a student is new to higher education or is a transfer student who was previously enrolled at another higher education institution. Although there is limited research available on this subject, the results of one study suggested that enrollment type is not related to academic progress specifically after reinstatement following an academic suspension. In this study of 113 students from a selective private university, no significant relationship was found between whether a student was a transfer student or a new student and the likelihood of a student to return, or make meaningful progress toward returning, to good academic standing after reinstatement following an academic suspension (Kelly, 2010).

Overall, factors related to enrollment, including the timing of a postsecondary admission application and the enrollment status of incoming students, have been explored to assess any potential relationship with academic progress. Research in these areas is limited and more evidence would be needed to develop a conclusive understanding of these factors.

Academic programs and majors. Factors related to academic programs and majors have also been explored in the literature. In addition to choosing a higher education institution, students are provided with numerous options in the process of focusing their academic plans, including the selection of an area of study or major, and the level of education or academic program to pursue.

Not surprising, the level of education required to complete an academic program is likely related to the potential of a student to graduate within a given timeframe, due to the number of credits that must be completed. For example, in a study of technical college students, the pursued academic program and related level of education (i.e., certificate, diploma, associate degree) was a significant predictor of student graduation within three years, with higher graduation rates reported for those enrolled in programs with fewer credits (Murtaugh, 2010).

Although the type of academic program pursued may be related to the potential to graduate within a given set of time, research related specifically to the declared major of a student is less conclusive. In another study of technical college students, the declared major of students had a small, but significant relationship with first quarter college GPA (Colwell, 1988). Although there may be a number of reasons why the declared major of a

student may influence academic progress, the researchers of the study theorized that the relationship may be due to initial differences between each group of students who choose a specific major, as well as differences in the expectations of faculty across majors (Colwell, 1988). Therefore, there is some evidence to suggest that the declared major of a student may be related to academic progress; however, there are likely many other variables which contribute to the existence of this correlation.

More specifically, there is also research focused on declared majors and academic success or nonsuccess after reinstatement following an academic suspension. In a study of 348 university students who were reinstated following an academic suspension, declared major was not a significant predictive factor of academic success or nonsuccess (Brady, 2008). Furthermore, there is evidence to suggest that having a declared major or being undecided does not influence academic progress after an academic suspension. For instance, in a study of 113 students from a selective private university, no significant relationship was found between whether a student had a declared major or was undecided and the ability to return, or make meaningful progress toward returning, to good academic standing after reinstatement following an academic suspension (Kelly, 2010).

Interestingly, while declared major and undecided status may not influence academic progress following an academic suspension, there is some evidence to suggest that the decision to change a declared major may in fact influence academic progress. In a study of 153 university students who were academically suspended, changing one's major was a significant predictor of academic success after reinstatement, a finding that the authors contributed to the tendency of students to select a less rigorous major after the

occurrence of an academic suspension (Himmelreich, 1967). This result highlights the possibility that students who experience academic success following an academic suspension may invest time into reassessing their academic and career goals before reenrolling.

In summary, the selected academic program and major of a student may have some influence on academic progress; however, this influence is likely related to a variety of variables such as initial differences between student groups who select specific types of programs or majors, academic credit requirements, unique demands of academic programs and majors, and faculty expectations. When specifically exploring the potential for academic success or nonsuccess following an academic suspension, studies tend to suggest that the declared major of a student is unrelated to academic progress, except in cases in which a student chooses to change their major and revise their academic goals.

Academic credit loads. Another factor related to the postsecondary experience of a student is their academic credit load. Students may be considered part-time or full-time based on the number of credits in which they enroll. According to federal financial aid policy, to be considered full-time, an undergraduate student must enroll in 12 or more term credits and to be considered part-time, an undergraduate student must enroll in six to 11 term credits. Undergraduate students who enroll in five or less term credits are considered to be less-than-part-time.

The academic credit load of a student may be decided upon for a number of reasons. Some higher education institutions, academic programs, and majors require a specific number of credits to be attempted each term. Financial aid eligibility may also

shift by credit load, and therefore, a student may determine the number of credits in which they choose to enroll based on their expected financial aid award. Other students may choose to enroll in part-time credits or less-than-part-time credits due to responsibilities outside of college, such as a full-time job or childcare. Some student may also choose their credit load based on expectations around their ability to manage academic responsibilities.

There is some evidence to suggest that academic credit loads are significantly related to graduation within a given set of time. In a study of technical college students, first term academic credit loads were a significant predictor of graduation within three years of initial enrollment (Murtaugh, 2010). Students in this study who were enrolled full-time during their first term were significantly more likely to graduate within three years (Murtaugh, 2010). Although this finding may be expected since enrolling in more credits each term would reduce the number of terms necessary to complete an academic program, it may also indicate that students who have fewer responsibilities outside of school (e.g., employed fewer hours) or have more support (e.g., full-time childcare) may be more likely to graduate than their peers (Murtaugh, 2010). It is also possible that students who are enrolled full-time spend more time on campus and therefore have more opportunities to build connections on campus and engage in activities.

In contrast to the previous study, research specifically related to academic credit loads and academic success or nonsuccess after reinstatement following an academic suspension tends to produce nonsignificant or inconclusive results. For instance, in a study of 113 students from a selective private university, no significant relationship was

found between the number of credits a student attempted during the term after being reinstated following an academic suspension and the ability to return, or make meaningful progress toward returning, to good academic standing during that term (Kelly, 2010).

Similarly, another study at a private university indicated no significant relationship between the credit load of a student in the first term after reinstatement following an academic suspension and the likelihood of returning to good academic standing within one year (Meador, 2012). However, the same study revealed a significant relationship between the credit load of a student in the second term after reinstatement following an academic suspension and the likelihood to return to good academic standing within one year (Meador, 2012). Students who enrolled in more credits during the second term after reinstatement were more likely to return to good academic standing (Meador, 2012). One possible explanation for this finding may be that students who experienced academic success during the first term following reinstatement chose to take additional credits during the second term, whereas students who did not perform as well during the first term following reinstatement chose not to increase their credit load during the second term. Another explanation could be that students who enroll in more credits and are academically successful, more quickly make up cumulative academic deficiencies than those who enroll in less credits.

Overall, research exploring the potential relationship between academic credit loads and academic progress tends to be inconclusive. Although there is some indication that students who are enrolled full-time may be more likely to graduate within a specified

timeframe, academic credit loads following an academic suspension may not be related to the likelihood of a student to experience academic success or nonsuccess. As previously mentioned, the academic credit load of a student is likely influenced by a number of other factors that have potential to influence academic progress.

Length of enrollment and credits attempted. The length of time a student has been enrolled at a higher education institution prior to an academic suspension and the number of credits attempted prior to an academic suspension have also been explored as potential factors related to academic progress and academic success or nonsuccess after reinstatement following an academic suspension. Studies focused on exploring these factors have produced equivocal results.

For example, a study at a private university reported a significant relationship between the percentage of the academic program that was completed prior to an academic suspension and the likelihood to return to good academic standing within one year of reinstatement (Meador, 2012). The more progress students made toward completing their academic program prior to the academic suspension, the more likely they were to achieve academic success after reinstatement (Meador, 2012). For every 10 percentage points of progress made towards the completion of an academic program prior to being reinstated, students were 10 times more likely to return to good academic standing within a year of being reinstated (Meador, 2012). This finding indicated that students who are closer to completing their academic program prior to an academic suspension are more likely to experience academic success after reinstatement.

Other studies have revealed opposing results. In a study focused on university students enrolled in a program to provide disadvantaged individuals with more equitable educational opportunities, results revealed that the number of terms a student was enrolled before leaving (either due to an academic dismissal or by choice) was not a significant predictor of future graduation (Berkovitz & O'Quin, 2006). Although the focus of this study was not isolated only to academically suspended students, the findings align with the results from other studies focused solely on academically dismissed students. For example, in a study of 113 students from a selective private university, no significant relationship was found between the number of terms a student was enrolled prior to the academic suspension and the likelihood of returning, or making meaningful progress toward returning, to good academic standing in the term after reinstatement following an academic suspension (Kelly, 2010). Additionally, the same study found no significant relationship between the number of credits a student attempted or the number of credits a student had earned prior to their academic suspension and their likelihood to return, or make meaningful progress toward returning, to good academic standing in the term after reinstatement following an academic suspension (Kelly, 2010).

Similar results were reported in a study of 196 university students. This study found that the number of terms in which a student was enrolled prior to an academic suspension was not significantly correlated with academic success or nonsuccess after reinstatement (Cobble & Hohengarten, 1998). The same study revealed that the grade level of students (i.e., freshman, sophomore, junior, senior) was also not significantly correlated with academic success or nonsuccess after reinstatement following an

academic suspension (Cobble & Hohengarten, 1998). Additionally, no significant correlation was found when comparing the number of credits earned at the point of an academic suspension, and the achievement of academic success or nonsuccess after reinstatement in a study of 389 university students (Denovchek, 1992). Lastly, a study of 348 university students revealed the number of credits attempted and the number of credits earned prior to an academic suspension were not significant predictive factors of academic success or nonsuccess after reinstatement (Brady, 2008).

Overall, the majority of research related to the length of time in which a student was enrolled or the number of credits a student earned or attempted prior to an academic suspension points to there being no significant relationship between these factors and the likelihood of achieving academic success or nonsuccess following an academic suspension. Although one study indicated that progress towards degree completion prior to an academic suspension was positively correlated with future academic success (Meador, 2012), many studies revealed opposing findings.

Grade point average (GPA) and quality point status (QPS). In addition to other postsecondary factors, GPA and QPS have been explored as potential predictive factors for academic success or nonsuccess in higher education. There is evidence to suggest that GPA and QPS have value in predicting academic progress of postsecondary students and have been considered by some to be the only variables that can consistently predict academic success or nonsuccess after reinstatement following an academic suspension (Saunders, 2008).

GPA is a number which indicates the average earned grades of a student. GPA is calculated using the number of credits a student attempts and the related letter grade earned for all credits. Commonly, a GPA of 4.0 indicates an average of A grades, a GPA of 3.0 indicates an average of B grades, a GPA of 2.0 indicates an average of C grades, and a GPA of 1.0 indicates an average of D grades. A GPA of zero indicates a student who has not yet completed any credits or has an average of F grades. Most often, GPA is calculated by term as well as calculated cumulatively for all credits a student has attempted at a single institution. This cumulative calculation is referred to as a cumulative grade point average (CGPA).

QPS is another calculation based on credits and grades used to indicate academic progress; however, in contrast to GPA, QPS is not as commonly used in assessing the overall progress of a student (Cogan, 2011). Whereas GPA is often automatically calculated at the end of each term and is listed directly on student transcripts, QPS typically is not. QPS provides a more complete picture of the overall academic standing of a student in that it includes a calculation of CGPA and the number of credits a student has attempted, and then uses these indicators to determine academic status in comparison to minimum academic progress standards. Therefore, QPS is considered to be a more comprehensive method for determining the extent of an academic deficiency (Cogan, 2011).

The calculation used to determine QPS is made by assigning quality points to letter grades earned for each course and multiplying these points by the number of credits for each course, then dividing by the sum of the credit hours attempted (Cogan, 2011).

Like GPA, quality points are assigned in such a way that the letter grade A equals four points, B equals three points, C equals two points, D equals one point, and F equals zero points (Cogan, 2011).

For example, if in the first term of enrollment at a higher education institution a student enrolls in four classes and each class is three credits, this would result in a total of 12 credits attempted. In order to earn a 2.0 GPA, this student must earn twice the number of quality points than credits attempted. In this example, the student must earn a total of 24 quality points, or more, in order to meet the minimum 2.0 CGPA standard at their institution.

To continue this example, assume that the student earned a B grade in one class, a D grade in one class, and F grades in the other two classes. The course in which the student earned a B grade would be assigned three points, the course in which the student earned a D grade would be assigned one point, and zero points would be assigned for the courses in which the student earned F grades. Each of these points are then multiplied by the number of credit hours per course. Since each course in this example was three credits, this would mean that the points earned by the B grade would be multiplied by three to equal nine. The points earned by the D grade would be multiplied by three to equal three, and the points earned by the F grades would be multiplied by three to equal zero. The sum of these numbers (nine, three, and zero) equal 12, which is the number of quality points the student has earned.

To calculate GPA, the number of quality points earned (12) would be divided by the sum of the credit hours attempted (12), resulting in a GPA of 1.0. As previously

mentioned, in order to earn a CGPA of 2.0, a student must earn twice as many quality points than credits attempted. In this example, the student earned 12 quality points and attempted 12 credits; however, 24 quality points were required to earn a 2.0 CGPA, therefore, the student has a QPS of -12, indicating that if the student aims to earn a CGPA of 2.0, they must earn an excess of quality points in the following term in order to make up for their insufficient grades this term.

QPS may be a negative, neutral, or positive number which indicates distance from meeting a minimum academic requirement. Using this approach, the minimum academic requirement is equal to a neutral QPS of zero. When QPS is a negative number, it indicates that a student has not met minimum standards and when QPS is a positive number, it indicates that a student has exceeded minimum standards. The greater the distance QPS ranges from zero, in either a negative or positive direction, the further a student is from the minimum academic requirements. Although this calculation could be used to assess a reference point other than a CGPA of 2.0, most higher education institutions require a minimum CGPA of 2.0 as a component of required SAP standards (Schudde & Scott-Clayton, 2014).

Overall, the value of QPS is that it provides an indication of the degree of academic success or nonsuccess experienced over the course of the entire enrollment of a student at an institution. This can be especially valuable when a student has a long history of insufficient grades as it can help in understanding the magnitude of their academic deficiency. For example, a student with poor grades in their first term may be able to successfully restore their cumulative academic standing by earning good grades in the

following term; however, a student with a history of poor grades for a number of consecutive terms will not be able to bounce back as quickly. Additionally, QPS is useful for recognizing the protective influence that a history of successfully completed courses has on the cumulative academic standing of a student. For example, a student with a very high QPS may experience very little impact to their CGPA if they fail one course; however, a student with a low QPS may experience a much more meaningful impact to their CGPA for failing the same course.

Overall, GPA and QPS are both measures of the academic progress of a student. Although both GPA and QPS are calculated based on credits and grades, each factor may be useful for different reasons. Because of this, both GPA and QPS have been studied in attempts to predict academic success or nonsuccess in higher education. The following section outlines studies related to each of these factors.

Numerous studies have explored the use of postsecondary GPA in attempts to predict the future academic success or nonsuccess of students. For example, in a study of technical college students, first term GPA was a significant predictor of student graduation within three years (Murtaugh, 2010). Students who graduated within three years had an average first term GPA of 3.21 and students who did not graduate within three years had an average first term GPA of 2.21 (Murtaugh, 2010). In another study of technical college students, GPA was used to successfully predict future academic suspensions (Colwell, 1988). This study focused on the first-quarter GPA for students enrolled in an associate degree engineering technology program and results indicated that first-quarter GPA was the best predictor of future academic success or nonsuccess

(Colwell, 1988). Of all students who earned a first-quarter GPA of less than 2.0, 87% were eventually placed on academic suspension (Colwell, 1988). Of all students who earned a first-quarter GPA of 2.0 or higher, only 17% were eventually placed on academic suspension (Colwell, 1988). These studies suggested that the first-quarter or first-term grades earned by a postsecondary student may be highly indicative of their future academic progress.

GPA has also been explored as a possible predictive factor for academic success or nonsuccess after reinstatement following an academic suspension, and a number of studies have revealed significant results. For instance, in a study of students from a private university, a significant relationship was found between the CGPA of students prior to the academic suspension and whether or not students returned to good academic standing within one year of reinstatement (Meador, 2012). Similarly, two studies of university students found CGPA at the time of an academic suspension to be significantly related to academic performance after reinstatement; students with a higher CGPA were significantly more likely to experience academic success (Cobble & Hohengarten, 1998; Hall & Gahn, 1994).

Another study focused on university students found transfer GPA to be significantly related to future academic progress (Hall & Gahn, 1994). This study reviewed the academic progress of students who were academically suspended from the university, and during the period of the academic suspension, chose to enroll at another institution (Hall & Gahn, 1994). Eventually, these students were reinstated to the original university at which their academic suspension occurred. The transfer GPA from the other

institution was found to be a significant predictor of academic success or nonsuccess during subsequent terms (Hall & Gahn, 1994).

Although there is evidence to support the use of GPA as a predictive factor of academic success or nonsuccess, either in general or following an academic suspension, there are also studies that have reported conflicting results. Three studies, which in sum involved over 800 university students, found nonsignificant results when comparing CGPA at the point of an academic suspension to academic success or nonsuccess after reinstatement following an academic suspension (Brady, 2008; Denovchek, 1992; Himmelreich, 1967).

The conflicting results of studies which have explored the use of GPA as a predictive factor for academic progress may raise a number of questions due to a great deal of evidence supporting the usefulness of this factor. However, one possible explanation for these divergent findings could be variables related to QPS, including the degree of academic success or nonsuccess experienced by students and the extent of any academic deficiencies.

There is some evidence to support this explanation. In a study of 113 students from a private university, no significant relationship was found between CGPA at the point of an academic suspension and the ability to return, or make meaningful progress towards returning, to good academic standing in the term after reinstatement (Kelly, 2010). However, in the same study, a significant relationship was found between QPS at the point of the academic suspension and the ability to return, or make meaningful progress towards returning, to good academic standing in the term after reinstatement

(Kelly, 2010). Stated differently, this study highlighted the possibility that CGPA may not provide enough information regarding the comprehensive academic history of a student, whereas, QPS may provide a more complete picture due to the consideration of how many quality points, based on credits and grades, must be earned to return to, or stay in, good academic standing.

In fact, the results from a study of academically suspended university students supported this idea (Cogan, 2011). This study explored the use of GPA in predicting future academic success or nonsuccess. Results revealed that GPA was predictive of future academic nonsuccess after reinstatement following an academic suspension; however, the use of GPA as a factor only successfully identified the group of students that failed to meet academic requirements 78% of the time, whereas the use of QPS as a factor successfully identified the group of students that failed to meet academic requirements approximately 95% of the time (Cogan, 2011). Stated differently, the results from this study indicated that although GPA may have some value as a factor related to predicting academic nonsuccess, the use of QPS may produce more accurate outcomes.

Another study reported a number of significant results when exploring the use of QPS to predict the academic success or nonsuccess of 60 university students on academic warning (Russell, 1984). The 60 students included in this study had a QPS between -1 and -24, indicating a specific range of academic deficiency (Russell, 1984). Results of the study revealed that the students on academic warning who achieved the minimum 2.0 CGPA necessary to return to good academic standing in the subsequent term were significantly more likely to have a higher QPS at the start of the warning term than those

who did not achieve the minimum requirements (Russell, 1984). In fact, no students with a QPS of -12 or lower achieved the minimum academic requirements during the term of academic warning in order to return to good academic standing and avoid an academic suspension (Russell, 1984). Results also indicated that students who achieved the minimum 2.0 CGPA necessary to return to good academic standing were significantly more likely to have made up at least half of their QPS deficiency by the end of the warning term when compared to those who did not achieve minimum academic requirements (Russell, 1984). Similarly, a study of 196 university students revealed that students with a lower QPS deficiency at the time of an academic suspension were significantly more likely to achieve academic success after reinstatement than those who had a higher QPS deficiency (Cobble & Hohengarten, 1998). These findings support the use of QPS as a predictive factor of academic progress and indicated the importance of recognizing the extent of an academic deficiency when considering the potential of a student to return to good academic standing following an academic suspension.

Overall, GPA and QPS have received much attention in the literature as potential factors related to predicting academic success or nonsuccess in higher education. There is strong evidence to suggest that both GPA and QPS may hold some predictive power; however, QPS, which provides a more comprehensive picture of the academic progress of a student by including an indicator of academic deficiencies, is supported by the literature as being the more reliable and accurate predictive factor.

Academic behaviors and planning. In addition to the postsecondary academic factors reviewed, factors related to academic behaviors and planning have also been

explored to predict academic success or nonsuccess in higher education. In fact, a study of appeal statements from academically suspended students from a large university indicated that a variety of factors, including course selection, academic behaviors, academic goals and planning, and academic self-efficacy were some of the most cited reasons used by students to explain why the academic suspension occurred (Saunders, 2008). A number of studies have explored the potential relationship between academic progress and different factors related to academic behaviors and planning.

One of these studies conducted a correlational examination of students who were enrolled in a career and technical education program. The students in this study who had a high likelihood of encountering academic difficulty, as indicated by scores reported on the College Student Inventory implemented as part of the Noel-Levitz Retention Management System, were significantly less likely to complete their academic program when compared to those whose scores indicated a lower likelihood of encountering academic difficulty (G. Carter, 2013). The Predicted Academic Difficulty Scale of The College Student Inventory includes factors related to academic behaviors and planning, such as study habits, academic self-efficacy, motivation to graduate from college, past interactions with educators, and high school GPA (G. Carter, 2013).

Another study examined a variety of academic variables, including study skills, academic ability, academic goals, stress, interactions with educators, interactions with peers, and perceived benefits of higher education (Frye, 1997). Results from this study, which focused on a population of technical college students, revealed that study skills and educational goals were the best predictors of academic persistence (Frye, 1997). The

importance of study skills was also highlighted in a study of community college students. Of the students who were reinstated following an academic suspension, students who were identified as having better study methods were significantly more likely to experience academic success, as measured by achieving a minimum 2.0 GPA for the term following reinstatement, than those who had less developed study methods (Santa Rita, 1998).

A qualitative study of 11 students who were reinstated to a private university following an academic suspension found that academically successful students were better able to manage or eliminate distractions than those who were academically unsuccessful, a finding which supports the importance of self-management and study skills for promoting academic success (Kelly, 2010). Similarly, in a qualitative study of adult community college students who were academically successful following an academic warning or suspension, participants stated that they would encourage others who are experiencing academic difficulties to engage in self-care and increase study skills in order to promote the potential for future academic success (Beck, 1996).

Educational goals may also be related to academic behaviors and potential for academic success or nonsuccess; however, there is limited research available regarding educational planning and career development issues specifically related to academically dismissed students. The research that does exist has suggested that students may not recognize any connection between career development and academic progress (Lucas & Hunt, 2002). For example, in a study of 164 university students who were academically suspended, students reported having little career-related information, indicated that they

did not believe that exploring career opportunities is important to meeting eventual career goals, and indicated that they did not engage in career-related research (Lucas & Hunt, 2002). Although the results of this study suggested that students who experience academic difficulties may not recognize the value of career exploration and goal setting, there is some evidence to suggest the importance of motivation and goal setting for future academic success following an academic suspension. In a qualitative study of 11 students who were reinstated to a private university following an academic dismissal, students who experienced academic success cited more sources of motivation for their academic goals than those who are academically unsuccessful (Kelly, 2010).

The ability of a student to recognize the importance of academic behaviors may also be significant. In a study of appeal statements from academically dismissed students at a large research university, students who cited academic difficulties (including challenges with large course loads, time and responsibility management, and focusing on academic priorities or goals) as the primary reason for their suspension and identified specific ways to manage these difficulties in the future were more likely to be academically successful in a future term than those who did not cite academic difficulties as a primary concern related to their suspension (Saunders, 2008). This finding suggested that an awareness of how academic behaviors influence performance may be important to academic success. This finding may also indicate that students who experience an academic suspension related to a more controllable internal factor, such as time management, may have more potential to be academically successful after reinstatement

than those who experience an academic suspension due to an ongoing, uncontrollable external factor, such as a chronic health concern.

Overall, there is some evidence to support that factors related to academic behaviors and planning influence academic progress, both for students in good academic standing and for students who are reinstated following an academic suspension; however, due to a broad array of interrelated variables related to academic behaviors and planning, it is not possible to draw conclusive results. More information would be needed to more fully understand the complexity of these factors.

In summary, a number of factors related to secondary education and academic preparedness for education have been explored as potential influencers of academic success or nonsuccess in higher education. These include factors related to enrollment, academic programs or majors, academic credit loads, length of enrollment prior to an academic suspension and credits attempted, GPA and QPS, and academic behaviors and planning. There is some evidence supporting the use of some postsecondary factors in predicting academic success or nonsuccess following an academic suspension with strong evidence supporting the use of QPS as a predictive factor.

Miscellaneous factors. In addition to demographic and socioeconomic elements, factors related to secondary education and academic achievement prior to enrolling at a higher education institution, and factors related to the postsecondary academic experience, there are also a number of miscellaneous factors which have been explored as possible indicators of academic success or nonsuccess in higher education. These include factors related to the timing of reinstatement following an academic suspension, taking

personal responsibility, involvement in extracurricular activities, use of student support services, commuter distance and housing, relationships and social support, and mental health. This section also includes a review of multifactor models which have been created to predict academic progress by simultaneously assessing a number of variables.

Timing of reinstatement. For students who have been academically suspended and are approved to return, the timing of their reinstatement has been considered as a potential factor related to their future academic success or nonsuccess. After an academic suspension, some higher education institutions employ a mandatory wait-out period, such as a term or an academic year, which requires a set amount of time to pass before a student becomes eligible to appeal to request reinstatement. Other higher education institutions do not require mandatory wait-out periods and allow students to appeal at any time after an academic suspension occurs. There are different philosophies regarding the timing of reinstatement. For example, requiring or encouraging a wait-out period may be beneficial to some academically suspended students since it is possible that time away from the institution may encourage the resolution of issues impacting academic progress and the reprioritization or refocusing of educational plans. Alternatively, it is possible that a mandatory wait-out period could be detrimental to the overall likelihood of eventual graduation due to the interruption in continuous enrollment.

Due to these differing perspectives, a number of studies have considered this factor and its relationship with academic progress following an academic suspension. One study, of 113 private university students, revealed interesting results (Kelly, 2010). This study indicated a significant relationship between the timing and term of

reinstatement following an academic suspension, and academic success or nonsuccess (Kelly, 2010). Students who were immediately reinstated (i.e., they did not have a wait-out period of a term or more) for a spring term were less likely to return, or make meaningful progress towards returning, to good academic standing in the term following reinstatement when compared to those who were not immediately reinstated for a spring term. However, this same effect did not exist for students who were immediately reinstated for a fall term after being academically suspended at the end of the prior spring term (Kelly, 2010). The author of the study suggested that a possible reason for this difference is that the students had more time away from their higher education institution when returning for a fall term versus returning for the spring term, due to the long summer break (Kelly, 2010). Although this finding may suggest that there is a benefit to taking time away from a higher education institution before being reinstated following an academic suspension, when the term of reinstatement (i.e., spring or fall) was removed from consideration in the data analysis process, the study reported no significant relationship between whether a student was reinstated in the term immediately following the academic suspension or whether a student was reinstated one or more terms following an academic suspension, and the likelihood of returning, or making meaningful progress toward returning, to good academic standing in the term of reinstatement (Kelly, 2010).

Similar nonsignificant results have been reported by other studies. For example, a study of private university students revealed no significant relationship between the amount of time that elapsed between an academic suspension and reinstatement, and whether or not students returned to good academic standing within one year of

reinstatement (Meador, 2012). Similarly, in a study of 160 university students who were reinstated following an academic suspension, the length of time a student was away from the institution after the suspension occurred was not a significant predictor of academic success or nonsuccess during the subsequent term (Hall & Gahn, 1994). Another study focused on university students found that the length of time away from the institution after an academic suspension and before reinstatement was not significantly correlated with future academic success or nonsuccess (Cobble & Hohengarten, 1998).

In summary, research related to the timing of reinstatement following an academic suspension suggests that time away from a higher education institution after an academic suspension and before reinstatement may not influence future academic success or nonsuccess. Although taking a break from higher education may be beneficial to some students who need time to resolve issues impacting academic progress, overall, there is not sufficient evidence to support the idea that the timing of reinstatement is significantly correlated with academic success or nonsuccess following an academic suspension.

Taking personal responsibility. Studies have also explored the potential relationship between taking personal responsibility and academic success or nonsuccess. Blaming others for negative outcomes or a lack of belief in the ability to control outcomes may be typical of students who do not accept responsibility for academic failure (Meador, 2012). Alternatively, as referenced in the section exploring the relationship between academic behaviors and academic progress, the ability to recognize deficiencies and identify ways in which these can be controlled may be important to future academic success.

In a study of academic suspension appeal statements from a private university, researchers considered students to have taken personal responsibility for the academic suspension if they used phrases such as “It was my fault…” or “I take responsibility…,” or if they provided an indication of recognizing some ways in which they were responsible (Meador, 2012). Results of this study found that students whose appeals indicated taking personal responsibility for their academic suspension were significantly more likely to return to good academic standing within one year of reinstatement (Meador, 2012). Students who indicated taking personal responsibility were on average 3.5 times more likely to experience academic success compared to those who did not indicate taking personal responsibility (Meador, 2012).

In a similar study of academically suspended students from a large research university, appeal statements that indicated self-reflection and self-awareness were more likely to have come from students who experienced academic success after their reinstatement (Saunders, 2008). Although this study did not directly measure indicators of taking personal responsibility, there may be some relationship between the willingness and ability to engage in self-reflection and self-awareness in order to recognize personal responsibility.

Overall, there is some evidence to suggest that taking personal responsibility may be related to academic progress following an academic suspension; however, due to limited research on this topic these findings are not conclusive. Challenges related to measuring the extent of which a student has chosen to take or not take personal

responsibility for their academic suspension and the overall subjective nature of this factor may be one reason for the limited research in this area.

Extracurricular activities. Involvement in extracurricular activities has also been explored as a potential factor related to academic progress. Student involvement in institutional activities may be an indicator of the fit between a student and a higher education institution. In a review of research from 1950 to 1975, evidence has suggested that the fit between a student and a higher education institution is a meaningful factor related to the persistence of the student at that institution (Pantages & Creedon, 1978). Although student-institution fit is much more complex than involvement in extracurricular activities, it may be a contributing component.

Research on this topic is limited and results are mixed. For example, in a study focused on first-year university students, involvement in extracurricular activities was not significantly related to the likelihood of a student to return to the university the following year (Aitken, 1982). However, different findings were reported in a study that focused on the experience of students who were reinstated to a private university following an academic suspension. This study reported that students who were academically successful after reinstatement were more engaged at the university, as indicated by their participation in organizations, sports, and other college experiences, when compared to students who were not academically successful (Kelly, 2010).

In summary, involvement in extracurricular activities may be one component of overall student-institutional fit and there is some evidence to support that student

engagement in institutional activities is related to academic progress following an academic suspension; however, research in this area is limited.

Use of student support services. Higher education institutions often facilitate a variety of student support services designed to promote the academic success of the students they serve. Although there is limited research available specifically related to how the use of student support services may influence academic progress following an academic suspension, there is some evidence to suggest that students recognize that the use of student support services may be a way to encourage academic success.

For example, a study of appeal statements from academically suspended students from a large research university indicated that students expressed a need for professional guidance and that students most often cited the use of university student support services as a method to ensure their future academic success (Saunders, 2008). Additionally, a study of private university students found that students who experienced academic success after reinstatement following an academic suspension were more likely to participate in regular meetings with an assigned university mentor than those who were not academically successful (Kelly, 2010). Although this finding may indicate the value of regular meetings with a mentor, it is also possible that the willingness of a student to participate in regular meetings indicates the presence of other factors more internal to the student such as motivation, responsibility, and accountability.

There is also evidence to suggest that students who use support services before an academic suspension occurs will continue to use support services after reinstatement. In a community college, students who utilized counseling services and library services before

an academic suspension were more likely to utilize the services after reinstatement than those who had never before accessed the services (Liberto, 2002).

Although there is some evidence to suggest that students recognize the value of student support services, the awareness itself may not directly influence the utilization of such services. For example, in a small qualitative study of students who transferred from a community college to a university and experienced academic difficulties that led to an academic suspension, none of the students sought assistance from an advisor at the point of first experiencing academic issues (C. Carter, 2013). Therefore, to fully understand factors related to student support services, it may also be necessary to understand factors that drive or inhibit access to these services.

Overall, there is limited evidence to indicate that the use of student support services could be used as a predictive factor of academic success or nonsuccess following an academic suspension. There are some indications that students may recognize the value of utilizing student support services in promoting academic progress and may acknowledge the availability of these services in suspension appeal statements; however, whether acknowledging the existence or value of support services actually indicates the utilization of these services is unknown.

Commuter distance and housing. Factors related to commuter distance and housing have also been explored to understand academic success or nonsuccess in higher education. However, these factors have not been widely studied and the research available tends to highlight inconclusive or nonsignificant results.

For example, in a study of students enrolled in a career and technical education program, commuter distance was not significantly related to eventual program completion (G. Carter, 2013). Housing status was explored as a factor in a study of 113 private university students who were reinstated following an academic suspension. In this study, housing status of a student (living on campus or commuting) was not significantly related to the likelihood of a student to return, or make meaningful progress toward returning, to good academic standing in the term after reinstatement (Kelly, 2010).

Although there are limited studies that have explored these factors, the available research on these topics have suggested that commuter distance and student housing status may not be significantly related to academic success or nonsuccess.

Relationships and social support. Relationships and social support have also been explored as possible factors related to academic progress. There is some evidence to suggest that interpersonal connections may have the potential to negatively or positively influence the academic experience of a student. In fact, first-year university students who report concerns related to family or personal problems may be significantly less likely to return to the university the following year (Aitken, 1982). Alternatively, students who have experienced academic difficulties tend to report that relationships and social support influence their potential to achieve future academic success.

In a study of adult community college students who were academically successful after being placed on academic warning or suspension, the majority of students reported receiving emotional support from their family or partner, and over one-third of students reported receiving emotional support from friends and employers (Beck, 1996).

Additionally, students involved in this qualitative study, reported that support from family and employers was one of the factors most helpful to achieving future academic success (Beck, 1996). Similarly, in a study of community college students, the majority of students who successfully met academic requirements after being reinstated following an academic suspension reported having strong support from their family, friends, and partners (Liberto, 2002). Furthermore, students involved in the study reported that being surrounded supportive people was one of the most important factors related to their ability to achieve academic success (Liberto, 2002). Lastly, in a small qualitative study of students who transferred from a community college to a university setting and experienced academic difficulties which resulted in an academic suspension, the students reported being more engaged both academically and socially after being reinstated to the university and that this engagement was important to their future success (C. Carter, 2013).

Overall, research in this area is limited; however, there is some evidence to suggest that interpersonal relationships have the potential to influence academic progress. Results from qualitative studies indicate that students who experienced academic success following an academic suspension often attribute social support as a meaningful factor related to this accomplishment.

Mental health. Another factor that may influence the academic progress of a student while in college is mental health. In 2018, the World Health Organization facilitated the World Mental Health International College Student Project which surveyed approximately 200,000 college students across 28 countries in order to estimate the

prevalence of mental health disorders among first-year college students worldwide. According to early survey results of roughly 14,000 students across eight countries, approximately 35% of all first-year college students surveyed self-reported having at least one mental health diagnosis (Auerbach et al., 2018). These cross-national rates are similar to those within the United States. In the United States, approximately 29% of first-year college students reported having at least one mental health diagnosis within their lifetime (Auerbach et al., 2018) and many of these students are likely to experience a mental health crisis while enrolled in college. In a national study of college students from across the United States, 73% of students diagnosed with a mental health disorder reported experiencing a mental health crisis while enrolled in college, most often caused by extreme feelings of anxiety, panic, or depression related to school and difficult life circumstances (National Alliance for Mental Illness [NAMI], 2012).

Additionally, certain demographic factors are correlated with the prevalence of self-reported mental health diagnoses (Auerbach et al., 2018). For example, a significant positive correlation was reported when examining the relationship between female gender and both lifetime and 12-month prevalence of a mental health diagnosis (Auerbach et al., 2018). Similarly, a significant positive correlation was evidenced when examining the relationship between age and the prevalence of mental health diagnosis. Students age 19 and older had significantly higher rates of both lifetime and 12-month prevalence of mental health diagnoses when compared to younger students (Auerbach et al., 2018).

Significant correlations have also been reported when examining the relationship between gender identity and mental health diagnoses. Students who identified as

transgender or “other” when asked to indicate their gender identity reported a much higher lifetime prevalence (76.5%) of any mental health diagnosis when compared to students who did not identify as transgender or “other” (35.5%) (Auerbach et al., 2018). A similar trend was evidenced in reviewing the relationship between sexual orientation and mental health diagnoses. According to survey results, students who identified their sexual orientation as anything other than “heterosexual with no same-sex attraction” were two to three times more likely to have at least one mental health diagnosis within their lifetime or the past 12 months (Auerbach et al., 2018).

In addition to information regarding the prevalence of college student mental health diagnoses, there is also information available related to specific diagnosis type. Across all countries included in a large cross-national study, major depressive disorder was the most common mental health diagnosis reported and generalized anxiety disorder was the second most common mental health diagnosis reported (Auerbach et al., 2018). Survey results, focused on college students within the United States, indicated that the most common primary mental health diagnosis is depression, which was reported by 27% of students who indicated having a mental health diagnosis (NAMI, 2012). However, unlike the results of the cross-national survey, this survey indicated that the second most common primary mental health diagnosis of college students within the United States was bipolar disorder, which was reported by 24% of students who indicated having a mental health diagnosis (NAMI, 2012).

The timing of a mental health diagnosis for a college student is another important consideration when attempting to understand mental health as a factor. Of all first-year

college students who reported having a diagnosed mental health disorder, approximately 30% indicated that the diagnosis occurred within the past 12 months (Auerbach et al., 2018; NAMI, 2012). This finding may lead to the assumption that for many students, mental health issues coincide with the start of college; however, there is evidence to suggest that the majority of students who are diagnosed with a mental health disorder while in college experienced related symptoms prior to enrollment. In fact, approximately 83% of students who reported a mental health diagnosis within the past 12 months also indicated that the onset of symptoms related to this mental health diagnosis occurred prior to the start of college (Auerbach et al., 2016). Although there could be many explanations for this finding, one possibility could be that increased stress or adjustment challenges related to starting college may increase the prevalence or severity of mental health symptoms.

Research has indicated that college student mental health may look different when comparing two-year colleges and universities, as the pervasiveness of mental health issues and the prevalence of specific mental health diagnoses and psychological symptomatology vary significantly by institution type (Katz & Davison, 2014). On average, two-year college students report higher rates of mental health diagnoses than university students (Katz & Davison, 2014). One reason for this may include the demographic makeup of student populations at these institutions. Female students and older students have significantly higher rates of both lifetime and 12-month prevalence of mental health diagnoses (Auerbach et al., 2018) and two-year colleges, including technical colleges, serve a larger percent of female students and older students when

compared to universities (McFarland et al., 2019). Additionally, while university students report higher rates of diagnoses for anxiety and depression, two-year college students report higher rates of mental health diagnoses for bipolar disorder, schizophrenia, and substance abuse or addiction disorders (Katz & Davison, 2014). Two-year college students also more frequently indicated emotions and behaviors related to an increase risk for suicide, including feelings of hopelessness, overwhelming anger, self-harm, serious considerations of suicide, and suicide attempts (Katz & Davison, 2014).

Although two-year college students are more likely to have a diagnosed mental health disorder, they are less likely to receive information from their institution on mental health topics. One study indicated that approximately 40% of university students reported receiving information and psychoeducation on topics related to mental health, whereas only approximately 24% of community college students reported the same (Katz & Davison, 2014).

Although there is clearly a need for information, psychoeducation, and support for mental health concerns, research has indicated that very few college students seek treatment or professional support services. Cross-nationally, only 16% of college students who reported a mental health diagnosis within the past 12 months indicated that they received treatment for their diagnosis (Auerbach et al., 2016).

The most commonly reported reason that college students provide for not seeking treatment for mental health concerns included the preference to handle the problem alone or the preference to talk with a friend or relative rather than a mental health professional (Ebert et al., 2019a). Stigma may explain this preference to not seek professional

treatment or support. In a national survey of college students diagnosed with a mental health disorder within the United States, stigma was reported as the number one barrier to seeking mental health treatment and support (NAMI, 2012) and unsurprisingly, a study of university students indicated that students with increased stigmatic views of mental health counseling were significantly less likely to make use of mental health counseling services (Holland & Wheeler, 2016). In addition to demographic, socioeconomic, and cultural factors that may influence views of mental health treatment, the type of mental health disorder that a student is diagnosed with may also influence their likelihood of seeking treatment. For example, students with a diagnosis of major depression disorder and generalized anxiety disorder were most likely to report embarrassment as a reason for not seeking mental health treatment (Ebert et al., 2019a).

The low probability of seeking mental health treatment or support is concerning as successful students tend to report that support services, such as counseling, were an important component to their ability to persist in college. For instance, in a national survey of college students diagnosed with a mental health disorder within the United States, the majority of students who remained enrolled (61%) indicated that individual counseling services were critical to their success in college (NAMI, 2012). One reason for this may be that decreases in symptomatology related to a mental health diagnosis may increase academic functioning. This finding is highlighted by a study of university students who utilized counseling services. A strong correlation was found between the reduction in negative mental health symptoms and decreased academic distress (Kharas, 2014).

There is evidence to indicate that the presence of a mental health disorder is associated with decreased academic functioning (Bruffaerts et al., 2018; Kernan et al., 2008), lower college GPA (De Luca et al., 2016), and an increased potential for dropping out of college (Auerbach et al., 2016; Lockard, 2016). In a large national survey of college students diagnosed with a mental health disorder within the United States, 64% of all students who dropped out of college stated that they were no longer enrolled for reasons related to mental health concerns (NAMI, 2012).

Additionally, there is evidence to indicate that the severity of a mental health concern is significantly related to academic functioning. A study of university students found a significant, negative relationship between the severity of mental health concerns and GPA, a finding that the authors suggested that academic performance is strongly related to mental health and wellness (De Luca et al., 2016). The same study also found that university students who experienced suicidal ideation within the past 12 months had lower average CGPAs than those who did not experience suicidal ideation within the past 12 months (De Luca et al., 2016).

The loss of financial aid or scholarships due to poor academic performance caused by mental health issues has also been reported as a primary reason for dropping out of college (NAMI, 2012). This finding highlighted the possibility that a significant number of students who are academically suspended and no longer financial aid eligible due to failing to meet SAP standards may have been experiencing mental health issues. A qualitative study of first-year community college students provided some additional insight (Erazo, 2017). The students involved in this study reflected on a past period of

academic warning and reported that mental health issues intensified their academic challenges at that time (Erazo, 2017). Additionally, the students reported having a limited awareness of how their mental health issues were impacting them at the time of the academic warning, which suggested that students may not recognize the detrimental effect a mental health issue has on academic functioning until after a sanction occurs (Erazo, 2017).

A study of academic suspension appeal essays from university students in Australia reported similar findings. This study found that mental health concerns, most often reported as depression and anxiety, were cited as the second most common reason for poor academic performance that resulted in an academic suspension (Jevons & Lindsay, 2018). In a qualitative study of community college students on academic probation in the United States, 13 of the 16 participating students reported having least one mental health diagnosis (Holland, 2005). Although the size of this study limits the generalizability of the results, it is possible that students placed on academic warning, academic suspension, or academic probation have higher rates of diagnosed or undiagnosed mental health concerns.

Overall, a significant number of college students have diagnosed mental health disorders and the presence of this diagnosis indicates a higher likelihood of experiencing academic distress (Bruffaerts et al., 2018; Kernan et al., 2008). However, there is limited research focused on mental health as a factor for predicting academic success or nonsuccess of college students, and more specifically, predicting academic success or nonsuccess after reinstatement following an academic suspension. Furthermore, there is a

lack of research related to how seeking treatment or support for a mental health diagnosis influences academic progress. Due to the prevalence and impact of mental health concerns, including the increased potential for experiencing academic difficulty (Bruffaerts et al., 2018; Kernan et al., 2008) and an increased likelihood of dropping out of college (Auerbach et al., 2016; Lockard, 2016), this factor warrants exploration.

Multifactor models. Lastly, in an attempt to predict academic success or nonsuccess in higher education, some researchers have developed multifactor models or scales based on a variety of factors. Rather than focusing on singular factors that may be related to academic progress, this approach involved the use of a collection of factors, that when taken in combination, may more successfully predict academic success or nonsuccess.

One of these predictive models was developed in a study that included 60 university students on academic warning with a QPS within the range of -1 and -24 (Russell, 1984). The researcher developed an eight-variable model which included term GPA for the term of academic warning, the number of terms on academic warning, the timing of advising services during the term of warning, student age, CGPA at the end of the term of academic warning, first term GPA at the university, number of credits withdrawn from during the term of academic warning, and number of credits repeated due to D grades (Russell, 1984). This eight-variable model successfully predicted the academic success or nonsuccess (as defined as the achievement of a CGPA of 2.0 or higher by the end of the term of academic warning) of 83% of the students using a stepwise discriminate analysis (Russell, 1984). Stated differently, this model was able to

successfully predict academic success or nonsuccess for students on academic warning approximately eight out of ten times.

A more recent study considered the use of 18 variables in an attempt to predict the academic success or nonsuccess of 973 university students at the end of their term of reinstatement after an academic suspension (Cogan, 2011). This study utilized a forward stepwise method and included only the variables that significantly predicted academic progress in the model. The variables that were found to be significantly related to academic success or nonsuccess were gender, term of dismissal QPS, term of dismissal credits earned, cumulative QPS prior to the term of dismissal, cumulative GPA prior to the term of dismissal, and the college of affiliation within the university (e.g., college of education). This model correctly predicted the academic success or nonsuccess of 73.7% of the students (Cogan, 2011). More specifically, this model correctly predicted 83.6% of students who were not academically successful during the term of reinstatement and correctly predicted 55.4% of students who were academically successful during the term of reinstatement (Cogan, 2011). Similar to the previous study referenced, the overall results of this study indicated that a multifactor model may have the potential to successfully predict academic success or nonsuccess for over 80% of students (Cogan, 2011).

Additionally, this model explained 32.5% of the total variance in academic performance and a large percentage of the variance was explained by the singular factor of term of dismissal QPS (Cogan, 2011). The factor term of dismissal QPS accounted for 19.2% of the total variance. This finding highlighted the value of term of dismissal QPS

in that this single variable identified a group of students that experienced academic nonsuccess during the term of reinstatement approximately 95% of the time (Cogan, 2011). The predictive value of this factor was greater than that of cumulative GPA, which identified a group of students that experienced academic nonsuccess during the term of reinstatement approximately 78% of the time (Cogan, 2011).

Lastly, in an earlier study, a four-variable model was used to predict academic success or nonsuccess (Dole, 1963). This study explored the potential of a student to maintain a minimum 2.0 GPA after reinstatement following an academic suspension (Dole, 1963). The short scale used in this study comprised term GPA for the term prior to the academic suspension, CGPA, scores on a psychological exam, and high school recommendations for higher education (Dole, 1963). These factors, when considered in combination, were found to significantly predict the likelihood of a student maintaining minimum GPA requirements after reinstatement (Dole, 1963).

In summary, there is evidence to suggest that a multivariable approach may be useful when attempting to predict academic success or nonsuccess in higher education due to the complexity and interrelated nature of many of the factors explored. However, the generalizability of these models across student populations, higher education institutions, and academic statuses is unknown. Additional research is needed to develop more conclusive results.

Overall, there are number of miscellaneous factors that have been explored in an attempt to predict the academic success or nonsuccess of students in higher education. These factors include the timing of reinstatement following an academic suspension,

indications of taking personal responsibility, involvement in extracurricular activities, use of student support services, commuter distance and housing, relationships and social support, mental health diagnoses, and multifactor models. In general, there is some evidence to support the existence of a relationship between some of these miscellaneous factors and academic progress; however, due to the complex and interrelated nature of many of these variables; definitive conclusions cannot be made. Of the miscellaneous factors explored; however, variables related to college student mental health warrant further exploration due to the significant prevalence of mental health diagnoses across college campuses and the potential negative impact mental health concerns have on academic progress.

Summary

This chapter has provided an overview of higher education within the United States, a brief review of issues related to higher education retention and completion, including the consideration of SAP standards and academic suspensions, and a summary of factors which have been studied in an attempt to predict academic success or nonsuccess of students. More specifically, demographic and socioeconomic factors, factors related to secondary education and academic preparedness for higher education, a variety of postsecondary academic factors, and a number of miscellaneous factors have been reviewed. The literature focused on these factors included the exploration of the relationship between the factors and student retention or completion, academic success or nonsuccess, or academic success or nonsuccess specifically after reinstatement following an academic suspension.

In regard to the factors reviewed, much of the available research is contradictory or inconclusive. In many cases, this is likely due to the complexity and multifaceted nature of the factors explored. Additionally, there is some evidence to suggest that some factors may be useful predictors of academic success or nonsuccess with specific student populations but may not be generalizable to other student populations. For instance, the majority of studies on this topic have focused on university students, even though there is a noticeable need to better understand issues related to retention and completion at two-year colleges.

Although conclusive findings cannot be drawn from much of the current research, there is evidence to suggest possible links between some factors, such as gender, age, GPA and QPS, and evidence of a mental health concern, and the ability to predict academic success or nonsuccess after reinstatement following an academic suspension. Furthermore, there is a lack of research specifically focused on these factors with two-year student populations, including technical college students. Due to the vast negative consequences of reinstating students who are not successful following an academic suspension, these factors warrant additional exploration.

Overall, despite the often inconclusive or inconsistent results of studies focused on this topic, the available research highlights the importance and complexity of issues related to academic progress within higher education institutions. More diverse and expansive research is needed to better understand factors related to academic success and nonsuccess specifically after reinstatement following an academic suspension.

Chapter 3: Research Design and Method

Chapter three includes the research design and methodology used in this study. The chapter begins with a restatement of the purpose of this research. The chapter also includes details regarding the research questions, variables, site description, population, data collection, and data analyses.

Restatement of the Purpose

The purpose of this study was to add to the limited research related to reinstatement outcomes following an academic suspension for two-year technical college students; a population which is both understudied and less likely to persist to graduation (McFarland et al., 2019). This research study examined how factors explored in prior research primarily focused on university students, including the academic variables of cumulative grade point average (CGPA), cumulative quality point status (CQPS), and term of dismissal quality point status (QPS), relate to the reinstatement outcomes of technical college students. Additionally, this study aimed to address the research gap related to mental health concerns and reinstatement outcomes, as well as examining any relationships present when considering the demographic factors of age and gender, due to the increased rates of mental health diagnoses for older students and female students (Auerbach et al., 2018), both of which are student populations who make up a larger percentage of total enrollment at two-year colleges when compared to universities (McFarland et al., 2019). For the purpose of this study, indications of a mental health concern included either self-reported or documented mental health concerns as evident in suspension appeal paperwork submitted by students. Evidence of a mental health concern

was determined through a qualitative review of student-submitted essays intended to highlight the reason for the academic suspension and any attempts made to resolve issues impacting academic success, as well as any documentation submitted by students to support their essay and overall appeal.

Due to a number of negative consequences related to reinstating students who fail to achieve academic success following an academic suspension, it is important to learn more about this complex issue. In adding to, and expanding upon, the current literature, this research may assist higher education professionals in the process of making evidence-based decisions when reviewing academic suspension appeals. Furthermore, this research may promote an awareness of how high-risk student populations, such as students with a mental health diagnosis, are impacted by the academic suspension and reinstatement process. Lastly, this research may also assist in the process of prioritizing and developing retention-focused support services specifically designed to assist students who may be less likely to meet academic standards if reinstated following an academic suspension.

Research Method and Design

The research method used in this study included a qualitative review of academic suspension appeals and a quantitative analysis of all variables. Archival data was collected with the assistance from the institutional department responsible for managing student records and the department responsible for institutional research at a Midwestern two-year technical college. These departments removed all personally identifiable information from this data before providing it to the researcher.

Krippendorff's alpha and percent agreement was used to assess interrater reliability of the qualitatively determined evidence of a mental health variable, and binary logistic regression was performed to evaluate the relationship between specified independent variables and a binary dependent variable.

Variables. This study included several independent variables and one binary dependent variable. The dependent variable for this study was reinstatement outcome (reinstatement success or reinstatement nonsuccess) during the term of reinstatement. At the end of the term of reinstatement, reinstatement success was defined as an academic status of good academic standing (requiring a CGPA of 2.0 or higher *and* a CCCR of 67% or higher) *or* an academic status of continued probation (requiring a term of reinstatement GPA of 2.5 or higher *and* a term of reinstatement CCR of 100%). Either of these academic statuses indicated that a student would be allowed continued enrollment and had made progress in repairing academic deficiencies following an academic suspension.

Reinstatement nonsuccess was defined as the academic status of an academic suspension at the end of the term of reinstatement. An academic suspension status would be reapplied at the end of the term of reinstatement if a student failed to achieve requirements to achieve good academic standing (requiring a CGPA of 2.0 or higher *and* a CCCR of 67% or higher) *and* failed to achieve the academic status of continued probation (requiring a term of reinstatement GPA of 2.5 or higher *and* a term of reinstatement CCR of 100%). A student who returned to an academic suspension status had not demonstrated satisfactory progress toward repairing academic deficiencies.

The following six independent variables were included in this study: age, gender, CGPA, CQPS, term of dismissal QPS, and evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork, (yes or no). The variables of age and gender were categorized as demographic variables, and the variables of CGPA, CQPS, and term of dismissal QPS were categorized as academic variables. Data for age, gender, CGPA, CQPS, and term of dismissal QPS was obtained directly from the student record system of the college, with assistance from the institutional department responsible for managing student records and the department responsible for institutional research. CGPA, CQPS, and term of dismissal QPS was calculated using data from the institutional student record, meaning that only credits attempted and earned at the college, as well as transfer credits accepted by the college, were included in the calculation of these variables. The data for the variable of age reflected the age of the student at the start of the term of reinstatement. The data for the variable of gender reflected the gender of a student, either male or female, as listed in the student record system. The system that inputs data into the college record system did not allow for students to input other gender identities. Additional data, including race and ethnicity, financial aid Pell Grant eligibility, high school credential earned (diploma or GED), military or veteran status, first-generation college student status, and academic program major was included as part of descriptive demographic statistics but was not used as independent variables in the study due to limited evidence in the literature to support the significance of these variables in predicting academic success or nonsuccess following an academic suspension.

Evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork, (yes or no) was determined based on a qualitative review of academic suspension appeal paperwork. The academic suspension appeal paperwork at this institution included two pages of forms, an appeal essay, transcripts, and documentation, if relevant and available. The forms required student contact information, a brief section to indicate the general reason for the appeal, a section regarding academic history, and a contract for academic success, which included an outline of a tentative academic plan if reinstated. The appeal essay was typically one to two pages in length and students were asked to describe what factors or circumstances contributed to the academic suspension, what had changed or what had been done to keep these factors or circumstances from interfering with future academic progress, a brief summary of academic and career goals, and a plan to achieve academic goals, including specific strategies to promote academic success. If available and relevant to the reason for the appeal, students are also encouraged to submit documentation to support their appeal essay. For example, if a student indicated that a medical issue contributed to the academic suspension, they were encouraged to submit a statement from their medical provider, a clinical visit summary, or other documentation related to the issue.

The variable of evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork, (yes or no) was dichotomous and was coded as either “yes,” meaning that there was evidence of a mental health concern in suspension appeal paperwork, or “no,” meaning that there was no evidence of a mental health concern in suspension appeal paperwork. Instances in which this variable

was coded as “yes” included the presence of any of the following references in the academic suspension appeal forms, appeal essay, or attached documentation. These references included: a direct firsthand self-reported reference to having a diagnosed mental health concern (e.g., “I was diagnosed with anxiety,” “I have a history of bipolar disorder,” “I have a diagnosed mental health issue,” etc.); a firsthand self-reported reference to experiencing a mental health concern, including references to symptoms which resulted in functional impairment or significant distress (e.g., “I was experiencing anxiety,” “I was feeling really depressed,” “I was dealing with mental health issues,” “I was so stressed that there were days I could not get out of bed,” etc.); a direct reference to a diagnosed mental health concern in attached documentation (e.g., statement or documentation from a medical provider or mental health practitioner, legal documentation, accommodation paperwork, etc.); a firsthand self-reported reference indicating received treatment for a mental health concern in appeal essay (e.g., “I have been seeing a therapist,” “I have been prescribed antidepressants,” etc.); a reference indicating received treatment for a mental health concern in attached documentation (e.g., statement or documentation from a mental health practitioner indicating participation in counseling, statement or documentation from a medical provider indicating prescribed medications for a mental health concern, etc.).

Because the identification of the evidence of a mental health concern variable required a qualitative review of suspension appeal paperwork, it was important to ensure that the process was valid and accurate. Therefore, an outside auditor was asked to perform the same process of reviewing suspension appeal paperwork in order to assess

interrater reliability (i.e., between the researcher and the auditor) and the trustworthiness of results. The institutional department responsible for managing student records removed all personally identifiable information from the suspension appeal paperwork before providing access to the researcher and the outside auditor. The outside auditor was asked to review each suspension appeal included in the study and assess whether there was any evidence of a mental health concern based on a comprehensive description of this variable. Krippendorff's alpha and percent agreement was calculated in order to assess the level of interrater reliability.

Site Description

The college that is the focus of the study is a public technical college in the Midwestern United States. The college served, on average, approximately 1,500 to 2,000 students each term. According to available data for the fall 2018 term, total enrollment was just over 1,800 students and of these students, 55% were enrolled part time and 45% were enrolled full-time (U.S. Department of Education, n.d.-b). During this same term, 55% of enrolled students were female and 45% of enrolled students were male (U.S. Department of Education, n.d.-b). The majority of enrolled students (75%) were White (U.S. Department of Education, n.d.-b). During the fall 2017 term, approximately 54% of enrolled students were ages 24 or younger, and 46% of enrolled students were ages 25 and older (U.S. Department of Education, n.d.-b).

At the time of the study, the college offered just over 35 academic programs, including certificates, diplomas, and Associate of Applied Science Degrees, all of which were focused on the development of technical skills. The college had an open admissions

policy, meaning that in order to be admitted to the college one must have graduated from an accredited high school, have a GED, or could demonstrate an ability to benefit from higher education as indicated by reaching specific scores on a placement test.

Sample Description

The sample for this study included students who reenrolled at a small Midwestern technical college after appealing an academic suspension which occurred due to poor academic progress at the institution. Participants who were included in this study submitted an appeal to request reinstatement at the college, were approved to return, and reenrolled during a fall or spring term ranging from fall 2015 to spring 2019. During this timeframe, there were no known changes to the policies, procedure, or practices related to how academic data was calculated or interpreted for purposes of monitoring and administering SAP standards at the college.

Students who reenrolled during a summer term were excluded from this study because of the unique nature of summer terms when compared to fall and spring terms. At this institution, summer terms were only eight weeks in length, compared to the 16-week fall and spring terms, and many students chose to limit the number of credits in which they enrolled during the summer term, which could have influenced study results. Additionally, the appeal review committee at this institution typically denied more appeals for reinstatement for the summer term, when compared to the fall and spring terms, due to the assumption that summer term classes were more challenging due to their condensed nature.

Students whose appeals were denied were also excluded from this study, along with students whose appeals were approved but who chose not to reenroll at the institution. This study also did not include students who submitted an appeal due to an academic suspension from another state institution. Within the state college system, students who were suspended at one state institution were also suspended at all other state institutions and were required to appeal with any institution at which they want to enroll. These students, referred to as transfer suspension students, were excluded because institutional academic data (including CGPA, CQPS, and term of dismissal QPS) is reset on the transcript whenever a student enrolls at a new institution.

Data Collection

The data that was collected as part of this study was obtained from the college student record system and academic suspension appeals. This data was collected with assistance from the institutional department responsible for managing student records and the department responsible for institutional research. In order to store the data with no personally identifiable information, each student was assigned a number. This number was used to organize data from the student record system and was also indicated on each academic suspension appeal. The institutional department responsible for managing student records and the department responsible for institutional research reviewed all appeal documents in order to remove all personally identifiable information.

Data Analysis

Krippendorff's alpha and percent agreement was used to assess interrater reliability of the qualitatively determined evidence of a mental health variable, and binary

logistic regression was performed to evaluate the relationship between the independent variables and the binary dependent variable. Binary logistic regression is a statistical technique used to examine relationships among variables. Binary logistic regression was selected for its usefulness in predicting a dichotomous dependent variable when using both dichotomous and continuous independent variables (Leech, Barrett, & Morgan, 2008). Binary logistic regression is used to indicate whether the selected independent variables significantly predict the dependent variable.

Results of the binary logistic regression analysis included an indication of the overall significance of the regression model, with the level of significance for this study set at .05 (Laerd Statistics, 2017). The output also provided Cox & Snell R Square values and Nagelkerke R Square values which indicate how much of the variance in the dependent variable can be explained by the model (Laerd Statistics, 2017). The overall percentage of cases correctly identified by the model and an indication of how well the model can discriminate between cases was also provided (Laerd Statistics, 2017). Additionally, the output provided information related to the statistical significance of each independent variable with the Wald Chi-Squared test and an odds ratio for each independent variable, which indicated how a change in a single independent variable may influence a change in the dependent variable (Laerd Statistics, 2017).

The data analysis procedure for this study included separate binary logistic regression models for each research question. The first model was planned to include demographic independent variables (age and gender) and academic independent variables (CGPA, CQPS, term of dismissal QPS) in order to assess whether these variables

significantly predicted the dependent variable of reinstatement outcome (reinstatement success or reinstatement nonsuccess). The second model included only the independent variable of evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), in order to evaluate whether this variable significantly predicted the dependent variable of reinstatement outcome (reinstatement success or reinstatement nonsuccess). All variables were planned to be analyzed in the third model, including demographic independent variables (age and gender), academic independent variables (CGPA, CQPS, term of dismissal QPS), and the independent variable of evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), in order to assess whether these collective variables significantly predicted the dependent variable of reinstatement outcome (reinstatement success or reinstatement nonsuccess).

Sample size is one of the several assumptions of binary logistic regression. Determining sample size when using binary logistic regression is important as this type of analysis often requires large sample sizes in order to be accurate and the process of determining the appropriate sample size for a study should include the consideration of the number of independent or predictor variables being included in the study (Leech et al., 2008).

A common recommendation is that the sample size should be at least twenty times the number of independent variables included in the analysis (Leech et al., 2008). If following this recommendation, the minimum sample size for this study would be 120 as there were six independent variables. Similarly, an approximate sample size of 100 would

be recommended when collectively considering the number of independent variables as well as power and anticipated effect size (Green, 1991). This estimate was supported by an online sample size calculator which indicated the need for a minimum sample size of 97 when anticipating a medium effect size (0.05) with the level of significance set to .05 and power set at .80 with six independent variables (Soper, 2019).

Based on these minimum recommendations and a desire to ensure the collection of comprehensive data that was more representative of the sample, this study included a sample size larger than the recommended values. The sample included data from fall and spring terms ranging from fall 2015 to spring 2019. At the institution, approximately 50 students were approved through the appeal process for reinstatement each fall and spring term; however, not all students who were approved for reinstatement choose to reenroll. Therefore, data from a total of eight terms were included in this study in order to ensure an adequate sample size.

Additional assumptions of binary logistic regression include the consideration of multicollinearity and outliers. Multicollinearity, or highly correlated independent variables, may be problematic when using binary logistic regression (Leech et al., 2008). Therefore, a check for multicollinearity was performed in the process of analyzing the data. Multicollinearity was assessed through a pairwise correlation in order to identify any variables with correlations coefficients of .60 or higher (Laerd Statistics, 2017). Collinearity diagnostics imbedded in the binary logistic regression output were also used to assess Tolerance and Variable Inflation Factor values (Laerd Statistics, 2017). These procedures were used to determine whether this assumption of binary logistic regression

was violated and whether any independent variables needed to be removed from the analysis (Laerd Statistics, 2017).

Outliers, or cases that are well above or below the average, were assessed through a visual review of a scatterplot of independent variables, as well as the Casewise Diagnostics table provided in the binary logistic regression output (Laerd Statistics, 2017). This procedure included the plan to assess any cases in which the values exceeded the recommended standards.

Data was analyzed using the IBM Statistical Package for the Social Sciences (SPSS) version 26 (IBM Corp., 2019). Alpha, or the level of significance, was set to .05 and power was set at .80. The power level of .80 and a medium effect size is often used for a wide range of behavioral research areas (Cohen, 1988; Heppner, Kivlighan, & Wampold, 2016).

Research Questions

Research question one. Will demographic variables (age and gender) and academic variables (CGPA, CQPS, term of dismissal QPS) significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college?

Hypothesis one. Demographic variables (age and gender) and academic variables (CGPA, CQPS, term of dismissal QPS) will significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at the end of the

term of reinstatement following an academic suspension at a small, Midwestern technical college.

Research question two. Will evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college?

Hypothesis two. Evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), will significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college.

Research question three. Will demographic variables (age and gender), academic variables (CGPA, CQPS, term of dismissal QPS), and evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college?

Hypothesis three. Demographic variables (age and gender), academic variables (CGPA, CQPS, term of dismissal QPS), and evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), will significantly predict the reinstatement outcome (reinstatement success or reinstatement

nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college.

Summary

In summary, this study aimed to explore the potential relationship between a number of independent variables, including the demographic variables of age and gender, the academic variables of CGPA, CQPS, and term of dismissal QPS, and evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), and the dependent variable of reinstatement outcome (reinstatement success or reinstatement nonsuccess) at the end of the term of reinstatement following an academic suspension for students at a small, Midwestern technical college. This chapter included a restatement of the purpose of this study and the methods and procedures that were utilized in the study, including details regarding the research questions, variables, site description, population, data collection, and data analysis.

Chapter 4: Findings

Introduction

Chapter four describes the data collection process, descriptive statistics, statistical analysis, and the findings for each research question. The data used in this study was archival data, collected with assistance from the institutional department responsible for managing student records and the department responsible for institutional research at a small Midwestern technical college. After IRB approval, the data was provided to the researcher, converted into a database, and analyzed using the IBM Statistical Package for the Social Sciences (SPSS) version 26 (IBM Corp., 2019). Laerd Statistics (2017) and *SPSS for Intermediate Statistics* (Leech, Barrett & Morgan, 2008) were used as references in the process of analyzing the data.

Data collection process. Data collected for this study included age, gender, cumulative grade point average (CGPA), cumulative quality point status (CQPS), term of dismissal quality point status (QPS), evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), and demographic information for students who reenrolled at a small Midwestern technical college after appealing an academic suspension which occurred due to poor academic progress at this institution. Participants who were included in this study submitted an appeal to request reinstatement at the college, were approved to return, and reenrolled during a fall or spring term ranging from fall 2015 to spring 2019. Data was obtained from the college student record system and academic suspension appeals and was collected with assistance

from the institutional department responsible for managing student records and the department responsible for institutional research.

Prior to finalizing the data set, two student cases were removed from the sample. It was intended that the sample for this study would only include students whose term of reinstatement was a fall or spring term, so the first case was removed after it was determined that the term of reinstatement was a summer term due to an unexpected late grade change. The second case was removed due to an unexpected late grade change that resulted in a retroactive term of dismissal after the student had already reenrolled. In this case, the term of reinstatement for the student occurred prior to the notification of a suspension and there was no suspension appeal available to review. Therefore, the final sample included a total of 207 students.

Demographics. Data was collected to provide comprehensive descriptive demographic statistics. Information was obtained regarding gender, age, race and ethnicity, financial aid Pell Grant eligibility as of the award year of the reinstatement term, high school credential earned (diploma or GED), first-generation college student status, self-reported military veteran status, and academic program major.

The college student record system was used to obtain data related to student gender and this system collects only binary gender identities (female or male). Out of the total sample (N = 207), 110 students (53.1%) identified as female and 97 students (46.9%) identified as male.

Data for age was collected based on the age of the student on September first of the fiscal year in which the student was reinstated. This date was used in order to

maintain consistency with how the variable of age is managed by the Integrated Postsecondary Education Data System (U.S. Department of Education, n.d.-c). The minimum age of students in the sample was 17 years and the maximum age was 56 years (M = 26.8, SD = 7.83).

Students identified as Native American or Alaskan Native (n = 1, 0.5%), Asian (n = 7, 3.4%), Black or African American (n = 36, 17.4%), Latino or Hispanic (n = 10, 4.8%), White (n = 142, 68.6%), and two or more racial or ethnic identities (n = 11, 5.3%).

Descriptive statistics were also collected related to Pell Grant eligibility as of the financial aid award year of the reinstatement term. Students who are eligible to receive Pell Grants come from financially disadvantaged families with household incomes that are typically less than $40,000 annually (Schudde & Scott-Clayton, 2014). Of the total sample, 125 students (60.4%) were Pell Grant eligible, 50 students (24.2%) were not Pell Grant eligible, and the Pell Grant eligibility status of 32 students (15.5%) was unknown due to no financial aid application on record or an incomplete financial aid application.

The majority of students in the sample had earned a high school diploma (n = 176, 85%). Those who did not earn a high school diploma had record of earning a GED (n = 31, 15%). Information regarding first-generation college student status was also collected. Using the federal definition, which recognizes students who have no parent in the household who has earned a bachelor's degree as first-generation students (Sharpe, 2017), 133 students (64.3%) were classified as first-generation, 67 students (32.4%) were classified as not being first-generation, and the first-generation status of seven students (3.4%) was unknown.

Information was also collected related to military veteran status of students. Veteran status was based on students self-identifying as a military veteran at the time of their application to the college. Of the total sample, 12 students (5.8%) identified as military veterans and 195 students (94.2%) did not.

The academic program majors of students in this sample were clustered into eight categories: (a) health science technology (patient care and medical administration), (b) construction, engineering, and manufacturing, (c) information technology, (d) legal, office administration, and management, (e) automotive technology, (f) community and social services, (g) golf course grounds and landscape management, and (h) undeclared. Of all students in the sample, 87 students (42%) were enrolled in health science technology academic majors, 38 students (18.4%) were enrolled in construction, engineering, and manufacturing majors, 36 students (17.4%) were enrolled in information technology majors, 22 students (10.6%) were enrolled in legal, office administration, and management majors, 13 students (6.3%) were enrolled in automotive technology majors, six students (2.9%) were enrolled in community and social services majors, three students (1.4%) were enrolled in golf course grounds and landscape management majors, and two students (1%) did not have a declared major.

Dependent variable. This study included one binary dependent variable. The dependent variable for this study was reinstatement outcome (reinstatement success or reinstatement nonsuccess) during the term of reinstatement following an academic suspension. At the end of the term of reinstatement, reinstatement success was defined as an academic status of good academic standing (requiring a CGPA of 2.0 or higher *and* a

cumulative credit completion rate [CCCR] of 67% or higher) *or* an academic status of continued probation (requiring a term of reinstatement GPA of 2.5 or higher *and* a term of reinstatement credit completion rate [CCR] of 100%). Either of these academic statuses would indicate that the student had been allowed continued enrollment and had made progress in repairing academic deficiencies following an academic suspension.

Reinstatement nonsuccess was defined as the academic status of an academic suspension at the end of the term of reinstatement. An academic suspension status would have been reapplied at the end of the term of reinstatement if a student had failed to meet the minimum requirements to achieve the academic status of good academic standing *and* had failed to achieve the academic status of continued probation. Returning to an academic suspension status would indicate that the student did not demonstrate satisfactory progress toward repairing academic deficiencies.

Of the total sample (N = 207), 94 students (45.4%) experienced an outcome of reinstatement success and 113 students (54.6%) experienced an outcome of reinstatement nonsuccess. Of those who experienced reinstatement success, 50 (24.2%) were assigned the academic status of good standing at the end of the term of reinstatement and 44 (21.3%) were assigned the academic status of continued probation at the end of the term of reinstatement.

Of all students who experienced an outcome of reinstatement success (n = 94), 47 students (50%) were female and 47 students (50%) were male. Of those who experienced an outcome of reinstatement nonsuccess (n = 113), 63 students (55.8%) were female and 50 students (44.2%) were male. In regard to age, those who experienced an outcome of

reinstatement success (*n* = 94) had an average age of 25.8 years (*SD* = 6.84) and those who experienced outcome of reinstatement nonsuccess (*n* = 113) had an average age of 27.6 years (*SD* = 8.52).

The reinstatement outcome of students in the sample was also reviewed by race and ethnicity. Of all students who experienced an outcome of reinstatement success *(n* = 94), five students (5.3%) identified as Asian, 11 students (11.7%) identified as Black or African American, six students (6.4%) identified as Latino or Hispanic, 67 students (71.3%) identified as White, and five students (5.3%) identified as having two or more racial or ethnic identities. Of all students who experienced an outcome of reinstatement nonsuccess (*n* = 113), one student (0.9%) identified as Native American or Alaskan Native, two students (1.8%) identified as Asian, 25 students (22.1%) identified as Black or African American, four students (3.5%) identified as Latino or Hispanic, 75 students (66.4%) identified as White, and six students (5.3%) identified as having two or more racial or ethnic identities.

Of all students who experienced an outcome of reinstatement success (*n* = 94), 57 students (60.6%) were Pell Grant eligible, 25 students (26.6%) were not Pell Grant eligible, and the Pell Grant eligibility of 12 students (12.8%) was unknown. Of those who experienced an outcome of reinstatement nonsuccess (*n* = 113), 68 students (60.2%) were Pell Grant eligible, 25 students (22.1%) were not Pell Grant eligible, and the Pell Grant eligibility of 20 students (17.7%) was unknown.

Comparisons were also assessed for the high school credential earned by students in the sample. Of all students who experienced an outcome of reinstatement success (*n* =

94), 86 students (91.5%) had earned a high school diploma and eight students (8.5%) had earned a GED. Of those who experienced an outcome of reinstatement nonsuccess (*n* = 113), 90 students (79.6%) had earned a high school diploma and 23 students (20.4%) had earned a GED.

Five students (5.3%) who identified as military veterans and 89 students (94.7%) who did not identify as military veterans experienced an outcome of reinstatement success (*n* = 94). Of those who experienced an outcome of reinstatement nonsuccess (*n* = 113), seven students (6.2%) identified as military veterans and 106 students (93.8%) did not identify as military veterans.

Of those who experienced an outcome of reinstatement success (*n* = 94), 56 students (59.6%) were first generation, 35 students (37.2%) were not first generation, and the first-generation status of three students (3.2%) was unknown. Of those who experienced an outcome of reinstatement nonsuccess (*n* = 113), 77 students (68.1%) were first generation, 32 students (28.3%) were not first generation, and the first-generation status of four students (3.5%) was unknown.

Independent variables. The following six independent variables were included in this study: age, gender, CGPA, CQPS, term of dismissal QPS, and evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no). The variables of age and gender were categorized as demographic variables, and the variables of CGPA, CQPS, and term of dismissal QPS were categorized as academic variables. Data for age, gender, CGPA, CQPS, and term of dismissal QPS was obtained directly from the student record system of the college.

CGPA, CQPS, and term of dismissal QPS was calculated using data related to all credits attempted and earned at the college, as well as any transfer credits accepted by the college.

Cumulative grade point average. CGPA was assessed at the end of the term of dismissal. CGPA for students in the sample ranged from 0.0 (indicating all failing grades) to 4.0 (indicating all A grades). The average CGPA was 1.72 (*SD* = 0.83). Two students in the sample had null CGPA values, indicating that they withdrew from all cumulative credits attempted. At the institution of study, courses that are withdrawn from are not included in GPA calculations.

Cumulative quality point status. QPS is a negative, neutral, or positive number, calculated using GPA and credits attempted, which indicates distance from meeting a minimum academic requirement (Cogan, 2011). For the purpose of this study, a 2.0 GPA was set as the minimum academic requirement for QPS calculation because it was consistent with the institutional policy; therefore, when calculating QPS, a 2.0 GPA was determined to be equal to a neutral QPS of zero. A QPS calculated to be a negative number indicated that a student had not met minimum standards and a QPS calculated to be a positive number, indicated that a student had exceeded minimum standards. The greater the distance QPS ranged from zero, in either a negative or a positive direction, the further a student was from the minimum academic requirement.

CQPS was calculated based on the cumulative GPA and cumulative credits attempted at the end of the term of dismissal. CQPS was calculated in a three-step process. First, the number of cumulative credits attempted was multiplied by two in order

to determine the minimum quality points needed to obtain a 2.0 CGPA. Then, CGPA was multiplied by the number of cumulative credits attempted in order to assess the actual quality points earned. The last step in the calculation was to subtract the minimum quality points needed from the quality points earned in order to assess CQPS. The CQPS of students in the sample ranged from -55.10 to 76.59, and the average CQPS was -3.79 (*SD* = 22.83).

Term of dismissal quality point status. Term of dismissal QPS was calculated based on the term GPA and term credits attempted during the term of dismissal. The same calculation process used for CQPS was implemented using term of dismissal GPA and term of dismissal credits attempted. The term of dismissal QPS of students in the sample ranged from -38 to 31.96, with an average term of dismissal QPS of -2.99 (*SD* = 12.51).

Evidence of a mental health concern. Evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), was determined based on a qualitative review of academic suspension appeal paperwork. The academic suspension appeal paperwork at this institution included two pages of forms, an appeal essay, transcripts, and, in some cases, documentation to support the appeal essay. The forms required student contact information, a brief section to indicate the general reason for the appeal, a section regarding academic history, and a contract for academic success, which included an outline of a tentative academic plan if reinstated. The appeal essays were typically one to two pages in length and students were asked to describe what factors or circumstances contributed to the academic suspension, what had changed

or what had been done to keep these factors or circumstances from interfering with future academic progress, a brief summary of academic and career goals, and a plan to achieve academic goals, including specific strategies to promote academic success. If available and relevant to the reason for the appeal, students were also encouraged to submit documentation to support their appeal essay. For example, if a student indicated that a medical issue contributed to the academic suspension, the appeal forms indicated that the student should also submit a statement from their medical provider, a clinical visit summary, or other documentation related to the issue. In some cases, students included in the sample were required to submit additional documentation after the initial review of their appeal in order to be approved for reinstatement. In these instances, the additional documentation submitted by the student was attached to the original appeal and was included in the qualitative review process.

The variable of evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork, was dichotomous and was coded as either "yes," meaning that there was evidence of a mental health concern in suspension appeal paperwork, or "no," meaning that there was no evidence of a mental health concern in suspension appeal paperwork.

Instances in which this variable was coded as "yes" were those cases that included the presence of any of the following references in the academic suspension appeal forms, appeal essay, or attached documentation. These references included: a firsthand self-reported reference to experiencing a mental health concern, including references to symptoms which resulted in functional impairment or significant distress (e.g., "I was

experiencing anxiety," "I was feeling really depressed," "I was dealing with mental health issues," "I was so stressed that there were days I could not get out of bed," etc.); a direct firsthand self-reported reference to having a diagnosed mental health concern (e.g., "I was diagnosed with anxiety," "I have a history of bipolar disorder," "I have a diagnosed mental health issue," etc.); a direct reference to a diagnosed mental health concern in attached documentation (e.g., statement or documentation from a medical provider or mental health practitioner, legal documentation, accommodation paperwork, etc.); a firsthand self-reported reference indicating received treatment for a mental health concern in the appeal essay (e.g., "I have been seeing a therapist," "I have been prescribed antidepressants," etc.); a reference indicating received treatment for a mental health concern in attached documentation (e.g., statement or documentation from a mental health practitioner indicating participation in counseling, statement or documentation from a medical provider indicating prescribed medications for a mental health concern, etc.).

In order to identify the variable of evidence of a mental health concern in the review process, an electronic guide sheet was developed to allow the reviewer to indicate any of these references identified in the appeal materials (see Appendix). If any of these references were indicated, the reviewer would conclude that there was evidence of a mental health concern in the appeal paperwork. If none of these references were indicated, the reviewer would conclude that there was no evidence of a mental health concern in the appeal paperwork.

Appeal paperwork was reviewed for all students in the sample (N = 207). Of all appeals, 66 appeals (31.9%) included evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork, and 141 appeals (68.1%) did not include evidence of a mental health concern.

The appeals that included evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork, (n = 66) belonged to 33 (50%) female students and 33 (50%) male students. The average age of students with appeals that included evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork, was 26.65 years (SD = 7.76).

Appeals that included evidence of a mental health concern could include one or more specific types of references as outlined in the description of this variable. Of all appeals that included evidence of a mental health concern (n = 66), 65 appeals (98.5%) included a firsthand self-reported reference to experiencing a mental health concern, 36 appeals (54.5%) included a direct firsthand self-reported reference to having a diagnosed mental health concern, 25 appeals (37.9%) included a direct reference to a diagnosed mental health concern in attached documentation, 33 appeals (50%) included a firsthand self-reported reference indicating received treatment for a mental health concern in the appeal essay, and 21 appeals (31.8%) included a reference indicating received treatment for a mental health concern in attached documentation.

The appeals that did not include any evidence of a mental health concern (n = 141) belonged to 77 (54.6%) female students and 64 (45.4%) male students. The average

age of students with appeals that did not include evidence of a mental health concern was 26.8 years (*SD* = 7.89).

Because the identification of this variable required a qualitative review, it was important to ensure that this process was valid and accurate. Therefore, an outside auditor was asked to perform the same process of reviewing suspension appeal paperwork in order to assess interrater reliability (i.e., between the researcher and the auditor) and the trustworthiness of results. The institutional department responsible for managing student records removed all personally identifiable information from the suspension appeal paperwork before providing access to the researcher and the outside auditor. The outside auditor was then asked to review each suspension appeal included in the study and assess whether there was any evidence of a mental health concern based on the comprehensive description of this variable and the provided guide sheet.

The next step was to perform an analysis to assess the level of interrater reliability, including an assessment of Krippendorff's alpha, a standard measure of reliability in qualitative research methods, and the percent agreement, which is the portion of instances in which both reviewers indicated the same result (Hayes & Krippendorff, 2007). The calculation for Krippendorff's alpha was conducted using SPSS version 26 (IBM Corp., 2019) with a specific macro, or set of commands used to produce an output, within the program (Hayes & Krippendorff, 2007). This macro was developed by Hayes and Krippendorff (2007) and can be downloaded at: http://afhayes.com/spss-sas-and-r-macros-and-code.html.

For the variable of evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), the Krippendorff's alpha was 0.766 and the percent agreement was 89.9%. An alpha of 0.766 indicates that approximately 77% of all recorded cases were reliable and 23% were the result of chance (Krippendorff, 2004). According to Krippendorff (2004), it is conventional to require an alpha of 0.8 or higher and a minimum alpha of 0.667 in cases where tentative conclusions are considered acceptable. Based on these standards, the Krippendorff's alpha of 0.766 for the variable of evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no) was slightly lower than the conventional requirements; however, it was still deemed acceptable due to the exploratory, rather than decisive, use of this variable in the study (Krippendorff, 2004).

Assumptions of binary logistic regression. When using binary logistic regression, there are a few major assumptions which must be met (Leech et al., 2008). For this study, assumptions related to sample size, linearity of continuous variables, multicollinearity, and outliers were assessed.

Sample size. Binary logistic regression often requires large sample sizes in order to be accurate and the process of determining the appropriate sample size for a study should include the consideration of the number of independent or predictor variables being included in the analysis (Leech et al., 2008). A common recommendation is that the sample size should be at least twenty times the number of independent variables included in the analysis (Leech et al., 2008). Similarly, an approximate sample size of 100 would be recommended when collectively considering the number of independent

variables as well as power and anticipated effect size (Green, 1991). This estimate was supported by an online sample size calculator which indicated the need for a minimum sample size of 97 when anticipating a medium effect size (0.05) with the level of significance set to .05 and power set at .80 with six independent variables (Soper, 2019). The sample size in this analysis (N = 207) sufficiently satisfied this assumption.

Linearity of continuous variables. To accurately assess the relationships between variables in binary logistic regression, the relationship between the dependent and independent variables must be linear (Laerd Statistics, 2017). Linearity of the continuous variables as related to the logit of the dependent variable was assessed using the Box-Tidwell (1962) procedure. A Bonferroni correction was applied using all eleven terms in the model resulting in statistical significance being accepted when $p < .004545$ (Tabachnick & Fidell, 2014). Based on this assessment, all continuous independent variables were found to be linearly related to the logit of the dependent variable.

Multicollinearity. Highly correlated independent variables, or multicollinearity, may be problematic when using binary logistic regression (Leech et al., 2008). Therefore, a check for multicollinearity was performed in the process of analyzing the data.

The first step in this process was an assessment of multicollinearity through a Pearson's product-moment correlation. The results of this analysis indicated notable correlations involving three independent variables, including a correlation between term of dismissal QPS and CGPA (r = .66), a correlation between CGPA and CQPS (r = .88), and a correlation between CQPS and term of dismissal QPS (r = .64). Because correlation

coefficients greater than .5 indicate a strong correlation (Cohen, 1988), the results of this analysis indicated a potential issue with multicollinearity.

The second step of this process was to compare the results of the Pearson's product-moment correlation to the collinearity diagnostics embedded in the binary logistic regression output to assess Tolerance and Variable Inflation Factor (VIF) values. Term of dismissal QPS had a Tolerance value of 0.53 and a VIF of 1.88. CGPA had a Tolerance value of 0.21 and a VIF of 4.74. CQPS had a Tolerance value of 0.21 and a VIF of 4.80. Variables with Tolerance values less than 0.2 or VIF values greater than five indicate a high threat of multicollinearity (Laerd Statistics, 2017) and are often removed from the equation in order to avoid violating an assumption of binary logistic regression (Leech et al., 2008).

Although the Tolerance values and VIF of each variable did not exceed the range acceptable values when assessing the threat of multicollinearity, when considered in combination with the strong correlations evident in the Pearson's product-moment correlation analysis, it was decided that the variable of CGPA would be removed from the binary logistic regression analysis. The variable of CGPA was highly correlated to both CQPS (r = .88) and term of dismissal QPS (r = .66), and the Tolerance value (0.21) and VIF (4.74) of this variable were close to exceeding the range of acceptable values (Leech et al., 2008).

After it was decided that CGPA would be removed from the binary logistic regression equation, collinearity diagnostics were analyzed for a second time using the remaining independent variables of age, gender, CQPS, term of dismissal QPS, and

evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork. With the removed variable of CGPA, Tolerance values for CQPS (0.55) and term of dismissal QPS (0.56) were higher and the VIF of CQPS (1.83) and term of dismissal QPS (1.79) were much lower. The changes in these values both indicate a reduced threat of multicollinearity between variables (Leech et al., 2008). For this reason, with the removal of CGPA as an independent variable, multicollinearity was no longer detected as a threat and this assumption of binary logistic regression was not violated.

Outliers. Cases that are well above or below the average, or outliers, must be reviewed as a potential violation of the assumptions of binary logistic regression (Laerd Statistics, 2017). Any threats to this assumption were checked using scatterplots of independent variables to complete a visual assessment of data, as well as a review of the Casewise Diagnostics table provided in the binary logistic regression output. No substantial outliers were identified in the visual assessment of data; however, one case was identified in the Casewise Diagnostics table and warranted review.

It is recommended that cases with standardized residuals greater than an absolute value of 2.5 should be reviewed as outliers and a decision must be made as to whether these cases should be retained or removed from the analysis (Laerd Statistics, 2017). The Casewise Diagnostics table identified one case with a standardized residual value of -2.49 standard deviations. This case was reviewed as a potential outlier; however, it was kept in the analysis as the data related to this case was determined to be valid and the standardized residual value did not exceed the acceptable absolute value of 2.5.

Research Questions

The following three research questions were addressed. Two of the research questions were revised to exclude one of the independent variables originally proposed when outlining the research design and methods. The independent variable CGPA was removed from research question one and research question three due to issues of multicollinearity and a threat to the assumptions of the statistical test used. The with the level of significance for this study was set at .05 (Laerd Statistics, 2017).

Research question one. Will demographic variables (age and gender) and academic variables (CQPS and term of dismissal QPS) significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college?

Hypothesis one. Demographic variables (age and gender) and academic variables (CQPS and term of dismissal QPS) will significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college.

A binary logistic regression analysis was performed to determine the effects of age, gender, CQPS, and term of dismissal QPS on the likelihood that students will experience reinstatement success or reinstatement nonsuccess following an academic suspension (Table 1). The binary logistic regression model was statistically significant, $\chi^2(4) = 20.09$, $p < .001$. The model explained 12.4% (Nagelkerke R^2) of the variance in reinstatement outcome and correctly classified 65.2% of cases. Sensitivity, or the

percentage of cases with an outcome of reinstatement success that were correctly predicted by the model (Laerd Statistics, 2017), was 52.1%. Specificity, or the percentage of cases with an outcome of reinstatement nonsuccess that were correctly predicted by the model (Laerd Statistics, 2017), was 76.1%.

The percentage of correctly predicted cases with an outcome of reinstatement success, or the positive predictive value, was 64.5%. The percentage of correctly predicted cases with an outcome of reinstatement nonsuccess, or the negative predictive value was 65.6%.

Of the four predictor variables, only the variables of age (p = .027) and CQPS (p = .014) were statistically significant. An increase in age was associated with a decreased likelihood of a reinstatement success outcome. For each unit reduction in age, the odds of experiencing an outcome of reinstatement success increased by a factor of 1.05. The opposite pattern was evident for CQPS. An increase in CQPS was associated with an increased likelihood of an outcome of reinstatement success. For each unit increase in CQPS, the odds of experiencing an outcome of reinstatement success increased by a factor of 1.02.

Research question two. Will evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college?

Hypothesis two. Evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), will significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college.

A binary logistic regression analysis was performed to determine the effects of evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), on the likelihood that students will experience reinstatement success or reinstatement nonsuccess following an academic suspension (Table 2). The binary logistic regression model was not statistically significant, $\chi^2(1) = .095$, $p > .05$. The model explained less than 1% (Nagelkerke R^2) of the variance in reinstatement outcome and correctly classified 54.6% of cases. Sensitivity, or the percentage of cases with an outcome of reinstatement success that were correctly predicted by the model (Laerd Statistics, 2017), was 0%. Specificity, or the percentage of cases with an outcome of reinstatement nonsuccess that were correctly predicted by the model (Laerd Statistics, 2017), was 100%. The percentage of correctly predicted cases with an outcome of reinstatement success, or the positive predictive value, was 0%. The percentage of correctly predicted cases with an outcome of reinstatement nonsuccess, or the negative predictive value was 54.6%, which indicates that the model incorrectly predicted all cases to have an outcome of reinstatement nonsuccess.

Research question three. Will demographic variables (age and gender), academic variables (CQPS and term of dismissal QPS), and evidence of a mental health

concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college?

Hypothesis three. Demographic variables (age and gender), academic variables (CQPS and term of dismissal QPS), and evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), will significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college.

A binary logistic regression analysis was performed to determine the effects of age, gender, CQPS, term of dismissal QPS, and overall evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), on the likelihood that students will experience reinstatement success or reinstatement nonsuccess following an academic suspension (Table 3). The binary logistic regression model was statistically significant, $\chi^2(5) = 20.73$, $p < .001$. The model explained 12.7% (Nagelkerke R^2) of the variance in reinstatement outcome and correctly classified 65.7% of cases. Sensitivity, or the percentage of cases with an outcome of reinstatement success that were correctly predicted by the model (Laerd Statistics, 2017), was 53.2%. Specificity, or the percentage of cases with an outcome of reinstatement nonsuccess that were correctly predicted by the model (Laerd Statistics, 2017), was 76.1%.

The percentage of correctly predicted cases with an outcome of reinstatement success, or the positive predictive value, was 64.9%. The percentage of correctly predicted cases with an outcome of reinstatement nonsuccess, or the negative predictive value, was 66.2%.

Of the five predictor variables, only the variables of age (p = .026) and CQPS (p = .015) were statistically significant. An increase in age was associated with a decreased likelihood of an outcome of reinstatement success. For each unit reduction in age, the odds of experiencing an outcome of reinstatement success increased by a factor of 1.05. The opposite pattern was evident for CQPS. An increase in CQPS was associated with an increased likelihood of an outcome of reinstatement success. For each unit increase in CQPS, the odds of experiencing an outcome of reinstatement success increased by a factor of 1.02. The variable evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork, was not statistically significant in this model (p = .425).

Summary

This chapter included information related to the collection process, descriptive statistics, statistical analysis, and the findings for each research question. Binary logistic regression was used as the statistical analysis for all three research questions. Due to a threat of multicollinearity, which would violate an assumption of binary logistic regression, the independent variables CGPA was removed from the analysis related to research question one and research question three. Two of the three hypotheses of this study were supported.

For research question one, a binary logistic regression analysis was conducted to determine if the independent variables of age, gender, CQPS, and term of dismissal QPS would predict reinstatement outcome (reinstatement success or reinstatement nonsuccess) following an academic suspension. The findings indicated the model was significant, $\chi^2(4) = 20.09$, $p < .001$. Collectively, the predictor variables accounted for 12.4% (Nagelkerke R^2) of the variation in predicting reinstatement outcome. Of the four predictor variables, only the variables of age ($p = .027$) and CQPS ($p = .014$) were statistically significant. Overall, this finding supported hypothesis one.

For the second research question, a binary logistic regression analysis was conducted to determine if evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), could predict reinstatement outcome (reinstatement success or reinstatement nonsuccess) following an academic suspension. The findings indicated the model was not statistically significant, $\chi^2(1) = .095$, $p > .05$ and that the evidence of a mental health concern variable accounted for less than 1% (Nagelkerke R^2) of the variation in predicting reinstatement outcome. Therefore, hypothesis two was not supported.

The third research question was also addressed using a binary logistic regression analysis. This analysis was conducted to determine if the collective variables of age, gender, CQPS, term of dismissal QPS, and evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), would predict reinstatement outcome (reinstatement success or reinstatement nonsuccess) following an academic suspension. The findings indicated the model was statistically

significant, $\chi^2(5) = 20.73$, $p < .001$. Collectively, the predictor variables accounted for 12.7% (Nagelkerke R^2) of the variation in predicting reinstatement outcome. Of the four predictor variables only the variables of age ($p = .026$) and CQPS ($p = .015$) were statistically significant. Overall, this finding supported the third hypothesis.

Chapter 5: Discussion of Findings

Introduction

This study used archival data from the student records and academic suspension appeals of suspended students from a small Midwestern technical college to examine how factors explored in prior research primarily focused on university students, including the academic variables of cumulative quality point status (CQPS) and term of dismissal quality point status (QPS), related to the reinstatement outcomes of technical college students. Additionally, this study aimed to address the research gap related to mental health concerns and reinstatement outcomes, as well as examining any relationships present when considering the demographic factors of age and gender, due to the increased rates of mental health diagnoses for older students and female students (Auerbach et al., 2018), both of which are student populations who make up a larger percentage of total enrollment at two-year colleges when compared to universities (McFarland et al., 2019).

Overview of the Study

Due to a number of negative consequences related to reinstating students who fail to achieve academic success following an academic suspension, understanding factors which may be related to reinstatement outcomes is an important and complex issue to consider. By adding to, and expanding upon, the current literature, the goal of this research was to assist higher education professionals in the process of making evidence-based decisions when reviewing academic suspension appeals and supporting reinstated students. Furthermore, this research aimed to promote an awareness of how high-risk student populations, such as students with a mental health diagnosis, are impacted by the

academic suspension and reinstatement process. This study endeavored to provide information to assist in the process of prioritizing and developing retention-focused support services specifically designed to assist students who may be less likely to meet academic standards if reinstated following an academic suspension.

Binary logistic regression was the primary statistical analysis utilized in this study in order to explore the potential relationship between a number of independent variables, including the demographic variables of age and gender, the academic variables of CQPS and term of dismissal QPS, and evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), and the dependent variable of reinstatement outcome (reinstatement success or reinstatement nonsuccess). To prepare the data for analysis, an examination of the assumptions of binary logistic regression was performed. Prior to this process, cumulative grade point average (CGPA) was also included as an independent variable in two of the three research questions for this study; however, it was determined that CGPA should be removed from the analysis due to issues of multicollinearity. Research question one and research question three were revised to exclude this variable.

In addition to binary logistic regression, an analysis was performed to assess the level of interrater reliability of the qualitatively determined evidence of a mental health concern variable. This process included an assessment of Krippendorff's alpha, a standard measure of reliability in qualitative research methods, and the percent agreement, which is the portion of instances in which both reviewers indicated the same result (Hayes & Krippendorff, 2007). For the variable of evidence of a mental health

concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), the Krippendorff's alpha was 0.766 and the percent agreement was 89.9%. According to Krippendorff (2004), it is conventional to require an alpha of 0.8 or higher and a minimum alpha of 0.667 in cases where tentative conclusions are considered acceptable. Based on these standards, the Krippendorff's alpha of 0.766 was slightly lower than conventional requirements, but was still deemed acceptable due to the exploratory, rather than decisive, use of this variable in the study (Krippendorff, 2004).

Discussion of Results

This study explored the relationship between a number of factors and the reinstatement outcomes of two-year technical college students following an academic suspension. This section begins with a discussion of the findings for each research question and consideration of how these results relate to the literature.

Research question one. Will demographic variables (age and gender) and academic variables (CQPS and term of dismissal QPS) significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college?

One of the purposes of this study was to explore whether the relationship between factors which have been found to be related to reinstatement outcomes following an academic suspension for four-year university students would be consistent for a two-year technical college population. Although there are numerous studies focused on topics related to retention and academic completion at universities (G. Carter, 2013), technical

colleges are understudied and there is limited research available to indicate to what extent technical college students are academically successful (Murtaugh, 2010).

The variable of age has been explored in higher education literature as a potential predictive factor of academic success or nonsuccess; however, research findings have not been conclusive. For example, there is evidence to suggest that older students are more likely to graduate from college when compared to their younger peers (Murtaugh, 2010). Then again, there is also evidence to suggest that older students are more likely to be placed on academic warning or academic suspension (Jones, 2000). Age, as a variable, has been explored in ways similar to which it was in this study; however, prior studies focused on university student populations, reported no significant relationship between student age and reinstatement outcomes (Cobble & Hohengarten, 1998; Brady, 2008; Meador, 2012).

A significant relationship was present in the findings of this study. Of the four predictor variables included in the first research question, the variable of age was one of two variables that had a statistically significant relationship with the dependent variable of reinstatement outcome. Specifically, an increase in age was associated with a decreased likelihood of a reinstatement success outcome, meaning that older students were significantly less likely to experience reinstatement success following an academic suspension and that younger students were significantly more likely to experience reinstatement success. There are a number of possible explanations for this finding.

One reason that this finding may conflict with prior studies which found no significant relationship between age and reinstatement outcome (Cobble & Hohengarten,

1998; Brady, 2008; Meador, 2012) is that the two-year technical college student sample for this study may have included a much wider range of student ages and an older average age of students when compared to average university student populations (McFarland et al., 2019). The ages of students in the sample for this study ranged from 17 years to 56 years, with an average age of 26.8.

The finding that older students may be less likely to experience a reinstatement success outcome may be explained in part by prior research, which suggests that older students may experience unique barriers to academic progress. Older students report higher levels of external barriers to academic success, such as family issues or health problems (Heller & Cassady, 2017), are more likely to cite difficulties with the teaching methods of their instructors (Saunders, 2008), and may have more responsibilities and obligations which limit time available to focus on academics (Berkovitz & O'Quin, 2006). This study highlights the possibility that the variable of age may be predictive of reinstatement outcomes for two-year technical college student populations due to the aforementioned nontraditional average age of students in these groups when compared to university student populations.

Gender has also been explored as a possible predictive factor of reinstatement outcomes following an academic suspension. Prior research has focused on university student populations, which has provided some evidence to suggest that female students, following an academic suspension, are more likely to experience an outcome of reinstatement success (Cogan, 2011) and are more likely to persist to graduation (Denovchek, 1992). Because two-year technical college student populations tend to

include a higher percentage of female students, the literature supported the decision to include gender as a variable in this study.

However, in this study there was no significant relationship between gender and reinstatement outcomes, and this finding mirrors the results of many other studies focused on university student populations (Brady, 2008; Cobble & Hohengarten, 1998; Kelly, 2010; Meador, 2012). Additionally, the actual differences between students in the sample for this study in regard to gender, where much more similar than anticipated. Of the total sample, only a slight majority (53.1%) were female students and, quite interestingly, of all students in the sample who experienced an outcome of reinstatement success, exactly half were female students and half were male students.

The academic variables of CQPS and term of dismissal QPS were included in this study due to a great deal of evidence in prior research to suggest their predictive value in forecasting reinstatement outcomes of university students following an academic suspension (Cobble & Hohengarten, 1998; Cogan, 2011; Kelly, 2010). QPS is a value which indicates the degree of academic success or nonsuccess experienced by a student and is a more comprehensive method for determining the extent of an academic deficiency for students who are reinstated following an academic suspension when compared to GPA (Cogan, 2011). QPS can be a negative, neutral, or positive number which measures the distance from a minimum academic requirement, with a high, positive value indicating academic performance which exceeds minimum requirements and a low, negative value indicating academic performance that is deficient of minimum requirements. For this study, CQPS was a calculation based on all credits attempted

cumulatively at the institution and term of dismissal QPS was a calculation based only on the credits attempted during the term which resulted in the academic suspension.

The results indicated a statistically significant relationship between CQPS and reinstatement outcomes, and no significant relationship between term of dismissal QPS and reinstatement outcomes. This finding suggests that the cumulative assessment of academic performance at this institution has more predictive value than the assessment of academic performance isolated to the term directly preceding the academic suspension. Although this finding is not overly surprising due to the more comprehensive assessment required in the calculation of CQPS, a study of university students which used a similar research method found term of dismissal QPS to have significantly more value in forecasting reinstatement outcomes when compared to CQPS (Cogan, 2011). Although more research would be needed to fully understand the discrepancy of these findings, it is important to note that there are demographic differences between two-year technical college student populations, who are often more racially and ethnically diverse, have an older average age, and include a larger percentage of female students when compared to university student populations (U.S. Department of Education, 2016a; U.S. Department of Education, n.d.-a), and to highlight that, based on the results of the current study, the cumulative assessment of academic performance for two-year technical college students may be more predictive of future academic performance.

As would be expected, the results of this study included the finding that an increase in CQPS was associated with an increased likelihood of an outcome of reinstatement success. Stated differently, students who had a history of meeting or

exceeding minimum academic requirements were more likely to experience an outcome of reinstatement success. This finding is also highlighted by the averages of CQPS for each outcome group. The average CQPS of students who experienced an outcome of reinstatement success was higher (M = 2.05, SD = 22.46) than that of students who experienced an outcome of reinstatement nonsuccess (M = -8.65, SD = 22.07). It is important to note that the range of CQPS values for students in the sample was quite vast, with the lowest CQPS being -55.10 and the highest CQPS being 76.59. The average CQPS of all students in the sample was -3.79 (SD = 22.83).

The overall binary logistic regression model, which included the predictor variables of age, gender, CQPS, and term of dismissal QPS was statistically significant and explained 12.4% (Nagelkerke R^2) of the variance in reinstatement outcomes. The model correctly predicted 65.2% of cases. This prediction rate is noteworthy as studies focused on the suspension appeal review process tend to find that approximately 50% of all students who are approved to be reinstated following an academic suspension experience an outcome of reinstatement nonsuccess (Hall & Gahn, 1994; Santa Rita, 1998). This finding suggests that the use of a predictive model utilizing the independent variables included in the analysis could be more accurate in predicting reinstatement outcomes when compared to the more subjective decision-making required in the suspension appeal review process that is common practice at many higher education institutions (Hall & Gahn, 1994; Santa Rita, 1998).

Overall, the collective independent variables of age, gender, CQPS, and term of dismissal QPS successfully predicted the reinstatement outcomes for approximately two-

thirds of all students in the sample who were reinstated following an academic suspension. The predictive value of this model was statistically significant, as well as meaningful in its difference from the 50% probability of outcomes typically observed in practice (Hall & Gahn, 1994; Santa Rita, 1998).

Research question two. Will evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college?

This study aimed to help address the research gap related to mental health concerns and reinstatement outcomes for students following an academic suspension. In order to explore any relationship between the presence of mental health concerns and reinstatement outcomes for students in this study, suspension appeal paperwork was qualitatively reviewed to identify evidence of mental health concerns, as self-reported or documented by students. Approximately one-third (31.9%) of all appeals submitted by students in the sample included evidence of a self-reported or documented mental health concern. This finding aligns with the results of the World Mental Health International College Student Project, which found that approximately 29% of first-year college students within the United States reported having at least one mental health diagnosis within their lifetime (Auerbach et al., 2018); however, it is important to note the differences between the groups in each study. The current study only included two-year technical college students and did not isolate the sample to only those in their first-year of

enrollment, whereas the national study surveyed students from both two-year colleges and four-year universities, but only included those in their first year of enrollment (Auerbach et al., 2018).

Since the research suggests that, on average, two-year college students report higher rates of mental health diagnoses than university students (Katz & Davison, 2014), it was expected that the rate of identified evidence for mental health concerns in suspension appeal paperwork for students in this study would be higher. However, it is important to note that the surveys which required a self-reported disclosure of a mental health concern, as those that were used in the World Mental Health International College Student Project (Auerbach et al., 2018), emphasized the anonymous nature of respondent information. Alternatively, students who chose to request reinstatement following an academic suspension were directly associated with the appeal paperwork they submitted, and these appeals are not redacted prior to their review by the suspension appeal committee at the institution. Therefore, any self-reported or documented evidence of a mental health concern included in appeal paperwork by students is neither anonymous nor guaranteed as confidential. For this reason, it is practical to consider that the actual rate of mental health concerns of students in the sample for the current study may be higher; however, students may have chosen not to self-report or document evidence of a mental health concern due to issues of stigma (NAMI, 2012) or other privacy concerns.

Additionally, many students shared information about extreme life circumstances that would likely result in co-occurring mental health concerns due to extreme stress or trauma; yet, these instances were not identified as evidence of a mental health concern in

this study unless a student specifically self-reported or documented information about a mental health concern or collective mental health symptoms which led to significant distress and impairment. For example, in some cases it may be reasonable to assume that students who experienced extreme life circumstances such as physical abuse, homelessness, or sexual assault also experienced mental health concerns as a result of the stress or trauma of their situation; however, these cases would not have been automatically coded as showing evidence of a mental health concern. This highlights another possible reason as to why the number of students who were identified as having evidence of a mental health concern in their suspension appeal paperwork was lower than anticipated in this investigation.

Although there is research to indicate that certain demographic factors, such as age and gender, are significantly correlated with the prevalence of self-reported mental health diagnoses (Auerbach et al., 2018), this was not the case in the current study. In regard to age, prior research has identified a significant positive correlation between age and the prevalence of a mental health diagnosis (Auerbach et al., 2018); however, the average age of students in the current study was virtually the same regardless of whether or not there was evidence of a mental health concern. The average age of all students in the sample was 26.8 years as compared to the average age of 26.7 years for students associated with suspension appeals that included evidence of a self-reported or documented mental health concern. Thus, the lack of variability in average student age likely also contributed to the nonsignificant findings.

Prior research has also identified a significant positive relationship between female gender and both lifetime and 12-month prevalence of a mental health diagnosis (Auerbach et al., 2018). Again, this finding was not replicated in the current study and, interestingly, both male and female students were equally represented in the subset of those whose appeals included self-reported or documented evidence of a mental health concern. The appeals that included evidence of a mental health concern belonged to exactly 50% female students (n = 33) and 50% male students (n = 33). Furthermore, when considering the total number of female students (n = 110) and male students (n = 97) in the overall sample (N = 207), a slightly larger percent of male students (34%) included evidence of a self-reported or documented mental health concern in appeal paperwork, as compared to female students (30%).

The binary logistic regression analysis that was used to determine the effects of evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork, on the likelihood that students will experience reinstatement success or reinstatement nonsuccess following an academic suspension was not statistically significant and the model explained almost none of the variance in reinstatement outcomes. This finding indicates that evidence of a mental health concern in suspension appeal paperwork is not, in itself, predictive of reinstatement success or nonsuccess following an academic suspension.

Research question three. Will demographic variables (age and gender), academic variables (CQPS and term of dismissal QPS), and evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes

or no), significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college?

The last research question was addressed using a binary logistic regression analysis which was performed to determine the effects of age, gender, CQPS, term of dismissal QPS, and overall evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), on the likelihood that students will experience reinstatement success or reinstatement nonsuccess following an academic suspension. The binary logistic regression model was statistically significant. The model explained 12.7% (Nagelkerke R^2) of the variance in reinstatement outcomes and correctly classified 65.7% of cases.

As was the result of the binary logistic regression model used to assess research question one, the variables of age and CQPS were statistically significant, with an increase in age being associated with a decreased likelihood of an outcome of reinstatement success, and an increase in CQPS being associated with an increased likelihood of an outcome of reinstatement success.

It was expected that the inclusion of the evidence of a mental health concern variable would be a meaningful addition to the binary logistic regression model and significantly improve its predictive value due to the findings of prior research which indicated that the presence of a mental health disorder is associated with decreased academic functioning (Bruffaerts et al., 2018; De Luca et al., 201; Kernan et al., 2008); however, this was not the case. One reason for this could include the broad definition

used when reviewing suspension appeal paperwork for this particular variable in the study. As defined prior to the qualitative review process, evidence of a mental health concern included firsthand self-reported references to experiencing mental health concerns or mental health symptoms which resulted in functional impairment or significant distress, firsthand self-reported references to having a diagnosed mental health concern, documented evidence of a diagnosed mental health concern in attached paperwork, firsthand self-reported references indicating received treatment for mental health concerns, and documented evidence of received treatment for a mental health concern in attached paperwork.

Due to the wide range in types of evidence, it is important to note the probability of practical differences between students within the subgroup of those whose appeals included evidence of a mental health concern. For example, one student with an appeal that included evidence of a mental health concern could have been living with a persistent and untreated mental health issue that had the potential to negatively impact academic functioning after reinstatement. Alternatively, another student with an appeal that included evidence of a mental health concern could have experienced a mental health issue that was more short-lived due to the resolution of triggering circumstances or successful mental health treatment, and this student may not have experienced any negative impact to academic functioning after reinstatement as the mental health issue was resolved. For this reason, it is practical to conclude that there is likely meaningful diversity in the experiences of students within the subgroup of those whose suspension appeal paperwork included evidence of a mental health concern and that these differences

were not fully captured in this research. Thus, in future studies addressing issues of mental health concerns perhaps a more stringently defined variable for mental health concerns or a mixed methods design that more fully captures the qualitative narrative shared by students in their suspension appeal paperwork would better inform this variable and its potential impact on reinstatement outcomes.

Implications for Practice

In adding to, and expanding upon, the current literature, the findings of this study help to inform a number of implications for practice. Most notably, this research may help to inform the process of reviewing suspension appeals and the related responsibility of higher education institutions to provide relevant support to reinstated students who are at risk for experiencing another suspension at the end of their term of reinstatement.

The results of this study included the finding that a larger percent of all reinstated students (54.6%) experienced a reinstatement outcome of academic nonsuccess rather than academic success, and it is important to note that only those students who appealed and were approved for reinstatement were included in the sample. This implies that the suspension review committee at the institution deemed all students in the sample as being deserving of another opportunity to pursue their academic careers, either due to evidence in the submitted suspension appeal paperwork which indicated that the suspension would have never occurred if it was not for an unexpected, extenuating circumstance or due to evidence that was persuasive in asserting the potential to achieve future academic success. This finding in itself was not unexpected as it aligns with prior research which has indicated that approximately 40% to 60% of students reinstated following an

academic suspension fail to meet minimum academic requirements to avoid another suspension (Hall & Gahn, 1994; Himmelreich, 1967; Santa Rita, 1998; Summers, 2005); however, it does reinforce the observation that the commonly practiced method of reviewing suspension appeals in order to predict reinstatement outcomes may be unreliable and little more than guesswork.

Nevertheless, this observation is not highlighted in an attempt to directly imply that higher education institutions should create more selective suspension appeal review processes or that they should reinstate fewer students. Rather, higher education institutions are encouraged to recognize the responsibility related to reinstating students who may be more likely to experience reinstatement nonsuccess than success.

In order to better understand the complexity of this issue, higher education institutions are strongly encouraged to review the institutional process used to make reinstatement decisions and to review institutional data related to the percentage of reinstated students who experience each outcome. By recognizing the percentage of students who to fail achieve reinstatement success, higher education institutions may be more attentive to this issue and may be forced to consider the ethical responsibilities related to reinstating students who, in general, may be more likely than not to experience another suspension immediately at the end of their term of reinstatement. Higher education institutions who often fail to recognize this reality, whether intentionally or not, are complacent in their disregard for the compounding negative consequences of reinstating students who go on to experience another suspension. This includes an indifferent attitude toward the money, time, and energy invested by students into their

education without an earned credential, the diminished academic self-efficacy experienced by students which could result in the decision to never again pursue a higher education (Saunders, 2008), and significant emotional distress (C. Carter, 2013; Houle, 2013; Suchan, 2016).

For this reason, those involved in the institutional process for making reinstatement decisions are encouraged to consider their shared philosophy related to this process. By agreeing upon and reinforcing a philosophy that is student-focused, those involved in the reinstatement process may be more attentive to practices that work against the best interest of their students or are frankly unethical. For example, if those responsible for making reinstatement decisions feel pressured to reinstate students in order to enhance enrollment numbers for the upcoming term, a shared, student-focused philosophical statement regarding the purpose of their work may serve as a reminder of their ethical responsibilities and help in guiding responsive action.

Additionally, it is important to acknowledge that many professionals choose to work in higher education because they are passionate about the opportunities that may come with earning a postsecondary credential, including enhanced employment outcomes (U.S. Department of Education, 2016a) and increased earning potential (U.S. Department of Education, 2015). For this reason, it may be difficult for those involved in making reinstatement decisions to deny requests for a second chance at realizing this goal. However, it is essential to recognize that providing a second chance at the wrong time or without the appropriate support or resources available, may unintentionally result in some students forgoing all hope of ever earning a higher education due to the resulting negative

consequences of cumulative academic suspensions, including decreased academic self-efficacy (Saunders, 2008), emotional distress (C. Carter, 2013; Houle, 2013; Suchan, 2016), and financial challenges related to accumulated expenses or student loan debt.

In addition to recognizing the rate of reinstated students who experience academic nonsuccess upon their return and reviewing institutional processes for making reinstatement decisions, higher education institutions should explore evidenced-based methods for assessing the risk of reinstatement nonsuccess at the point of reviewing suspension appeals and should implement strategies for promoting the success of students if they are granted the opportunity of reinstatement. For example, one of the findings of this study included a significant relationship between CQPS and reinstatement outcome, with an increase in CQPS being associated with an increased likelihood of an outcome of reinstatement success. Due to this finding and the more comprehensive nature of QPS when compared to GPA, higher education institutions are encouraged to consider the use of QPS when assessing the academic history of a student at the point of appealing an academic suspension. Students who are reinstated with low CQPS values may need to achieve satisfactory academic progress for a number of terms before they repair their academic deficiency and return to good academic standing. In order to proactively address this issue, higher education institutions could work to support reinstated students by assessing CQPS and providing targeted and ongoing support services to those with low CQPS values.

For example, reinstated students with low CQPS values will likely need to earn satisfactory grades in many courses in order to repair past academic deficiencies and

eventually meet cumulative academic progress standards. For some students this may mean having a continued probation status, in which a student is required to meet more stringent academic standards, for multiple terms. Higher education institutions are encouraged to ensure that students with low CQPS values are aware of this prior to providing a reinstatement decision. If students are reinstated with low CQPS values, institutions should provide ongoing support and encouragement to these students and assist them in the process of setting grade goals each term and evaluating their progress toward meeting minimum standards.

Higher education institutions are also encouraged to assess the point at which CQPS values are too low for a student to meet any minimum academic requirements required for graduation. For example, at the institution from which the data was acquired for this study, a minimum 2.0 CGPA is a graduation requirement, meaning that a student may successfully complete all courses required to earn a credential but due to past academic deficiencies, may end up needing to retake courses with the hope of earning better grades and an improved CGPA before they are eligible to receive their credential. While this may not be overly concerning for a student who needs to retake one or two classes, students who would need to retake a number of courses before meeting graduation requirements should be fully aware of this prior to reinstatement and should be informed of the time and costs associated with retaking courses. This is especially important as financial aid policies may limit the number of times that a student can retake a course using financial aid funding.

In addition to assessing minimum CQPS values in order to meet graduation requirements, higher education institutions are also encouraged assess whether there is a point within the range of CQPS values of their reinstated students, at which students tend to be at a higher risk for experiencing an outcome of reinstatement nonsuccess. Although this specific type of analysis was not the focus of this study, it is important to reiterate the vast variations of CQPS values of reinstated students in the sample, which ranged from approximately -55 to 77. This range indicates major differences between the academic challenges experienced by these reinstated students, with the very low negative CQPS values indicating the likelihood of many failed courses and the high positive CQPS values indicating patterns of withdrawing from an excessive number of courses.

Reviewing patterns related to the CQPS values of students requesting reinstatement may assist higher education institutions in providing more targeted support. For example, a reinstated student with a high CQPS value should be made fully aware of the impact of withdrawing from courses and may benefit from enrolling in fewer courses or credits each term. Strongly encouraging accessible opportunities for students to meet with a higher education professional to review their academic record may help in recognizing patterns related to academic achievement and assist in the process of making decisions that could benefit their academic standing in future terms. For example, if a student tends to attempt 15 credits each term but usually only successfully completes 12, it may be beneficial to talk with the student about their academic plan and to discuss the possibility of taking fewer credits during their reinstatement term. Comprehensive academic advising prior to registration for the reinstatement term, including a review of

student academic strengths and weaknesses, available time and resources, and financial aid or other funding limitations, could help in proactively addressing issues which negatively impacted academic progress in prior terms.

Additionally, the results of this study also highlight the possibility that student age should be considered in efforts to support reinstated students. The findings of this study included a significant relationship between age and reinstatement outcomes with an increase in age associated with a decreased likelihood of experiencing reinstatement success. Higher education professionals who are employed at institutions that have meaningful diversity of student age are strongly encouraged to consider how the needs of their students may be different when characterized by age and how specific support services could be developed to address the unique challenges experienced by different age groups.

One way to better understand the needs of older student populations would be to assess data collected through surveys or other forms of student feedback based on student age in order to identify relevant patterns. Additionally, higher education institutions are encouraged to consider ways in which to seek feedback specifically from the older students they serve and should consider the use of listening sessions or open forums to better understand their experiences. Because older students are often classified as nontraditional at many higher education institutions, it is important to recognize that they may also be underrepresented in terms of the attention paid to their unique experiences and needs.

One specific recommendation that may affect the experience of older student populations is the implementation of an institutional academic forgiveness policy. Although it was not directly captured in the data collected in this study, some students in the sample had appealed an academic suspension that had occurred many years prior to the term in which they requested reinstatement. The development of a proactive academic forgiveness policy to lessen the enduring impact of past poor academic progress may help students who are seeking to return to their academic careers after a substantial leave without having the extra pressure of needing to repair past academic deficiencies. Institutions that already have an academic forgiveness policy in place are encouraged to create a process for identifying and contacting students who could benefit from this option as many students may be unaware of this opportunity.

Older students may also benefit from having the option to retroactively request a withdraw of a course beyond institutional deadlines due to unexpected and uncontrollable extenuating circumstances. There is research to suggest that older students may experience more external barriers to academic progress, many of which may be outside of their control, such as personal or family health problems (Heller & Cassady, 2017). Providing students the option of requesting a retroactive withdraw due to extenuating circumstances could help them to protect their GPA and reduce the likelihood of experiencing academic progress issues.

When considering ways in which to more fully support older student populations, it is also important to consider the experiences of these students within the classroom. There is research to suggest that older students, when compared to their younger peers,

are more likely to cite difficulties with the teaching methods of their instructors as a reason for academic progress issues (Saunders, 2008). This finding highlights the possibility that older students may encounter more challenges adjusting to the teaching methods used in their classes, or that teaching methods tend to cater toward the experiences and skills of younger students.

For example, older students may be less familiar or comfortable with the use of technology required in college classes, and those who do successfully navigate technology-based tasks may find the act much more time consuming than it may be for their younger peers. For this reason, higher education instructors are encouraged to critically review any technology requirements associated with their coursework in order to determine whether it is necessary and helpful to the learning process of all students. Additionally, institutions are encouraged to develop responsive support services specifically designed for those who have limited experience using technology.

In addition to age, it is also important to more generally expand support for other underrepresented student populations. For example, attention must be paid to issues of inequity as it relates to reinstatement outcomes for racially and ethnically underrepresented students. Although race and ethnicity were not included as variables to be analyzed in this study, it is important to note that the collected demographic data highlighted the fact that White students were disproportionately more likely to experience an outcome of reinstatement success when compared to the collective outcomes of racially and ethnically underrepresented students in the sample. While much more

information would be needed to fully understand this discrepancy in outcomes, the noticeable difference clearly warrants attention.

Furthermore, many other underrepresented student populations, including low income students and first generation students, may also be at a heightened risk for experiencing inequitable reinstatement outcomes. Therefore, in order to better understand and address this issue, higher education professionals are encouraged to assess the reinstatement outcomes following an academic suspension of their student populations and to consider factors that may correlate with discrepancies in outcomes. A focus on strategic interventions and system-level changes designed to promote more equitable outcomes for these underrepresented student populations is essential when considering ways in which to promote the overall academic success rates of reinstated students.

More specifically, higher education institutions are encouraged to develop a process for teaching students how to select the appropriate number of credits to register for each term, based on their approach to learning, responsibilities outside of classes, available resources, and available time. Many underrepresented student populations, including first generation college students, immigrant students, and older college students, may be unfamiliar with how to calculate how much time they should plan to invest in their college coursework based on the number of credits in which they choose to enroll. Embedding a credit hour worksheet into the suspension appeal paperwork required to request reinstatement may help students to more carefully consider how many credits they should enroll in and may also aid in the process of advising students who are approved for reinstatement.

Higher education institutions are also encouraged to consider ways to more fully support students with financial concerns. Although many students use federal and state financial aid funding to help pay for costs associated with college, this funding is often not enough to cover all budgeted and unexpected expenses. Many of the student suspension appeal essays reviewed for this study included references to financial stressors or crises which impacted overall academic progress. For example, there were multiple references to unstable housing or homelessness, an inability to afford food or other basic needs, transportation issues related to being unable to pay for gas or car repairs, and concerns related to being unable to find affordable childcare. To truly support students who find that their academic progress hinges on their ability to afford basic needs for themselves and their families, higher education institutions must work to provide support beyond that of which is available directly through financial aid. For example, institutions should consider the development of emergency grant programs to provide short-term funding to students dealing with a financial crisis. Institutions should also consider the development of ongoing programs designed to promote the ability of financially unstable students to prioritize college programming or utilize support services by financially incentivizing their participation. For instance, by offering financially unstable students the opportunity to earn a gas or grocery gift card for attending a workshop on academic success skills, it may allow students with many competing priorities to make time for this type of programming. Institutions are also encouraged to develop relationships with community partners in order to streamline the process of

accessing available assistance provided by state or county programs and nonprofit organizations.

College student mental health must also be considered when addressing implications for practice. When considering prior research (Auerbach et al., 2018) and the results of this study, it is reasonable to expect that at least one-third of all students will experience mental health concerns while enrolled in college and that the presence of a mental health concern will put these students at risk for decreased academic functioning (Auerbach et al., 2016; Bruffaerts et al., 2018; De Luca et al., 2016; Kernan et al., 2008; Lockard, 2016). Therefore, higher education professionals are strongly encouraged to consider ways in which to promote the mental health and wellbeing of the students they serve and to develop systems to support students who struggle with mental health concerns. For example, institutions could provide free and confidential mental health screenings, either online or in a meeting with a counselor, in order to help students to better assess and monitor their mental health and wellness, and to provide opportunities to share information related to relevant resources and available support. Providing training to higher education professionals, including instructors and students services staff, could help those who consistently interact with students to better recognize symptoms of impaired or deteriorating mental health. Training and education on mental health topics, as well as a streamline referral system, could help to more effectively connect students to available support.

Additionally, institutional efforts to promote knowledge of mental health concerns and to reduce stigma related to mental health and treatment could make a meaningful

impact (NAMI, 2012). Higher education institutions are encouraged to find ways to prioritize programming focused on mental health and wellness, as well as to develop opportunities for student involvement in clubs and activities focused on these topics. Informational campaigns designed to share facts and statistics about college student mental health, including rates of mental health diagnoses, could also be helpful to normalizing the occurrence of mental health concerns and reducing stigma.

It is also important to stress the need for increased attention focused on mental health concerns specifically of students at two-year college campuses. Two-year college students report higher rates of mental health diagnoses and more debilitating symptomatology when compared to university students; however, they are less likely to receive information and education on topics related to mental health (Katz & Davison, 2014). Reasons for this may include issues related to limited personnel available to facilitate programs and a lack of funding or other necessary resources. For this reason, two-year college institutions are encouraged to develop strong relationships with community partners and nonprofit organizations to help provide programming, education, and training on topics related to mental health.

In addition to information and education on topics related to mental health, issues inhibiting student access to mental health support and treatment must also be addressed. Higher education professionals are encouraged to assess issues related to the inability of students to access mental health support and treatment due to the lack of health care coverage or unmanageable costs. It is also important to recognize that some students may struggle to access culturally relevant mental health support, which may look very

different than mental health treatment provided in medical establishments. The development of connections between higher education institutions and cultural groups within the local community, such as religious organizations or advocacy groups, could help students in the process of navigating available options.

Furthermore, it is important to highlight the value of counseling services provided on college campuses to support students who are experiencing mental health concerns. College counselors provide holistic support to students by assisting with personal, mental health, and academic concerns, and many students may find this support to be indispensable. For example, there is research to suggest that the majority of students with diagnosed mental health disorders who remain enrolled in college cite counseling services as being critical to their academic success (NAMI, 2012). However, many higher education institutions do not have an adequate number of college counselors, with training in mental health counseling, to meet student demand.

At the institution from which data was collected for this study, the ratio of students to counselors was approximately 1,700 to one. It is unreasonable to conclude that student mental health needs could be adequately addressed with such a significant caseload. Furthermore, on many two-year college campuses, extreme student to counselor ratios may be coupled with advising responsibilities and administrative duties, which could make it virtually impossible for counselors to be more proactive in their work. It is difficult to prioritize promoting the availability of services, planning and implementation of programming or training, and the development of community

partnerships when overwhelmed by the number of students who are actively seeking help.

Unfortunately, this issue is not isolated to the institution from which data was acquired for this study. The two-year college state system that the institution is associated with experienced a substantial decrease in the number of college counselors available to support students over the past two decades. Collectively, across the two-year state college system, there were 115 college counselors employed in the early 2000s and only 52 college counselors employed in 2019. This trend highlights a serious problem when considering the extent of student mental health needs in higher education, and especially so at two-year colleges due to student populations who may be more likely to experience mental health concerns (Katz & Davison, 2014) and may also have limited access to mental health care off campus.

Therefore, higher education institutions are strongly encouraged to prioritize the mental health needs of their students and to invest in hiring and retaining college counselors, who may be critical to providing the necessary support students need to achieve academic success (NAMI, 2012). Reasonable student to counselor ratios could also allow for more proactive programming to promote knowledge of mental health concerns and reduce issues of stigma across college campuses.

Overall, the results of this study inform a number of implications related to supporting students who are reinstated following an academic suspension. These implications include methods for critically evaluating institutional reinstatement processes for suspended students, increased support for underrepresented student

populations who may be less likely to experience a successful outcome following reinstatement, and increased support for addressing mental health needs of college students.

Limitations of the Study

This study had several research limitations that must be considered when interpreting results. The first of which is that this study was conducted using data from only one institution, and although two-year technical college student populations may share some similarities across institutions, it is possible that the results of this study may not be generalizable to other two-year technical college student populations. There was also limited racial and ethnic diversity in this sample with the majority of students (68.6%) identifying as White and therefore, the results of this study may not be generalizable to more diverse student populations.

Additionally, the binary representation of gender used in this study was also a limitation. The college student record system that was used to obtain data for gender in this study only allowed for the binary representation of gender (male or female). This clearly limits the generalizability of results due to the misrepresentation of individuals who did not identify with the binary classification of gender. In addition, it is possible that some students may have selected a binary classification of gender in their application process that aligned with their sex at birth, rather than their gender identity. This is an important limitation to consider as there is research to suggest that students who do not identify with a binary representation of gender or who identify as transgender may be at an increased risk for mental health concerns (Auerbach et al., 2018) and the inclusion of

this consideration in the study may have influenced the relationship between the variables of gender and evidence of a mental health concern, as self-reported or documented in suspension appeal paperwork. For example, in a study of college students from across the United States, students who identified as transgender or "other" when asked to indicate their gender identity reported a much higher lifetime prevalence (76.5%) of any mental health diagnosis when compared to students who did not identify as transgender or "other" (35.5%) (Auerbach et al., 2018). For this reason, the results of this study are limited when considering student populations who have diverse gender identities.

The process of determining the variable related to evidence of a mental health concern may also highlight potential limitations of this study. For example, there may be limitations related to relying on students to self-report or document evidence of a mental health concern. For instance, there is the possibility that some students who did experience a mental health concern chose not to disclose the mental health concern for any number of reasons. For example, a student may have experienced emotional issues, but due to cultural differences, a limited understanding of their experience, or a limited knowledge of mental health concerns, they may not have described or referenced the issues as being a mental health concern in suspension appeal paperwork. Additionally, stigma related to mental health may have reduced the likelihood of students disclosing mental health concerns (NAMI, 2012).

There is also the possibility that some students chose not to disclose a mental health concern because it was not formally diagnosed or because they did not receive treatment. Again, cultural differences, limited knowledge of mental health symptoms, and

stigma may all have been factors. Additionally, limited access to healthcare and mental health services may have also influenced the decision of some students not to seek formal assessment or treatment. It is important to highlight that the majority of students in the sample (60.4%) were Pell Grant eligible and this indicates having a household income that is typically less than $40,000 annually (Schudde & Scott-Clayton, 2014). The financial disadvantages experienced by these students may have resulted in difficulties related to accessing or maintaining health care coverage.

Although there is the possibility that students with mental health concerns did not report these issues in their suspension appeal documents for a number of reasons, it is also possible, that in an attempt to receive a favorable response, students referenced a mental health concern that did not truly exist. Since the institution does not monitor the process of writing appeal documents, there is also the possibility that a student could have submitted suspension appeal documents prepared by someone other than themselves. For example, a parent or other caretaker of a student could have prepared appeal documents for the student to submit. Although each of these circumstances are possible, it is important to note that the likelihood of this is low and controlling for these issues would be unrealistic in most higher education settings. Therefore, issues similar to those presented most likely reflect the reality of the suspension appeal process at most institutions.

Recommendations for Future Research

The findings of the study contribute to the literature on two-year technical college students, academic progress, and college student mental health. This study has provided

information about factors related to academic outcomes following reinstatement after an academic suspension. Considering the findings of the study, a number of recommendations for further research are discussed in this section.

In general, more research is needed that focuses specifically on two-year college student populations, including technical college student populations. Enrollment at two-year colleges has increased over the past two decades (Thelin, 2010; U.S. Department of Education, 2018c) and a meaningful portion of all undergraduate students are enrolled at two-year colleges (Cooper, 2010); however, there is limited research related to the experience of students enrolled at these institutions when compared to the available research focused on four-year university student populations (Murtaugh, 2010). The demographic makeup of two-year college student populations differs when compared to university student populations. On average, two-year college student populations include a larger percent of female students (McFarland et al., 2019), are more racially and ethnically diverse (U.S. Department of Education, 2016a), have an older average age (U.S. Department of Education, n.d.-a), and are more likely to experience mental health concerns (Katz & Davison, 2014). These differences are important, and it cannot be assumed that research focused on the experiences of university students is generalizable to these unique student populations.

Furthermore, additional research is needed to better understand the state of college student mental health and the impact of mental health concerns on the academic progress of students. Across the United States, approximately 29% of first-year college students reported having at least one mental health diagnosis within their lifetime

(Auerbach et al., 2018). This statistic aligns with the results of this study, which included the finding that 31.9% of students in the sample included evidence of a mental health concern, as self-reported or documented in their suspension appeal paperwork; however, there are also reasons to believe that the percentage of students in the sample who actually experienced mental health concerns around the time of their academic suspension is larger. This is likely given issues related to stigma (Ebert et al., 2019a; Holland & Wheeler, 2016; NAMI, 2012), lack of knowledge or information related to mental health (Katz & Davison, 2014), or limited access to health care services that may have resulted in students choosing not to self-report or document mental health concerns in suspension appeal paperwork.

Furthermore, it is important to note that prior research has found that 73% of students diagnosed with a mental health disorder reported experiencing a mental health crisis while enrolled in college and that students understood the crises to be caused by extreme feelings of anxiety, panic, or depression related to school and difficult life circumstances (NAMI, 2012). This finding highlights the fact that it is not only important to better understand college student mental health concerns, but also to specifically gain a better understanding of the frequency, causes, and impact of mental health crises. Research in this area is necessary in order to promote and advocate for treatment and support services for these students, including counseling services, which prior research has highlighted as being perceived by students as critical to their success in college (NAMI, 2012). Overall, research focused on more fully describing the relationship between mental health concerns and issues of academic progress, as well as exploring

ways in which to offset the negative impact of mental health concerns on academic progress is necessary.

There is also a need to better understand the experiences of older college students, who may be overlooked in research due to being considered a nontraditional student population (Frye, 1997). This study found student age to be significantly related to reinstatement outcomes following an academic suspension, with an increase in age being associated with a decreased likelihood of a reinstatement success outcome. Prior research suggests that older students may experience unique barriers to academic progress (Berkovitz & O'Quin, 2006; Heller & Cassady, 2017; Saunders, 2008) and the complexity of this phenomenon is far from understood. Therefore, more research is needed to comprehend the experiences and needs of older student populations.

Research is also needed to better understand the experiences of students across all gender identities. This study only included a binary representation of gender (male or female) for students in the sample due to limitations related to how the student record system used to acquire data for this study obtained and recorded information. Research focused on the experiences of college students across all gender identities is important as there is evidence to suggest that students who identify with a nonbinary representation of gender may experience unique challenges in college, including increased rates of mental health concerns (Auerbach et al., 2018).

Additionally, there is value in better understanding the dynamics which may influence the experiences of students based on their gender identity. In this study, there was no significant relationship between gender and reinstatement outcomes following an

academic suspension; however, additional research focused on the reasons for the suspension occurring could possibly highlight unique differences between groups and help in understanding whether gender roles influence the challenges faced by college students. For example, prior research has found that students who identify as female are more likely to cite obligations to care for ill family members as a reason for the occurrence of an academic suspension (Saunders, 2008). Research focused on understanding both the perceived and actual responsibilities, obligations, and expectations of students as related to their gender identity could be useful in exploring ways to provide more relevant and meaningful support to students.

There is also a need for research to promote a more comprehensive understanding of issues of racial and ethnic inequity in higher education. Although race and ethnicity were not explored as predictive factors in this study, prior research suggests that racially and ethnically underrepresented students are more likely to leave college due to issues of poor academic progress (Kopp & Shaw, 2016) and are less likely to graduate (Murtaugh, 2010). In the current study, descriptive statistics indicated discrepancies related to the reinstatement outcomes for racially and ethnically underrepresented students. For example, of the 36 Black or African American students in the sample, approximately 70% experienced a reinstatement outcome of nonsuccess, whereas 52.8% of the 142 White students experienced a reinstatement outcome of nonsuccess. This finding highlights the need for additional research to better understand the unique experiences of racially and ethnically diverse student populations and to examine the ways in which higher education systems should work to address serious issues of inequity.

Additional research is also required to understand ways in which to proactively address issues or concerns that may contribute to the failure to meet minimum academic standards, leading to an academic suspension. The current study focused specifically on predicting reinstatement outcomes after an academic suspension occurred. Although research focused on reinstatement outcomes is critical due to the fact that a meaningful percentage of all college students will experience an academic suspension (Schudde & Scott-Clayton, 2014), it is also important to highlight the need for research to inform the development of proactive methods for addressing academic progress issues before a suspension occurs, due to a number of negative repercussions caused by academic suspensions for both students and higher education institutions (C. Carter, 2013; Houle, 2013; Suchan, 2016).

In order to proactively address academic issues, research is needed to understand how the variables explored in this study relate to an academic warning, which occurs prior to an academic suspension. By better understanding how variables or factors contribute to an academic warning status, higher education professionals may be able to intervene before an academic suspension occurs. For example, the factors that were identified as being significantly related to reinstatement outcomes for students in this study warrant additional investigation to identify whether there is a relationship between these variables and the occurrence of an academic warning. Also, it is possible that variables in the current study that were not identified as being significantly related to reinstatement outcomes may be related to the occurrence of an academic warning. More information in these areas could help to inform strategies for reducing the rate of

academic suspensions by intervening at an earlier stage as a preventive strategy to support student success.

Lastly, it is also recommended that future research should involve examination of multiple institutions. Although technical college students across institutions may share some similarities in terms of demographics, research that included multiple two-year technical college institutions would allow for more thorough and generalizable results. A more comprehensive assessment would help to promote clarity and guide relevant practice.

Conclusion

The purpose of this study was to add to the limited research related to reinstatement outcomes following an academic suspension for two-year technical college students; a population which is both understudied and less likely to persist to graduation (McFarland et al., 2019). This research included an examination of how factors explored in prior research primarily focused on university students is related to the reinstatement outcomes of technical college students. Additionally, this study aimed to address the research gap related to mental health concerns and reinstatement outcomes, as well as examining any relationships present when considering the demographic factors of age and gender.

This study addressed three research questions: (a) Will demographic variables (age and gender) and academic variables (CQPS and term of dismissal QPS) significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a

small, Midwestern technical college? (b) Will evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college? (c) Will demographic variables (age and gender), academic variables (CQPS and term of dismissal QPS), and evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), significantly predict the reinstatement outcome (reinstatement success or reinstatement nonsuccess) of students at the end of the term of reinstatement following an academic suspension at a small, Midwestern technical college?

Binary logistic regression was used as the primary statistical analysis for each research question. An analysis was also performed, using Krippendorff's alpha and the percent agreement, to assess the interrater reliability of the qualitative review process that involved the researcher and an outside auditor in order to identify the variable of evidence of a mental health concern in suspension appeal paperwork, as self-reported or documented by students. The results of the interrater reliability analysis, including Krippendorff's alpha (0.766) and the percent agreement (89.9%), were slightly below conventionally required standards, but were still deemed to be acceptable due to the exploratory, rather than decisive, use of the evidence of a mental health concern variable in the study (Krippendorff, 2004).

Two of the three hypotheses were supported by the statistical results. The model that included all of the predictor variables explored in the study was statistically

significant and correctly predicted the reinstatement outcome of 65.7% of students in the sample. Of all of the predictor variables included in the analyses, the variables of age and CQPS were the only variables that had a statistically significant relationship with the dependent variable of reinstatement outcome. An increase in age was associated with a decreased likelihood of a reinstatement success outcome, meaning that older students were significantly less likely to experience reinstatement success following an academic suspension and that younger students were significantly more likely to experience reinstatement success. Results also indicated that an increase in CQPS was associated with an increased likelihood of an outcome of reinstatement success. Although the variable of evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), was not found to be statistically significant in predicting reinstatement outcomes, the finding that approximately 32% of students in the sample disclosed evidence of experiencing a mental health concern in their suspension appeal paperwork is noteworthy.

Considering the findings of the study, a number of implications for practice were shared, including the recommendation that higher education institutions develop proactive and intentional methods for supporting students who are granted readmission following an academic suspension due to the high rate of academic nonsuccess generally experienced by reinstated students. Additionally, factors that were deemed significant in the current study warrant attention in practice and higher education institutions may find value in considering the predictive nature of certain variables, such as CQPS, when assessing the ongoing academic progress of their students. Findings of this study also

support the implication that higher education institutions should consider ways in which to promote the mental health and wellbeing of the students they serve and should develop systems to support students who struggle with mental health concerns.

A number of recommendations for further research were also shared, including the need for additional research focused on two-year colleges and technical colleges, as well as support for specific student populations, including students with mental health concerns, older students, racially and ethnically underrepresented students, and students of diverse gender identities. Additional research is also needed to identify more proactive methods for addressing and resolving issues that result in poor academic performance early on.

In summary, the findings of this study contribute to advancing the literature aimed to promote a better understanding of a very complex topic. This study highlights the importance of, and need for, continued investigation into the experiences and outcomes of two-year college students who have been reinstated following an academic suspension. Due to the complexity of factors surrounding issues of academic progress and a number of negative consequences related to students failing to meet minimum academic requirements when reinstated following an academic suspension, more attention must be focused on this important topic.

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Table 1

Binary Logistic Regression using Age, Gender, Term of Dismissal QPS, and CQPS to Predict Reinstatement Outcomes

	B	SE	Wald	*df*	*p*	Odds Ratio	95% CI for Odds Ratio	
							Lower	Upper
Age	-.046	.02	4.91	1	.027	.955	.917	.995
Gender	-.341	.31	1.24	1	.265	.711	.390	1.30
Term of Dismissal Quality Point Status	.016	.02	1.05	1	.306	1.01	.986	1.05
Cumulative Quality Point Status	.022	.01	6.07	1	.014	1.02	1.01	1.04
Constant	1.68	.701	5.71	1	.017	5.34		

Note. The predictor variables included age, gender, term of dismissal quality point status (QPS), and cumulative quality point status (CQPS).

Table 2

Binary Logistic Regression using Evidence of a Mental Health Concern to Predict Reinstatement Outcome

	B	SE	Wald	*df*	*p*	Odds Ratio	95% CI for Odds Ratio	
							Lower	Upper
Evidence of Mental Health Concern	-.092	.30	.095	1	.758	.91	.507	1.64
Constant	-.029	.52	.003	1	.955	.97		

Note. The predictor variable was evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no).

Table 3

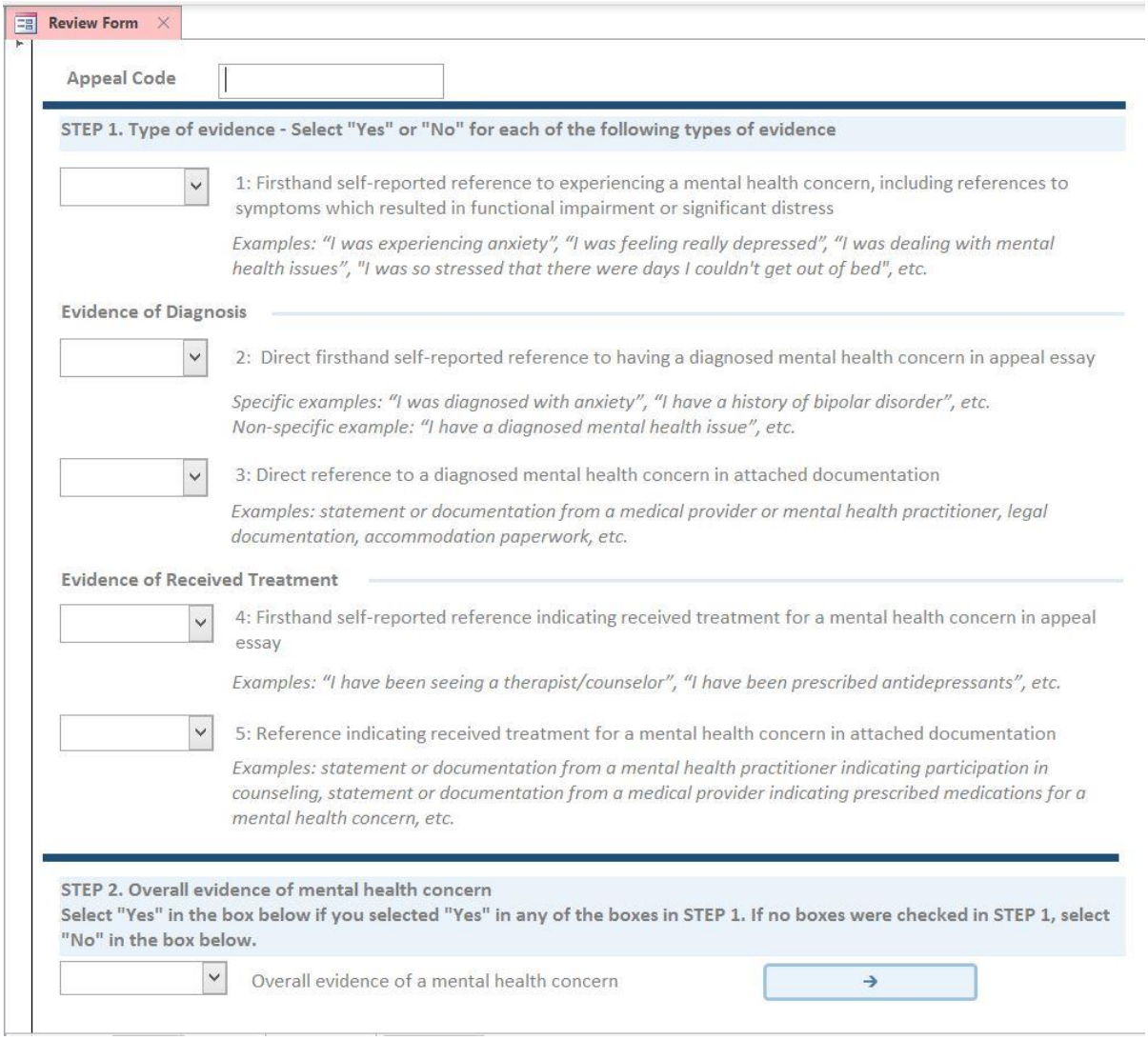
Binary Logistic Regression using Age, Gender, Term of Dismissal QPS, CQPS, and Evidence of a Mental Health Concern to Predict Reinstatement Outcome

	B	SE	Wald	*df*	*p*	Odds Ratio	95% CI for Odds Ratio	
							Lower	Upper
Age	-.046	.02	4.95	1	.026	.955	.917	.995
Gender	-.334	.31	1.18	1	.277	.716	.392	1.31
Term of Dismissal Quality Point Status	.018	.02	1.29	1	.255	1.02	.987	1.05
Cumulative Quality Point Status	.022	.01	5.95	1	.015	1.02	1.00	1.04
Evidence of Mental Health Concern	-.254	.32	.64	1	.425	.776	.415	1.45
Constant	2.11	.89	5.59	1	.018	8.21		

Note. The predictor variables included age, gender, term of dismissal quality point status (QPS), cumulative quality point status (CQPS), and evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no).

Appendix

Electronic Guide Sheet Used in the Qualitative Review of Academic Suspension Appeal Paperwork for the Evidence of a Mental Health Concern Variable



Note. Evidence of a mental health concern, as self-reported or documented by students in suspension appeal paperwork (yes or no), was a dichotomous variable and the electronic guide sheet allowed the reviewer to indicate a "yes" or a "no" in each dropdown box to indicate the presence or absence of each type of contributing evidence.