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An Examination of Multiple Risk Factors Contributing to Student Dropout Risks Using an Ecological Systems Perspective

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ABSTRACT

Students who do not complete high school are at risk of higher unemployment, lower wages, and higher incarceration rates. Not only do these impact the individual, but their families and society as well. There are several academic and non-academic factors that can potentially put a student at risk of dropping out of high school. Currently, eligibility criteria for identifying at- risk students, which are used by many Communities in Schools (CIS) Affiliates in Texas that provide a dropout prevention program, are mostly academically based indicators. Incorporating an ecological systems perspective, this study aimed to explore the impact of academic and non-academic factors on various outcome variables related to dropout risks. To do this, a cross-sectional survey was completed in four middle schools and two high schools in a local school district (*N*=71) with data from the spring of 2018 and the fall of 2018. Multiple regression analyses identified statistically significant school climate factors for dropout ideation, academic outcomes, and behavioral outcomes. The findings show that dropout ideation was associated with more peer risk activities, less student engagement, and participating in less school activities. Students with low student engagement also had lower academic outcomes, and those who had an increase in youth risk behavior had negative behavioral outcomes. A major limitation of this study was sample size. Despite the limitations, overall findings from this study indicate the need for additional eligibility criteria for students considered at risk of dropping out of high school to implement appropriate

intervention services at both the individual level and school-wide. Implications for

practice, policy, and research are discussed.

An Examination of Multiple Risk Factors Contributing to Student Dropout Risks Using

an Ecological Systems Perspective

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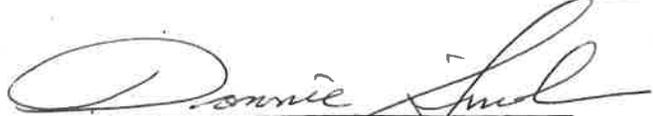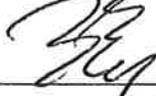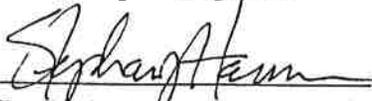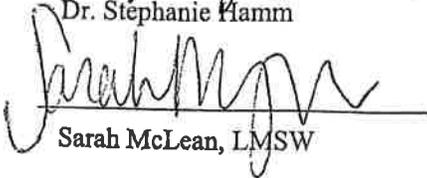
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To my family, I love you all.

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CHAPTER I

INTRODUCTION

Graduating from high school is often one of the educational milestones that students, their families, and peers look forward to from the start of their educational career; however, not everybody has the same opportunities due to barriers that may be putting them at risk for dropping out. While these barriers will be discussed more in depth in the literature review, it is important to acknowledge some of the impacts not graduating can have on the individual and society.

According to the United States Bureau of Labor Statistics (2018), high school dropouts are nearly three times more likely to be unemployed than college graduates, resulting in many of them living on government assistance or dependent on other family members or friends. Even when high school dropouts are employed, they typically earn an average of $8,000 less annually than high school graduates and $26,500 a year less than college graduates (Alliance for Excellent Education, 2011). This difference can add strain to both the individual and their family, putting them in vulnerable financial situations.

Income aside, there are other consequences that come along with a student's not completing high school, including incarceration rates and negative impacts on overall health. While dropping out of high school may initially appear to be the individual's problem, this is not the case. Dropping out of high school has been shown to impact

society as well. Inmates without high school diplomas have shown to be more likely to re-offend. In fact, not only did 40% of total inmates not have a high school diploma in a study done by the United States Bureau of Justice Statistics, but 77% of total inmates who did not have a diploma or GED were more likely to re-offend (Harlow, 2003).

If high school male graduation rates increased by just five percentage points, the nation could save as much as $18.5 billion in annual crime costs. While citizens may not feel like they are being affected by this, they are. The national average for sending a student to high school is approximately $12,643 yearly, while the annual cost to house an inmate is $28,323 (Alliance for Excellent Education, 2013). Because high school graduates tend to live longer and have healthier lives, they can save the nation $16.1 billion in health care costs by purchasing their own health insurance. In addition to this, if the class of 2015 would have had a 90% graduation rate, the graduates would have collectively earned $3.1 billion annually in additional income that would go towards public schools, roads, and other public goods (Wise, 2018).

As these reports have shown, high school dropouts impact more than just the individual who did not obtain a diploma. In an attempt to address the needs of students who are at risk of dropping out, Communities in Schools (CIS), one of the nation's leading dropout prevention programs, "builds relationships that empower students to stay in school and succeed in life" (CIS, 2018). CIS addresses students' needs by providing a variety of services and programs in over 2,000 schools targeting specific areas of academics, attendance, and behavior (CIS, 2018). At the school district considered in this thesis, a CIS Texas affiliate is currently implemented in four middle schools and two high schools. Due to a large number of students considered "at risk" throughout the district,

CIS is only able to case manage a portion of these students, leading CIS to question whether or not they are targeting the most at-risk students.

While the Texas Education Agency (TEA) and CIS both have eligibility criteria for identifying students who are at risk of dropping out of high school, many of them are primarily only academic factors (with the exception of one to two non-academic factors). Because CIS primarily focuses on the target areas of academics, attendance, and behavior, this study aims to explore multiple factors that put students at risk of dropping out, including non-academic factors.

The purpose of this study is to explore the relationship between non-academic factors and academic factors to better identify students who may be at risk of dropping out. In an effort to better address the root causes of high school dropout and barriers CIS faces, this leads the researcher to ask the following research questions:

- What are academic risk factors that contribute to dropping out of high school?

- What are non-academic risk factors that contribute to dropping out of high school?

- Is there a relationship between non-academic risk factors and academic risk factors?

- Is there any change in the process outcomes (academic factors) after students participated in a specific CIS program?

Because this study focused on the assessment process for CIS success coaches (similar to a case manager), results from this study will not only educate CIS staff and schools about non-academic factors that put students at risk of dropping out, but if there appears to be a relationship between academic and non-academic factors, the study will

allow for earlier identification of at-risk students. These findings can be utilized as a tool to better identify who CIS will case-manage and better determine the needs of the students. This study also provided recommendations to staff based on the findings and have possible implications for current policies.

CHAPTER II

LITERATURE REVIEW

In order to have effective interventions for students who are at risk of dropping out, it is important to identify the various factors that contribute to a student being at risk of dropping out. These can be broken up into academic factors and non-academic factors. This literature review will examine the existing literature related to high school dropouts, factors that impact a student who is at risk of dropping out, and current recommendations for addressing this problem.

In order to identify useful information, an EBSCOhost search was conducted using Abilene Christian University's library database. Keywords such as "high school dropouts," "risk factors," "at-risk students," "middle school risk factors," and "ecological systems theory" were used in order to identify scholarly articles.

Definition of Dropout

While there is research regarding student dropout indicators of those who are at risk of dropping out and the impact of dropout, the literature seems to lack a clear definition of what a *dropout* is (Bowers, Sprott, & Taff, 2013). This may be due to the variety of ways that a student can still get a degree without completing high school itself, such as retaining a high school equivalency certificate. For the purpose of clarification, this study uses the term *dropout* as defined by the Texas Education Agency (TEA, 2014):

A student who is enrolled in public school in grades 7-12, does not return to
public school the following fall, is not expelled, and does not: graduate, receive a
GED certificate, continue school outside the public school system, begin college,
or die. (p. 27)

Factors of Dropout

An important reason for studying predictors of students who may be at risk of
dropping out is so that schools can collaborate with teachers, students, the community,
and policy-makers to adopt interventions that are targeting the right students earlier rather
than later. Researchers have identified several predictors through longitudinal studies to
identify these students (Allensworth, Gwynne, Moore, de la Torre, & University of
Chicago, 2014; Bowers et al., 2013, Hammond et al., 2007; McKee & Caldarella, 2016).
The literature review has identified several different factors that contribute to a student
becoming at risk of dropping out. Those factors can be categorized into two groups:
academic factors and non-academic factors.

Academic Factors

Several academic factors have been found to have an effect on a student's
academic performance. Many of these predictors that put a student at risk of graduating
high school can be foreseen as early as middle school (Bowers et al., 2013).

Grade point average. One of the most predictive measures in the literature is a
student's grade point average (GPA) (Allensworth et al., 2014; Bowers et al., 2013;
McKee & Caldarella, 2016). GPA is one of the at-risk indicators that can be measured as
early as middle school and is one of the leading indicators for dropout (McKee &
Caldarella, 2016). According to Allensworth et al. (2014), grades typically decline half of

a GPA point in between eighth and ninth grade for students, regardless of their being at risk of dropout. This decline is what would normally be predicted based on a change in attendance (increase in unexcused absences) and failing to create strong study habits. More specifically, eighth-grade core GPA is one of the best predictors of earning high grades, followed by test scores and attendance, rather than using a student's grade in a specific class (Allensworth et al., 2014). McKee and Caldarella (2016) found that middle school GPA is the second highest predictor of high school attendance as well as a strong predictor of ninth grade course failure.

Low course credits. Students earn course credits by passing their classes, and they are required to earn a specific amount to graduate. These course credits can be a useful indicator for student success. Having low course credits has been found to be among the most accurate indicators of students who are at risk of dropping out. These low course credits can stem from having low school achievement, low commitment to school, or low educational expectations from both the student and the family (Bowers et al., 2013; Hammond et al., 2007). Bowers et al. (2013) found that not only does failing classes put students at a disadvantage, but specifically failing three or more classes during the first semester of ninth grade. While it is important for a student to be aware of their grades, it is also important for teachers to recognize this to better keep track of students who may be at risk of dropping out. Identifying these students during the first semester of ninth grade of high school is critical to early intervention rather than later (McKee & Caldarella, 2016).

Attendance. Poor attendance in middle school has been shown to predict high school attendance. In a recent study, many students who transitioned from middle school

to high school kept similar attendance patterns; however, those that showed change were in a negative direction. In fact, students who went to school less than 90% of the time in middle school also had difficulty with high school attendance (McKee & Caldarella, 2016). Similarly, Allensworth et al. (2014) found that students with less than 80% attendance were extremely at risk of being off track in high school. When combining eighth grade GPA with attendance, one gets a better prediction of who will struggle with attendance and be off track rather than either indicator alone (Allensworth et al., 2014).

Students who are missing school more often are also likely to have behavioral problems and office referrals (Hoover & Cozzens, 2016). Hoover and Cozzens (2016) found that as the number of office referrals increased, the likelihood of graduation decreased. Hoover and Cozzens (2016) suggest that attendance staff such as principals should keep track of the number of absences and office referrals students accrue throughout the school year before it becomes chronic.

Retention. While retaining a student can stem from several different factors, it does not change the fact that it significantly impacts a student's likelihood of dropping out (Hammond, et al., 2007; Henry, Knight, & Thornberry, 2012; Wood, Kiperman, Esch, Leroux, & Truscott, 2017). Grade retention is one of five risk factors that put students at risk of school disengagement. Others include standardized test scores, attendance, failing one or more core subjects, and more suspensions from school (Henry et al., 2012). One study found that retention was associated with dropout even when other factors such as academic achievement, student socioeconomic status, school socioeconomic status, and size were controlled. This finding suggests that retention alone increases the risk of students dropping out (Wood et al., 2017).

Non-Academic Factors from an Ecological Systems Perspective

While there are academic factors that must be taken into consideration when intervening with a student who is at risk of dropping out, there are also many non-academic factors that have a significant impact on students and their success in school. Many of these non-academic factors are not being used in the eligibility criteria for defining a student at risk of dropout. These factors can come from both the student or their environment, and because of this, this paper will focus on using an ecological systems approach to identify some of these non-academic factors.

Bronfenbrenner's ecological systems theory (EST) (1994) is one of the most widely used theories explaining the relationship between an individual and their environment and how this relationship affects the development of the individual. Literature supporting an ecological systems theory approach has used this model to better understand the relationship between a student and their dropping out to implement better ways to prevent it (Cornell & Huang, 2016; Wood, Kiperman, Esch, Leroux, & Truscott, 2017). When using an ecological systems perspective approach, Wood et al. (2017) found that dropping out is not an independent event. Instead, a student's decision to drop out is impacted by the social circumstances of their lives, as well as political and social contexts. Knowing this, they encourage educators to view dropout ecologically and intervene at both individual and environmental levels.

Personal Factors

Lee and Shute (2010) offer a personal and social-contextual framework to distinguish between the two origins of factors. Personal factors include characteristics that are already within the student, such as the psychological, cognitive, and behavioral

variables, while the social-contextual factors are those that are not within the student. To help separate the origin of personal and social-contextual factors, Lee and Shute (2010) base these factors off the locus of the control of the student. For example, some behaviors that may appear to be influenced by outside factors can actually originate from the student's own desire or capability to behave a certain way.

Race. There are several factors that affect a student being at risk of dropping out that students are either not able to change or stem from their external locus of control. While race/ethnicity does have a significant impact on student dropout, one study found a much more complicated relationship. After accounting for other student-level factors such as academic achievement, retention, socioeconomic status, sex, and extracurricular activity involvement, the probability of dropout was not significantly different for students who identified as white compared to those who identified as black or races/ethnicities from a combined category including other, Asian, Hawaiian, multicultural. Students who identified as Hispanic, however, continued to have a higher chance of dropout compared to students who identified as white even after controlling for student-level factors. While this is true, the difference was no longer seen once they accounted for school-level factors (e.g., school socioeconomic status and size). Controlling for student-level factors also impacted students who were born outside of the United States and was not significant when predicting dropout. This finding, however, does not mean that being born outside of the United States does not contribute to students being at-risk of dropping out.

Sense of belonging. A student's sense of belonging at school (SOBAS) has a significant impact on their academic achievement as well and contributes to student

dropout. Their SOBAS includes their emotional engagement and is especially important for students who are already marginalized and at risk of not achieving as well as their peers (Lee & Shute, 2010; Pendergast, Allen, McGregor, & Ronksley-Pavia, 2018). Pendergast et al. (2018) found that fostering a sense of belonging showed to positively impact students who are at risk of dropping out of school because they realized they had potential and were building relationships with their peers, teachers, parents, and the larger school community. According to another study, middle school students can become at risk for emotional and behavioral disorders if they are unable to build or have a difficult time building positive relationships with peers and teachers (Hecker, Young, & Caldarella, 2014). Because of this, studies suggest interventions and programs that will help students build their connections and relationships (Hecker et al., 2014; Pendergast et al., 2018).

Many personal issues such as family circumstances, mental health, trauma, and poverty can all contribute to a student's SOBAS as well. Because of this, researchers encourage school personnel to take these matters into consideration when creating partnerships. One way school administration could do this is to start collaborating with those in the community and professionals that are able to offer assistance in medical, emotional, and psychological support (Pendergast et al., 2018).

Student engagement. While student engagement and sense of belonging do overlap, the two will be discussed separately. Students disengaging in school has shown to have long-term effects on behavior problems, including those that carry on to their adult life. Not only is disengagement related to increased drug use and crime, but it is also strongly related to the likelihood of dropout (Hawkins, Jaccard, & Needle, 2013;

Henry et al., 2012). In fact, one study found that the risk of dropping out increased as the number of problem behaviors the student engaged in increased. When students participate in delinquent behavior, it is more predictive of failing to complete high school even after controlling for school performance and engagement (Hawkins et al., 2013). Because these problems can often stem from peers and participating in high-risk behaviors with them, risky problem behaviors will be further discussed in the "social-contextual" part of this literature review.

Student engagement also pertains to a student's own educational expectations of themselves. Their own intrinsic motivation, want to learn, and academic self-belief all contribute to this (Hammond et al., 2007; Lee & Shute, 2010). A student's level of effort and commitment to school also play a role in overall engagement. If a student has a lack of interest or curiosity, they are much less likely to engage, attend classes, or follow the rules, and are more prone to getting in trouble (Hammond et al., 2007; Lee & Shute, 2010). A student's perception of their SOBAS is also affected by this. Students who do not feel like they have a place in school may be more likely to not attend or engage as much as their peers who have a stronger sense of belonging.

One of the many ways that students engage in school is through extracurricular activities such as band, sports, art, etc. Many schools tend to remove students from these extracurricular activities if the student has been repeatedly in trouble; however, interestingly enough, studies have found that removing students from these activities can decrease their desire to be involved in school overall and increase their likelihood of being at risk of dropping out (Henry et al., 2012; Wood et al., 2017). Academic achievement and participating in extracurriculars showed to be related to lower levels of

dropout in a study done by Wood et al. (2017). Because of this, they support a variety of availability of extracurriculars for all students and encourage schools to not remove students from these activities as a consequence for poor behavior.

Utilizing a student disengagement warning index, such as the one used in a study conducted by Henry et al. (2012), can show whether a student exhibits risk factors that can make them a candidate for specific interventions that target students who may be at risk of disengagement. This warning index is based on specific risk indicators, including standardized test scores, attendance, failing one or more core subjects, suspensions from school, and grade retentions. They then created a score from zero (no risk) to five (all risk indicators) to see where students were on the scale and used this score to determine the level of need and get students back on track.

Social-Contextual Factors

Factors that influence a student outside of their locus of control are considered social-contextual factors (Lee & Shute, 2010). These factors consist of anything from a child's microsystem, such as direct interactions with their family, peers, and teachers, to the interactions among these microsystems, as well as factors that may be indirectly affecting students such as the school climate or educational policies. These factors range from how heavily involved a student's family is, to student mobility, to peer influences. As Lee and Shute (2010) found, these social-contextual factors all have people's attitudes, behaviors, and motivations in common. They argue that the relationship between personal factors and social-contextual factors that can directly or indirectly impact a student's academic achievement. By further exploring these factors, those who

work with students can begin to understand that there are outside factors contributing to their success.

Familial influences. The family influences that impact a student's educational experience range from direct contact between the student and family member, to indirect influences such as the family environment or socioeconomic status of the family. A report by Hammond et al. (2007) shows that students who come from low socioeconomic backgrounds are at a significantly higher rate of dropping out than those who do not. Similarly, Hawkins et al. (2013) found that a significant predictor of dropout was students performing delinquent acts who also have a mother receiving welfare. In fact, if a middle school student committed an act of delinquency within the last year (e.g., stealing property worth more than $50, using or threatening someone with a weapon, or selling drugs) and their mothers were receiving welfare, the student was at considerable risk of dropping out before completing high school. While this is true, students whose mother was not receiving welfare did not show significant association with dropping out (Hawkins et al., 2013).

Often times students may take on the burden of having early adult responsibilities if they come from low socioeconomic families and maintain jobs during the school year to help the family financially. While it is typical for students in high school to have part-time jobs, Barrow and Kolstad found that students working an average of 20 or more hours are at risk of dropping out (as cited in Hammond et al., 2007). They may also be spending their time taking care of younger siblings or possibly their own child if they are pregnant or parenting (Hammond et al., 2007; Hawkins et al., 2013). This may take away their time for being involved in extracurricular activities, reading, studying, or

completing homework. In an attempt to battle the likelihood of these students dropping out, Wood et al. (2017) suggest that large schools serving students from low socioeconomic families may benefit from more support and funds to assist in implementing and maintaining dropout prevention programs.

Additionally, students who do not live with both natural parents and those who have high family mobility and move schools or houses frequently are considered to be more at risk of dropping out (Hammond et al., 2007; Rumberger, 2011). Students who live in a single-parent household or even a step-parent household are more at risk of dropping out than students who live with both natural parents and are at higher risk for poor educational outcomes, possibly due to higher chances of student mobility (Hammond et al., 2007). Student mobility during middle school and high school highly affects dropout and graduation. Unfortunately, these students may suffer psychologically, socially, and academically from high mobility (Rumberger, 2011).

Parental involvement is an essential part of student success and can be exhibited in many different ways such as school involvement, home involvement, and academic socialization. Academic socialization is "the communication of parental expectations about school work and the importance of education, encouragement of educational and career goals, and making plans and preparations with adolescents that support their future goals," (Wang & Sheikh, 2014, p. 611). Families who have low education themselves, low educational expectations, low contact with the school, or simply do not have conversations about school potentially put their child at risk of dropout (Hammond et al., 2007; Wang & Sheikh, 2014). Students of low socioeconomic status are at an even greater disadvantage for a lack of parental involvement (Parr & Bonitz, 2015; Wang &

Sheikh, 2014). Wang & Sheikh (2014) found that the effects of parental involvement differed for students from lower socioeconomic families, possibly due to the lack of resources available to them or added stressors such as longer work hours or financial struggles. This may negatively result in a parent's ability to engage with their children with behaviors that promote academic achievement and performance.

Parental involvement was found to significantly improve both academic and emotional function with adolescents and predicted academic success both directly and indirectly through behavioral and emotional engagement. In fact, middle school students can become at risk for developing emotional and behavioral problems if their parents are less involved or do not communicate with the school as often (Hecker et al., 2014; Parr & Bonitz, 2015; Wang & Sheikh, 2014). One way that has been shown to have decreased the chances of a student getting depression from school has been academic socialization. Authors say this positive impact on mental health may be because they become more confident in what they are able to achieve (Wang & Sheikh, 2014). Despite a student's self-sufficient attitude, parents can give their child a sense of caring, support, and connection by simply attending school events or volunteering at school (Wang & Sheikh, 2014).

Peer influences. Students in middle school and high school are often influenced by their peers. Whether they socialize with them every day or not, peers can have both a direct and indirect impact on how a student behaves. Many students are experimenting at these ages and are also in the midst of finding new friends and going through normal adolescent changes. This starts to become a problem when students socialize with high-risk peers. Those who socialize with high-risk peer groups are more susceptible to high-

risk social behavior (Hawkins et al., 2013; Hammond et al., 2011; Lee & Shute, 2010). Hawkins et al. (2013) identified different problem behaviors that are influenced by peers and suggested starting interventions during school that focus on a holistic model of community engagement to improve social capital of individuals who have positive influences on students from an earlier age. They looked at specific problem behaviors such as sexual activity, cigarette use, alcohol use, marijuana use, and delinquent acts.

The authors found that engaging in regular smoking and sexual activity in middle school was a predictor of high school dropout, independent of a student's academic performance during middle school. Moreover, the dropout rate for those who reported having had sexual intercourse during middle school was 7.3% higher than those who did not and 10.6% higher for those who regularly smoked cigarettes during middle school than those who did not. Authors suggest that it is not the act of smoking itself, but rather the fact that smoking can often be associated with other mechanisms that lead students to drop out, such as interactions between younger students and older individuals who make themselves available and are willing to purchase cigarettes for younger adolescents. This creates a bond and network between all involved.

Unfortunately, these older individuals that the younger peers may start to look up to may become negative influences and harmful role models. In fact, it has been found that younger students who attend under-resourced and high-risk schools are more likely to pick up smoking habits from older peers (Hawkins et al., 2013). This can put students at an even greater risk of dropping out considering schools of lower socioeconomic status were found to be significant predictors of school dropout (Wood et al., 2017).

Hawkins et al. (2013) found that students who are involved in a romantic relationship that led to engaging in sexual activity may lose interest in school due to their partner becoming their primary focus. While it may not be the loss of interest that results in poor school performance, it may be that the loss of interest reflects a different set of priorities where school is not one of them. Engaging in sexual activity can lead to pregnancy, and Hawkins et al. (2013) found that adolescent girls who experience pregnancy are more likely to drop out of school.

Hawkins et al. (2013) also considered substance abuse and delinquent behavior as risky behaviors for adolescents. They were surprised to find that substance use was not significantly predictive of failure to complete high school after problem behaviors and academic performance was held constant. Though these appear to be the findings, this does not mean that substance use during middle school should be ignored. There is still the possibility of substance abuse effects having an impact on outcome variables such as a student's grade point average. Delinquent behavior (defined as any of the following acts done within the last year: stealing property worth more than $50, using or threatening someone with a weapon, or selling drugs) was also predictive of failure to complete high school independent of school performance and engagement.

School climate. The school climate a student is in has significant impacts on their education as well as their sense of belonging. Wood et al. (2017) found that school-level predictors of student dropout were school socioeconomic status and size. Students attending schools with a lower socioeconomic status often have a limited amount of resources, which is why they argue for more equitable distribution between economically diverse schools as well as smaller schools (Wood et al., 2017).

One type of school climate found to be positively associated with good student outcomes and lower dropout rates are authoritative school climates (Cornell & Huang, 2016; Jia, Konold, & Cornell, 2015). An authoritative school climate (ASC) is described as having strict but fair discipline (high structure) and supportive teacher-student relationships (high support). Jia et al. (2015) found that both teacher support and high academic expectations were associated with lower dropout rates. ASC were also associated with lower levels of alcohol and marijuana use, which could be an effective change for schools facing a higher prevalence of these problem behaviors as they have been found to be high predictors of dropout (Cornell & Huang, 2016; Hawkins et al., 2013).

Cornell and Huang (2016) also found that students in ASCs experienced less bullying, fighting, weapon-carrying at school, and less interest in gang membership, as well as lower suicidal thoughts and attempts, rates of aggression towards peers and teachers, and suspensions and dropout rates. In fact, students in higher ASCs experience 60% lower rates of violence, peer-victimization, and gang membership. For this reason, Cornell and Huang (2016) support this socio-ecological perspective and argue that school climate is an important factor when looking at student behavior.

Similarly, Peters and Woolley (2015) found that high levels of control (adequate rules, guidelines, and boundaries for students) and higher levels of support (frequent actions taken by adults to create trust with students) predicted higher grades. In this study, student grades were higher when both control and support levels were high rather than just support was high. The authors also looked at high levels of challenge (adult encouragement of student growth) which predicted higher grades, suggesting the

importance of parental involvement. When looking at student grades when control and challenge were high, they found that students had higher grades when control and challenge were high rather than control and support. These findings suggest that while support is important for student success, control is the most foundational of the three concepts (Peters & Woolley, 2015).

While there are several different factors that contribute to students being at risk of dropping out, these are not all taken into consideration in current practice. It is also important to note that not every single factor that can put a student at risk of dropping out has been identified and included in this literature review and should be further examined. Now that the academic factors and non-academic factors have been identified, the following will include the current eligibility criteria for students to be considered "at risk" and how the identification process can be a much more complicated than it appears.

Current Practice for Identifying Students who are "At Risk" of Dropout

There are many factors that are not considered an indicator according to the Texas Education Agency (TEA) (1990) at-risk indicator code. Due to Texas state policies, Communities in Schools (CIS) focuses on the target areas of academics, attendance, and behavior; however, they fail to acknowledge other relevant, non-academic factors that may relate to student dropout. The TEA at-risk indicator code identifies students under 21 years of age to be at risk using the following criteria:

1. is in prekindergarten, kindergarten or grade 1, 2, or 3 and did not perform satisfactorily on a readiness test or assessment instrument administered during the current school year;
2. is in grade 7, 8, 9, 10, 11, or 12 and did not maintain an average equivalent to 70 on a scale of 100 in two or more subjects in the foundation curriculum during a semester in the preceding or current school year or is not maintaining such an average in two or more subjects in the foundation curriculum in the current semester;

3. was not advanced from one grade level to the next for one or more school years; (Note: From 2010-2011 forward, TEC 29.081 (d-1) excludes from this criteria prekindergarten or kindergarten students who were not advanced to the next grade level as a result of a documented request by the student's parent.)
4. did not perform satisfactorily on an assessment instrument administered to the student under TEC Subchapter B, Chapter 39, and who has not in the previous or current school year subsequently performed on that instrument or another appropriate instrument at a level equal to at least 110 percent of the level of satisfactory performance on that instrument;
5. is pregnant or is a parent;
6. has been placed in an alternative education program in accordance with TEC §37.006 during the preceding or current school year;
7. has been expelled in accordance with TEC §37.007 during the preceding or current school year;
8. is currently on parole, probation, deferred prosecution, or other conditional release;
9. was previously reported through the Public Education Information Management System (PEIMS) to have dropped out of school;
10. is a student of limited English proficiency, as defined by TEC §29.052;
11. is in the custody or care of the Department of Protective and Regulatory Services or has, during the current school year, been referred to the department by a school official, officer of the juvenile court, or law enforcement official;
12. is homeless, as defined NCLB, Title X, Part C, Section 725(2), the term "homeless children and youths", and its subsequent amendments; or
13. resided in the preceding school year or resides in the current school year in a residential placement facility in the district, including a detention facility, substance abuse treatment facility, emergency shelter, psychiatric hospital, halfway house, or foster group home.

Need for Considering the Complex Nature of Dropout Factors

The CIS affiliate to which the present study attempts to make contributions has used various criteria to identify at-risk students as presented above. Success coaches then choose a target area either focusing on academics, attendance, or behavior. After choosing the student's target area, they then provide appropriate services related to the target intervention. While this is currently the process, a comparison between the current criteria and the factors identified in the literature review has suggested a need to consider a more complex nature of using the information of factors for intervention decisions.

Need for Different Interventions Depending on Types of Dropout

Bowers and Sprott (2012) identify different types of dropouts and argue that "single target" interventions may not be the most effective or useful because some interventions that have a specific theory behind them may not apply to all students who are at risk. They present a framework for using academic-related information to identify different types of dropout: *Quiet, Jaded*, and *Involved*. They looked at the differences between the subgroups of students they found who drop out. Knowing the characteristics of these types of dropouts allows these students to be identified at an earlier time.

Students in the *Quiet* subgroup are identified by having the second lowest grades and credits, second highest extracurricular involvement and absences, and lowest in trouble. Bowers and Sprott (2012) found that they make up the largest percentage (52.7%) of the three types of dropouts. They were identified by having low test scores, grades, and credits. Of the three groups, Quiets were found to go to class the least without their assignments completed. Quiets also typically read for about three hours per week and participated in one hour of extra activities per week. Compared to the Jaded group who were in trouble more often, Quiets were in trouble less than one time throughout the semester and rarely experienced suspension or probation. Quiets were also on average absent two times during the previous semester. This study found that Quiets left school because they did not like school and thought that they could not complete courses or pass tests in order to graduate. For interventions, Bowers and Sprott (2012) recommend that Quiet students could benefit from academic tutoring and more connections to school that will help assist with course work and decrease their absences.

The *Jaded* group of students were identified by being distanced from the school, having the lowest grades, credits, homework completion, extracurricular involvement, and amount of reading outside of school. They also had the highest age, amount of absences, office referrals, and suspensions. Jaded students were the second largest percentage of dropouts at 38%. Bowers and Sprott (2012) found that the Jaded group of students were typically "classic or traditional" types of dropouts. The Jaded group tends to not like school and see school as a place where discipline is not enforced equally. This group reported having left school more often because they did not get along with others at school, including their teachers and other students, felt as if they did not belong, and believed that getting a GED would be easier. For this group, Bowers and Sprott (2012) recommend to have more positive ways to connect the students with school in order to decrease their negative feelings associated with it.

Involved students were identified as having the highest test scores, grades, and credits and being involved in extracurricular activities. They have the lowest number of reported absences and are the second highest in trouble. The Involved are the smallest group of dropouts with 9.3%. While they do have the highest grades and test scores of the three groups, Involved students still have low grades and test scores. They reported lower responses of reasons for dropping out; however, their responses ranged from disliking school to getting low grades and missing too much school. For this reason, Bowers and Sprott (2012) recommend that Involved students may need more flexible schedules and alternative options to get to graduation.

Intercorrelations between Factors of Dropout

Many studies have identified various factors that affect future dropout of students, highlighting the intercorrelations between these factors. One example of this is the impact of school climate on students' engagement in school. While student engagement is seen as something that is a personal factor, Sumbera (2017) found that school climate and context have a significant impact on students' engagement in school. Pendergast et al. (2018) argue that school climate factors such as attendance (meaning if students were physically present to engage), transitions between primary and high school, and culture are all factors that should show the importance of a student's SOBAS.

Students who are at risk of dropping out can benefit the most from re-engagement when school context such as policies and practices support students' development of emotional, behavioral, and cognitive engagement. This happens when the school provides opportunities that build a student's self-efficacy and locus of control, which can alter their own beliefs about their ability to graduate (Sumbera, 2017). Often times at-risk students will either stop trying, have low efficacy, or believe that they cannot grow in their abilities when they have failed over and over again. These beliefs can be countered when their intrinsic motivation is built and their beliefs towards graduation are changed in a positive way (Sumbera, 2017).

Students are less likely to reach their full academic potential if they do not feel comfortable in their environment or lack consistency in their lives. Because of this, Peters and Woolley (2015) argue that these students cannot be expected to perform well academically. The authors suggest implementing community watch programs with individuals such as parents, business owners, police, social workers, and the school to

address the safety needs of individuals living and working in the community. Students lacking a feeling of safety and consistency can benefit from this support when it is designed to increase safety and consistency in the student's home, neighborhood, and school environments.

Conclusion of the Literature Review

The literature review has explored the definition and factors of dropout. Using an ecological systems theory approach, there are also important non-academic factors to be taken into consideration, such as personal factors and social-contextual factors, that often form complex relationships between different factors (Cornell & Huang, 2016; Lee & Shute, 2010; Wood et al., 2017). While systems theory has identified several factors, as mentioned before, not every single factor that may contribute to student risk has been included. For the purpose of this study, the factors found in the literature will be the factors explored. The information from the literature provides useful implications; however, a study is still needed to provide relevant information to other CIS affiliates that may benefit from a more holistic approach during the assessment process. Success coaches may need to consider various factors that have shown to significantly contribute to students being at-risk of dropping out and also understand the relationships between the factors. In order to bridge this gap in research, the present study aims to explore the relationship between non-academic factors and academic factors to better identify students who may be at risk of dropping out.

CHAPTER III

METHODOLOGY

The purpose of this study was to explore the relationship between non-academic factors and academic factors to better identify students who may be at risk of dropping out. This was done with student surveys administered to both middle and high school students. The survey asked a series of questions regarding any non-academic factors found in the literature and used academic secondary CIS data such as absences, office referrals, and grades.

Research Design

In order to examine the relationship between non-academic factors and academic factors contributing to students' being at risk of dropping out, this exploratory study explored the associations between academic factors, non-academic factors, and dropout-related outcomes. This study used a cross-sectional survey as well as secondary data from the previous school year and the current school year. The survey was conducted at six ISD campuses, including four middle schools and two high schools. This study had minimal researcher interference, as the researcher did not administer the surveys to students, nor was the researcher physically on campus while participants completed the survey. Secondary data were collected from the student's academic outcomes from the spring of 2018 and the fall of 2018.

Sample

The study used convenience sampling of case-managed students from a CIS Texas affiliate. While convenience sampling was used for this study, there were some limitations in that it may not be generalizable (Yegidis, Weinback, & Myers, 2011). The participants were from four middle schools and two high schools in the ISD. The researcher also used data from students' 2017-2018 school year and the current school year (2018-2019). Each school has a social work intern that sees approximately 35 out of the 110 students of the success coach's caseload. The researcher was granted a waiver of parental consent through the IRB, and assent was attained from the students who are under the age of 18. This was due to the difficulty of obtaining parental consent in a timely manner as well as wanting to keep the respondents' answers as anonymous as possible. Because the survey was taken online, the researcher also acquired a waiver of documentation. Only students who gave full assent and who were able to read the survey in English were able to take the survey.

Data Collection

The study used both survey and secondary data collected from the CIS data system for the 2017-2018 and 2018-2019 school years. Access to this data was granted by the Program Support Specialist. The researcher created a survey using Google Forms, and it was accessible to the students on a computer that the social work intern at each school had access to. Students who participated took the survey online by themselves; however, if they needed assistance, they were able to receive help from the social work intern. There was also an additional page for the social work intern and student to fill out together with the student's academic information such as their grades, office referrals,

and attendance. Once the surveys were completed, the researcher received the data back with no identifying information.

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Measurements

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The survey and secondary data measured both academic and non-academic factors that contribute to students being at risk of dropping out. Academic factors were measured using grades, behavior, and attendance from the previous year and the current year. Non-academic factors were measured by personal and social-contextual factors identified in the literature.

Demographic Variables

Demographic variables collected included the student's gender, ethnicity/race, household language, parenting status, work schedule, and household make-up. These were yes/no questions, other than the grade level identified and a question regarding their living situation. Their living situation was based on the Student Residency Questionnaire that determines eligibility requirements for services under the McKinney-Vento Homeless Assistance Act (Texas Homeless Education Office, 2018).

For the purpose of this study, the researcher used the guidelines for free or reduced lunch to measure family socioeconomic status (SES). Students receiving free or reduced lunch were considered economically disadvantaged, as these students who meet the criteria for free or reduced lunch must live in households at or below 185% of the federal poverty level (Food and Nutrition Service, 2018).

Academic Factors

Academic factors consisted of the academic data for the student such as their academic outcomes and retention during their time in school. This also included what the student was case-managed for while in CIS.

Grades, behavior, attendance. Academic factors included the student's grades, behavior, and attendance. The students recorded their final average grades from core classes (English, Math, History, Science) from the spring of 2018 and the fall of 2018 choosing from categories ranging from "Mostly As" to "Mostly Ds and Fs". Behavior was measured using the total number of office referrals and disciplinary counts the student received in the spring of 2018 and the fall of 2018. Students' attendance was measured using the total number of state-reported absences the student had at the end of the spring of 2018 and the fall of 2018.

Target area. The target area refers to the area that CIS success coaches and social work interns categorize their students in as areas of growth for the student. This is what the end of year outcome is based on. Because these areas are Academics, Attendance, and Behavior, the student identified which target area they were case-managed for in the spring of 2018 and fall of 2018.

Retention. Another academic factor measured was retention. The number of retained students were collected by asking the students if they have ever been retained during their academic career or not. These academic factors were researcher-generated, with the formatting of questions influenced by the Authoritative School Climate Survey (Cornell, 2017).

Personal Factors

The Authoritative School Climate Survey (ASCS) was developed to measure authoritative school characteristics such as school disciplinary structure, student engagement, academic expectations, teacher support, and bullying (Cornell, 2017). Items such as Student Engagement, School Disciplinary Structure, Student Support (from combined subscales Respect for Students and Willingness to Seek Help), Academic Expectations, and Peer Support were measured using this survey. The research summary of this survey provides a table summary of evidence for the reliability and validity of the student version of the Authoritative School Climate Survey (Cornell, 2017).

Student engagement. Student engagement was measured using the ASCS. This six-item scale asked students how they felt about their school with statements such as "I feel like I belong at this school" and "I am proud to be a student at this school." A four-point Likert scale was utilized with response options of "strongly disagree," "disagree," "agree," and "strongly agree."

Student activities. Student activities were measured by the number of school activities the student had participated in during the school year. These included clubs, performing arts, sports teams, and other activities such as student government. Based on Hammond et al. (2007), students were also asked to identify the number of hours a week they work, if applicable, as well as what they typically do after school.

Educational expectations. The student's own educational expectations were measured on a scale from 1-5, with options ranging from "I do not expect to graduate high school" to "I expect to complete post-graduate studies."

Dropout ideation. Due to the time constraint, this study focused on dropout ideation, rather than students who have dropped out in the past or students who may drop out in the future. For the purpose of this study, "dropout ideation" was measured asking students if they have ever seriously thought about dropping out of school before with response options "strongly disagree," "disagree," "agree," and "strongly agree."

Risk behavior. Risk behaviors such as weapon-carrying, fighting, alcohol use, marijuana use, and cigarette use were measured using questions from the 2019 Youth Risk Behavior Survey developed by the Centers for Disease Control and Prevention. This is a widely used questionnaire used to understand youth health behavior at the local, state, and national levels. The risk behaviors measured in this section differ from academic behavioral outcomes because they are behaviors the student may be engaging in outside of school. Academic behavioral outcomes were strictly office referrals and disciplinary counts.

Social-Contextual Factors

Questions from the Communities in Schools' Student Attribute, Risk Factor, and Asset Inventory (CIS, 2017) were utilized for questions regarding parental involvement, educational expectations, student mobility, and peer risk behavior. This inventory is used at other CIS affiliates and is used to start facilitating important conversations with students about potential risk factors.

Parental involvement and educational expectations. Parental involvement and educational expectations for students were measured using a four-item scale and a four-point Likert scale of response options "strongly disagree," "disagree," "agree," and "strongly agree." Statements included "My parents/legal guardians talk about their hopes

and expectations for me in school and when I grow up" and "My high school graduation is important to my parents/legal guardians." Parent/guardian educational attainment was recorded based on the Authoritative School Climate Survey.

Student mobility. Student mobility was measured asking how many times the student has moved houses in the last year, as well as how many total times they have changed schools in the middle of the school year. Response options included "0" through "more than 5".

Peer risk activity. Peer risk activity was a researcher-generated three-item scale and measured if students' friends drink alcohol, smoke marijuana, bully others, or get in fights. Response options were on a four-point Likert scale of "strongly disagree," "disagree," "agree," or "strongly agree."

Peer support. Peer support was measured using a four-item scale from the ASCS measured using a four-point Likert scale of "strongly disagree," "disagree," "agree," or "strongly agree." Students answered how much they agree with statements such as "Most students at this school listen to what other students have to say" and "Most students at this school care about all students."

School disciplinary structure. The school disciplinary scale consisted of seven items and utilized a four-point Likert scale of "strongly disagree," "disagree," "agree," or "strongly agree." Statements from this scale included "The school rules are fair" and "When students are accused of something wrong, they get a chance to explain."

Student support. Total student support was measured from combining Respect for Students and Willingness to Seek Help subscales. Together this made total student support an eight-item scale with options on a four-point Likert scale of "strongly

disagree," "disagree," "agree," or "strongly agree." Examples of each support scale included "Most teachers and other adults at this school care about all students" and "There is at least one teacher or other adult at this school who really wants me to do well."

Statistical Analysis

A series of descriptive analyses were conducted to present the characteristics of the sample. Another series of descriptive analyses were conducted to examine the distribution of major variables. Paired samples t-tests were conducted to examine the change in each outcome from the spring semester and the fall semester. To examine whether participating in a certain target intervention at the spring semester (compared to the others) had an impact on the outcomes at the fall semester, analysis of covariance (ANCOVA) analyses were conducted. In order to examine which factors influenced the outcome variables, multiple logistic and linear regression analyses were performed.

CHAPTER IV

FINDINGS

To explore the relationship between non-academic factors and academic factors that contribute to students being at risk of dropping out, both survey data and secondary academic data (academic grades, absences, and office referrals) were collected. Regression analysis and ANCOVA tests were run to determine the impact of factors on each other as well as students' academic data.

Description of Sample

Table 1 shows the detailed information of the participants' demographic background. The total population of study participants were students in grades 6-12 (N=71). The descriptive statistics for this sample population showed that out of these 71, over half were female (57.7%) while men accounted for the rest of the population (42.3%). Most students identified as Hispanic (n=28, 40%). The second highest ethnicity was Black or African American (n=22, 31.4%), and third was White (n= 17, 24.3%). The language breakdown for this population was very close with nearly half speaking another language at home (n=36, 50.7%). Most students reported not having any children (n=66, 93%). Sixty students out of the 71 qualified for the free/reduced lunch meal plan (84.5%). As for living situation, 88.5% of students reported living in a house or apartment with their parent or guardian (n=54) with 42 students living with two parents (59.2%) and 22

living with one parent (31%). Most students had not moved schools during the middle of

the school year (*n*=51, 71.8%).

Table 1

Characteristics of the Sample (N=71)

Variable	Category	*N*	*%*
Gender	Male	30	42.3
	Female	41	57.7
Ethnicity	"NH, American Indian or Alaska Native"	2	2.9
	"NH, Black or African American"	22	31.4
	"NH, Asian"	1	1.4
	"NH, White"	17	24.3
	Hispanic (Any)	28	40.0
OtherLanguageYes	"no"	35	49.3
	"yes"	36	50.7
Having children	"no"	66	93.0
	"yes"	2	2.8
	"prefer not to say"	2	2.8
Family SES (meal plan)	"no"	11	15.5
	"yes"	60	84.5
Living-number of family	"no parents"	7	9.9
	"one parent"	22	31.0
	"two parents"	42	59.2
LivingWhere	"House or apartment with parent or guardian"	54	88.5
	"Sharing house with friends or family	5	8.2
	"Shelter or other transitional housing"	1	1.6
	"Unsheltered; in a park, substandard housing	1	1.6
MobilitySchool	"0"	51	71.8
	"1"	7	9.9
	"2"	4	5.6
	"3"	5	7.0
	"4"	0	0.0
	"5+"	4	5.6

Note. Numbers for MobilitySchool refer to the number of times a student a student has moved schools in the middle of the year.

Descriptive Analyses of Major Variables

To further examine the population and the school, outcome variables and indicators are described. Outcome variables in this study consisted of the outcome variables such as their academic outcomes at each semester, retention, and dropout ideation. Other major variables described include school climate indicators.

Outcome Variables

Table 2 presents a descriptive analysis of the outcome variables. Outcome variables consisted of the students' academic data as such as their dropout ideation, retention, grades for the spring of 2018 and fall of 2018, behavior, and absences. Dropout ideation was answered on a four-point Likert scale with one being "Strongly Disagree" and four being "Strongly Agree". The mean, as shown in Table 3, (M=1.83, SD= 0.96) shows that students generally answered between "Strongly Disagree and "Disagree" with. Interestingly, many of the students in this sample had not been retained or held back at least once in their time at school (63.4%). Final grades were in categories ranging from 1-8, with one meaning "Mostly As" to eight meaning "Mostly Ds and Fs". Mean final grades for the spring of 2018 and fall of 2018 were between As and Bs (M= 3.01, SD= 1.30). Behavior mean was based on the number of office referrals and disciplinary counts the student received during each semester. The number of these referrals/disciplinary counts was between zero and one (M= 0.55, SD= 1.30). Absence mean was based on the number of absences students received in each semester. Students in this sample typically had close to two absences. (M= 1.99, SD= 1.94).

Table 2

Outcome Variables

	Min	Max	M	SD	SK	KT
DropoutIdeation	1	4	1.83	0.96	0.75	-0.65
Retention (No)			45	63.4%		
Retention (Yes)			25	35.2%		
FinalGrade1	1	7	2.93	1.45	0.97	0.25
FinalGrade2	1	8	2.97	1.49	1.43	2.01
FinalGradeMean	1	6	3.01	1.30	0.73	-0.24
Behavior1	0	5	0.59	1.19	2.26	4.79
Behavior2	0	5	0.53	1.22	2.63	6.60
BehaviorMean	0	5	0.55	1.09	2.32	5.12
Absence1	0	5	1.93	2.08	0.49	-1.47
Absence2	0	5	2.09	2.06	0.38	-1.52
AbsenceMean	0	5	1.99	1.94	0.40	-1.39

Note. SK: Skewness, KT: Kurtosis. 1 and 2 after the outcome variable mean spring (1) and fall (2)

Descriptive Statistics about School Climate

To address the question, "what are the additional non-academic factors that contribute to dropping out?", the researcher identified school climate variables from the survey findings. The majority of the variables used in this study are measured by multiple indicators but not necessarily scales; therefore, they do not have the validity and reliability reported. The researcher decided to calculate a composite score of each measurement by aggregating similar indicators. According to Song et al. (2013), a composite variable is "made up of more than three indicators that are highly related to one another and include scales, single or global ratings, or categorical variables" (p. 45). They claim that using composite variables is a common practice for certain purposes such as "addressing multicollinearity for regression analysis or organizing multiple highly correlated variables into more digestible or meaningful information" (p. 45). The answers to related questionnaires were categorized into a composite variable by taking the sum of

all the scores, as recommended by the developers (Cornell, 2017). Because of the lack of

criteria for using the sum of scores has not been found, the scores of each concept were

also combined into a mean, as this mean score gives a more intuitive sense when specific

criteria are not present.

Before calculating a composite score of each measurement by combining similar

indicators, any items that were asked in the opposite direction were inversed and

reliability analyses were performed to check the internal consistency of the answers to the

indicators for each concept. The internal consistency indicates the extent to which all the

items or indicators measure the same construct and the inter-relatedness of the items with

each other (Tavakol & Dennick, 2011). Cronbach's alpha is a widely-used tool for

assessing the internal consistency of a scale. This value refers to "the extent that

correlations among items in a domain vary, there is some error connected with the

average correlation found in any particular sampling of items" (Nunnally, 1978, p. 206).

Nunnally (1978) argued that the alpha level equal to or higher than .70 is considered to be

an indicator of minimally adequate internal consistency. Although there are different

reports about the acceptable values, this value is widely used as a cut-off value. As some

variables were developed by the researcher, a high correlation is not expected for these

variables; therefore, the researcher proceeded to calculate the averages to use a single

value to measure each concept.

Table 3 presents the Cronbach's alpha from the reliability analyses, minimum,

maximum, mean, standard deviation, and the sum score for each composite variable.

With the exception of the two variables that were not expected to have a high correlation

among the indicators, all composite variables had acceptable reliability with the

Cronbach's alpha being between 0.66 and 0.85. The distribution of all variables was close

to normal, with the exception of the youth risk behavior mean variable.

Student engagement in this sample population was high (*M*= 3.06, *SD*= 0.58) with

students having an average response of "Agree". Other high indicators were student

support (seek help from others) (*M*= 3.05, *SD*= 0.68), student support additional (like

coming to school and think it is safe) (*M*=2.84, *SD*= 0.89), academic expectations

(*M*=3.20, *SD*= 0.57), and educational expectations and involvement from parents (*M*=

3.13, *SD*= 0.72). Students also reported low amounts of youth risk behavior (*M*= 0.40,

SD= 0.98), and low to medium peer risk activity (*M*= 1.71, *SD*= 0.76). Students

participated in an average of zero to one activities (*M*= 0.61, *SD*= 0.51) and worked an

average of 12 hours or less (*M*= 1.54, *SD*= 1.57).

Table 3

Descriptive Statistics about School Climate (N= 71)

Indicator	α^1	N^2	Min	Max	M^3	SD	Sum^4
StudentEngagement	0.80	6	1.67	4.00	3.06	0.58	18.18
SchoolDisciplinarySt	0.79	7	1.57	4.00	2.74	0.62	19.07
StudentSupportRespect	0.85	4	1.00	4.00	2.89	0.70	11.39
StudentSupportSeekHelp	0.78	4	1.00	4.00	3.05	0.68	12.14
StudentSupportAdditional	0.77	2	1.00	4.00	2.84	0.89	5.68
AcademicExpectation	0.76	5	1.60	4.00	3.20	0.57	15.90
PeerSupport	0.83	4	1.00	4.00	2.23	0.68	8.93
EducationalExpectInvolvement	0.83	4	1.00	4.00	3.13	0.72	12.51
YouthRiskBehavior	0.77	6	0.00	4.80	0.40	0.98	2.25
PeerRiskActivity	0.83	3	1.00	4.00	1.71	0.76	5.13
StudentActivity	n/a	4	0.00	2.25	0.61	0.51	2.41
AfterSchoolActivity	n/a	2	0.00	7.50	1.54	1.57	3.06

Note. [1] Cronchbach's alpha; [2] Number of indicators; [3] The only variable with a non-nearly normal distribution is YouthRiskBehavior (Skewness and Kurtosis are not presented in the table); [4] Sum of the scores is presented for additional information while other statistics used the mean scores.

Exploring Factors of Outcome Variables

In order to examine which factors influenced the outcome variables, a multiple logistic regression analysis (for Retention: 0 or 1) and multiple linear regression analyses (for the rest of the continuous outcome variables) were performed. This addresses the question, "what is the relationship between non-academic risk factors and academic risk factors?" Due to the small sample size, the impact of academic factors and non-academic factors was examined separately. Attempting to answer the first research question (What are academic risk factors that contribute to dropping out of high school?) the researcher examined the impact of academic factors on which the agency has provided targeted programs (academic, absence, and behavioral concerns) in contributing to the dropout risks such as dropout ideation and retention. Their results presented in Table 4 indicated none of the academic factors had a statistically significant association with either retention or dropout ideation.

Table 4

Results in Multiple Regression of Academic Factors on Dropout Risks (N=71)

Factor	Retention		Dropout Ideation	
	Wald	OR	beta	t
FinalGradeMean	.348	1.133	.036	.972
AbsenceMean	.302	1.077	1.219	.227
BehaviorMean	.126	.916	1.549	.126
	Nagelkerke R^2 = .017		R^2 = .066; Adjusted R^2 = .024	

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

Since the academic factors had no associations with dropout risks, the researcher examined which non-academic factors contributed to dropout risks as well as academic factors that can be considered as process outcomes.

Before the linear regression analysis, assumptions for testing a regression model were considered using Field's recommendation (Field, 2013). Multicollinearity problems (i.e., a high correlation between factors) were examined using the tolerance value for predictors (less than 0.2). Since the regression model that includes factors did not reveal any multicollinearity, all factors were included in the regression model. The following variables were excluded from the regression analyses based on a low tolerance: StudentSupportRespect, StudentSupportAdditional, StudentSupportSeekHelp (high correlation with StudentEngagement) and EducationalExpectInvolvement (high correlation with AcademicExpectation).

The first two regression models (for DropoutIdeation and Retention) in Table 5 present the findings regarding the second research question (What are non-academic risk factors that contribute to dropping out of high school?) For dropout ideation, three variables were statistically significant: Peer Risk Activity, Student Engagement, and Student Activity. Peer Risk Activity was the strongest factor (beta = .380, t = 3.163, p = .002). Students who were involved with a higher level of risk activities with peers had thought of dropout more. Student Engagement was the second strongest factor (beta = -.377, t = -2.762, p = .008). Students who had a higher engagement perception, (e.g., students like their school, they are proud to be students, students feel like they belong at school) had thought of dropout less. The third factor was Student Activity (beta = -.220, t = -2.004, p = .05). Students who participated in more school activities (e.g., clubs, art groups, sports teams, and other activities) had thought of dropout less. None of the factors included in this model were significant with the level of retention.

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The rest of Table 5 presents the results regarding the third research question (Is there a relationship between non-academic risk factors and academic risk factors?) For the mean score of the final grade for the fall semester, one variable was statistically significant: Student Engagement (beta = -.339, t = -2.182, p = .033). Students with higher engagement perception (e.g., students like their school, they are proud to be students, students feel like they belong at school) had a higher value for the average grade during the fall semester (Note that a higher level of grade refers to a lower grade).

For the mean score of the behavioral problems for the fall semester, one variable was statistically significant: Youth Risk Behaviors (beta = .314, t = 2.359, p = .022). Students who were involved with risky behaviors (e.g., fighting, carrying weapons, drinking, and smoking) had a higher level of behavioral outcomes such as office referrals and disciplines.

None of the factors included in this model were significant with the level of retention and the number of reported absences.

Table 5

Results in Multiple Regression of Outcomes (N=71)

Factor	Retention[1]	Dropout Ideation	Grade Mean	Absence Mean	Behavior Mean
FamilySES	1.972	.658	-.473	.262	1.793
MobilitySchool	2.142	-.984	1.869	.459	1.940
StudentEngagement	.593	-2.762**	-2.182*	-1.123	.232
SchoolDisciplinarySt	.723	-1.339	.289	.046	-1.569
AcademicExpectation	.200	-.071	.684	1.651	-.587
PeerSupport	1.120	.345	.090	-.789	.175
YouthRiskBehavior	.060	-.236	.628	.228	2.359*
PeerRiskActivity	.020	3.163**	-.022	.279	-.132
StudentActivity	.017	-2.004*	-.735	-1.266	.489
AfterSchoolActivity	.599	-1.161	.318	.251	-.466
R^2	.140	.431	.238	.109	.304
(Adjusted R^2)		(.297)	(.107)	(-.044)	(.186)

Note. [1]Wald statistics and Nagelkerke R^2 presented from a multiple logistic regression; t-values and R^2 (Adjusted R^2) presented from linear regressions for the continuous outcome variables

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

Exploring the Changes in Outcomes

The last research question was: Is there any change in the process outcomes (academic factors) after students participated in a program? It should be noted that this exploratory study neither had a hypothesis to test before the data collection, nor used an experimental design, either. However, the researcher explored the changes in the major outcome variables. First, paired samples t-tests were conducted to examine the change in each outcome from the spring semester and the fall semester. The results are presented in Table 6 descriptive information. None of the paired difference in the outcomes between the spring semester and the fall semester was statistically significant. Below is a description of the outcome variables.

Of the three target areas, academics was the largest in size (*n=32*), with attendance being second largest in size, (*n=22*) and behavior being the smallest in size

(*n*=15). While each target area had an appropriately high mean based on the target area

(i.e., higher average of absences in the attendance target area), the attendance target area

actually had a higher average of low grades during the spring semester (*M*= 3.18, *SD*,

1.68) compared to the academic target area (*M*= 2.97, *SD*= 1.06). Interestingly, those in

the academic target area had grades between As and Bs in the spring semester (*M*= 2.97,

SD= 1.06), and Bs in the fall semester (*M*= 3.03, *SD*= 1.23).

It should also be noted that this study did not account for all the reasons students

may be targeted for behavior. While the researcher focused on office referrals and

disciplines, students may also be targeted based on family conflict and self-esteem,

among others. Therefore, the low number of office referrals and disciplines may be due to

this reason.

Table 6

Descriptive Statistics of Outcome Variables for Each Target Area

Target area	Outcome	Spring Semester		Fall Semester	
		M	*SD*	*M*	*SD*
Academic	Final Grade	2.97	1.06	3.03	1.23
(*n*=32)	Behavior	0.66	1.15	0.56	1.34
	Absence	2.00	1.95	2.23	1.96
Attendance	Final Grade	3.18	1.68	2.82	1.14
(*n*=22)	Behavior	0.43	0.98	0.57	1.33
	Absence	2.32	2.42	2.18	2.32
Behavior	Final Grade	1.79	0.58	3.07	2.37
(*n*=15)	Behavior	0.80	1.61	0.40	0.74
	Absence	1.20	1.74	1.87	2.03

Note. A lower number for the final grade indicates better academic performance.

To examine whether or not participating in a certain target area intervention

(attendance, behavior, or academics) at the spring semester impacted the outcome at the

fall semester, an analysis of covariance (ANCOVA) was conducted. Potential sources of

variance due to the outcome variable at the previous semester (i.e., spring semester) and

other outcome variables at the fall semester were taken into account when this analysis was conducted.

The final grade of the students in this sample declined from the spring semester (M=2.93) and the fall semester (M=2.97); however, the difference was not statistically different. Table 7 shows which factors were related to the final grade during the fall semester (FinalGrade2). The only significant factor was the final grade during the previous semester. The only significant factor was the final grade at the previous semester (FinalGrade1): F=9.213, p=.004. This effect (Partial Eta Squared=.135) was small given Cohen's guidelines (0.2 – small effect, 0.5 – moderate effect, 0.8 – large effect) (Cohen, 1977). The target area the students were in during the spring semester did not make any difference in the final grade during the fall semester.

Table 7

Results of ANCOVA of FinalGrade2

Source	N	Mean of Outcome	F	Partial Eta Squared
Intervention at 1st semester			1.456	.047
Academic group	30	3.01		
Attendance group	19	2.60		
Behavior group	16	3.46		
Covariates				
FinalGrade1			9.213**	.135
Behavior2			.860	.014
Absence2			.397	.007

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

The reported absences of the students in this sample increased from the spring semester (M=1.93) and the fall semester (M=2.09); however, the difference was not statistically different. Table 6 shows which factors were related to the absences during the fall semester (Absence2). The only significant factor was the number of reported

absences during the previous semester. The only significant factor was the number of reported absences at the previous semester (Absence1): F=92.271, p<.001. This effect (Partial Eta Squared=.614) was moderate. The target area the students were in during the spring semester did not make any difference in the number of absences during the fall semester.

Table 8

Results of ANCOVA of Absence2

Source	N	Mean of Outcome	F	Partial Eta Squared
Intervention at 1st semester			1.260	.042
Academic group	29	2.00		
Attendance group	19	2.42		
Behavior group	16	1.31		
Covariates				
Absense1			92.271	.614
Behavior2			.006	.000
FinalGrade2			1.436	.024

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

     The behavioral outcomes of the CIS students in this sample improved from the spring semester (M=0.59) and the fall semester (M=0.53); however, the difference was not statistically different. The following table shows which factors were related to this outcome during the fall semester (Behavior2). The only significant factor was the behavioral outcome during the previous semester. The following table shows which factors were related to this outcome at the second semester (Behavior2): F=92.199, p<.001. This effect (Partial Eta Squared=.610) was moderate. The target area the students were in during the spring semester did not make any difference in the behavioral outcomes during the fall semester.

Table 9

Results of ANCOVA of Behavior2

Source	N	Mean of Outcome	F	Partial Eta Squared
Intervention at 1ˢᵗ semester			.196	.007
Academic group	30	0.57		
Attendance group	19	0.26		
Behavior group	16	0.56		
Covariates				
Behavior1			92.199	.610
Absence2			.294	.005
FinalGrade2			.200	.003

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

CHAPTER V

DISCUSSION

High school dropouts affect not only the individual and their families but can
have adverse effects on the community as well. Due to the negative consequences that
can arise from not graduating from high school, organizations such as Communities in
Schools exist to provide services for students who are considered at risk of dropping out.
Unfortunately, CIS affiliates in Texas are at a disadvantage when it comes to choosing
which students will be on their caseload as they can only case manage a certain number
of students. Currently TEA focuses primarily on academic factors that deem a student "at
risk" but as the literature has pointed out, there are several non-academic factors that
have also shown to put students at risk of dropout. This study explored the relationship
between academic factors and non-academic factors to better identify students who may
be at risk of dropping out.

Discussion of Major Findings

Additional Risk Factors

One of the questions this present study aimed to answer was, "what are the
additional non-academic factors that contribute to dropping out of high school?"
Examining school climate factors allows for these non-academic factors to be identified.
The identified additional risk factors were what emerged from the Authoritative School
Climate Survey such as student engagement, school disciplinary structure, and peer
support, among others (Cornell, 2017). Additional academic risk factors included

retention, attendance and behavioral outcomes. Students' GPA were identified in the literature as being an academic risk factor that is not included in the study because of the middle school population not having an overall GPA. As mentioned before, there was a lack of criteria for using the sum of scores. Based on the sums, however, the researcher self-generated scales of "low," "medium," and "high" to have a better understanding and interpretation of the average scores. No scores were in the "low" category.

School Climate

While there were several variables contributing to school climate, average responses to most of the questions showed to be positive when compared to the literature. Although participants of this study were from a very small sample population in comparison to the amount of students CIS serves district-wide, they do provide at least some insight into school climate in the school district. These findings are important for several different reasons. Not only does it give the researcher and readers insight to non-academic risk factors, but it also can be used as a comparison between what the literature has found to put students at risk of dropping out and how the students in this sample population are affected by them.

High scores. Overall, students had high student engagement, student support (seeking help from others), academic expectations, parental involvement and parental engagement. Students also showed to be engaging in a lower amount of youth risk behaviors, and generally did not report to have many peers that participated in risky behaviors or activities as well. This sample of students also liked coming to school, felt that their schools were safe, and worked within 12 hours or less, if at all.

Medium scores. Students found that schools in this district commonly had medium student disciplinary structure, student support and respect from the school, and support from their peers. Student activity in school varied in response but typically students were involved in zero to one or two activities in school. While there can always be room for improvement for all factors, those with medium scores can provide useful insight for areas of improvement and growth for the school district.

Cornell and Huang (2016) found that authoritative school climates with high structure (strict but fair discipline) and high support (supportive teacher-student relationships) were found to have lower dropout rates, less risky behavior, and lower violence, among other findings. Seeing that this school district only showed to have medium student support from teachers and disciplinary structure rather than high, this could be one reason these factors were not associated with outcome variables, particularly behavior. This finding could be supportive of authoritative school climates. While these medium scores are not necessarily a negative or positive finding, had these factors had higher scores, there may have been some association between dropout ideation or academic outcomes.

Due to the exploratory nature of this study, the researcher did not present any hypotheses to test. While this is true, there were still findings from this study that did not align with in the literature and were surprising results. The literature review identified various factors that put students at risk of dropping out, however many of those risks that were tested using the student survey were not seen as a problem with this sample as they may have been with more representative samples in the literature. One might expect a student who is categorized as at risk by the definition of the school district to have similar

risk factors that align with the literature. When making this observation it is important to recognize that the policies that are set forth by TEA that consider a student eligible for being at risk may differ in other states. The implications for policy will be discussed further.

Target Area

One of the policies set by TEA is the identification of a target area that success coaches must target their students for. The target areas they choose to focus on are academics, attendance, or behavior. Choosing an intervention can be difficult for success coaches when there can be multiple areas of growth for the student and when they can have a limited number of students on their caseload. This policy, along with the eligibility criteria, can put both students and success coaches in a difficult spot when it comes to receiving and providing services.

As mentioned earlier in the descriptions of each target area, those in the academic target area reported having As and Bs. These grades are typical grades that most students would aim for when in school, so to see that these are the grades of students who are being targeted for academics, raises some concern when considering the eligibility criteria. Ideally, students who are failing at least one class or multiple classes and are at risk of having a lower GPA would be targeted for academics. While this sample size is not generalizable due to size, this does not change the fact that students have little room for growth when the hope is that they have positive outcomes in the area they were being targeted for. This could also account for the lack of significance in the target area.

It was also found that the attendance target area had students with lower grades rather than the academic target area. One possible reason for this could be that students

are not turning in assignments and participating in class when they do not show up, causing their grades to be lower. This is one situation that shows the complexity of targeting students for one type of intervention or target area.

Some of the major findings from the ANCOVA results revealed that the students' target area was not statistically significant in the improvement outcomes from one semester to the next. For each target area, the only significant impact on the fall semester outcomes were the grades, absences, and disciplines/referrals from the spring semester. This provides supportive evidence of how difficult having an impact on student behaviors may be (e.g., homework completion and attendance and behavior patterns). Success coaches are only required to visit with their students twice a month, and realistically, between the time a student gets their parental consent form returned and they start receiving appropriate services, their time together may be too limited. This, along with longer breaks schools have, such as Thanksgiving break, Christmas break, and spring break, can make it difficult for the work between success coaches and students to have a lasting impact. Not only can this affect their semester outcomes, but it can keep the student case managed for another year facing the same problem.

Relationships Between Factors

Knowing which students are at the highest risk of dropout is important for success coaches to know so they can strategically decide who will ultimately be on their caseload when they are limited in number. This is one of the reasons for this present study. By finding relationships between non-academic factors and academic factors, one can better identify students who may be potentially at risk of dropping out when looking at the risks not already accounted for in TEA's current criteria.

Dropout ideation. Rather than focusing on students that dropped out, this study focused on dropout ideation due to the time constraint and feasibility. Factors that showed to be related with dropout ideation were peer risk activity, student engagement, and student activity. This is consistent with the literature supporting high student engagement and involvement in school (Henry et al., 2012; Wood et al., 2017). Wood et al. (2017) suggest that students should not be removed as a consequence for their behavior. Based on the literature and findings, one can assume that when students are involved in activities, they may be more likely to want to attend school and participate; however, they cannot do that when they are taken out of extracurriculars and forced to be less involved. Often times students who are around high-risk peer groups may be in similar situations of having behavioral or delinquent activities that can get them in trouble. Because of their actions, they may be taken out of class often, removed from extracurriculars, or even be expelled. All of these may have short-and long-term effects on a student's overall engagement and perception of school.

Academics. Student engagement was also found to be related to students' higher average grade during the fall semester. Those who feel like they belong in school may be more inclined to do the work that is expected of them and to follow the rules. It would be safe to say that focusing on high student engagement would be important to not only maintain good grades in school, but also to positively impact dropout ideation. Students with high engagement may be subconsciously surrounding themselves with other students who have high engagement perceptions, thus avoiding the trap of high-risk activities and high-risk peer groups. Student engagement also pertains to a student's effort in school and their desire to learn (Hammond et al., 2007; Lee & Shute, 2010).

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Their grades are important to them and they typically want to achieve and do well, which is why it is not surprising that student engagement has shown to have a relation to academics in this study. Knowing that academics, such as GPA and low course credits, have been found to be an indicator of student dropout and that higher student engagement and also yielded higher academic outcomes, one could infer that students who feel more engaged may be more inclined to attend school and dropout less.

Behavior. Youth behavior problems were found to be significant for behavior outcomes the fall semester. This may be because of the impact that high-risk peers have on students, inside and outside of the classroom. For example, behaviors that begin outside of school (e.g., smoking, drinking, etc.) may start to bleed into students' lives on campus with similar delinquent tendencies, possibly leading the student to becoming riskier overall. According to the literature (Hawkins et al., 2013), these risky behaviors can impact student dropout independent of the student's academic performance, which may be why behavioral outcomes were impacted rather than academic outcomes for this study.

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Implications of Findings

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With the growing number of programs and organizations that exist to ultimately help students succeed and grow, there are important implications to consider regarding this study. These implications will hopefully address some of the barriers that success coaches face on campus and provide understanding in other areas. First, there were findings from this study that showed a relationship between academic and non-academic factors, including factors impacting dropout ideation (peer risk activity, student engagement, and student activity), academics (student engagement), and behavior (youth

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risk behaviors). This study also identified several other factors not currently included in the eligibility criteria that will also be discussed.

Implications for Practice

When considering the ANCOVA results and the lack of significant impact the target area/intervention showed to have on student outcomes, one change that may make a difference would be the amount of services a success coach is required to provide a student each month. Although this could be considered a policy change, those on campus also have the ability to increase the amount of times they see students on their caseload. Rather than a minimum of two times a month, administration could increase the minimum to three or four times to have more of a lasting impact on student outcomes. Increasing this time together can ensure that the student is receiving a higher amount of intentional services as well increasing the amount of quality time spent between the students and positive influences such as their success coach. To counter administration pushback when taking students out of class more often, the success coaches could continue to avoid taking them out of core classes, as well as stress to the administration that this could help students in the long run and prevent them from needing to be in CIS another year. Another solution to this could also be for success coaches to visit with students before school or after school when they are not expected to be elsewhere.

Success coaches should also take into consideration the school population itself. Getting to know the campus and the students that attend the school is very important for success coaches and teachers alike. Currently success coaches start this process early in the school year with a campus plan in which they identify needs and goals of the campus, as well as demographics and any other important information that may benefit them

during service delivery. In addition to this, it is critical that success coaches pay close attention to students who are engaging in high risk activities such as smoking, drinking, or fighting. Success coaches should also work closely with those on campus to take preventative measures when it comes to program development or referrals based on these high-risk activities. As suggested by Hawkins et al. (2013), practitioners and administration should start focusing on holistic model interventions and community engagement to surround students with adults that have positive influences on them. Starting this earlier could potentially reduce students' engaging in high risk activities later on in school or life.

As the increase in research about social-emotional learning (SEL) has grown, CIS affiliates all over the nation have been pushing towards implementing ways to assess student's SEL. One of these ways has been by implementing the Social, Emotional, and Academic Development (S.E.A.D) assessment, an evidence-based survey that measures a student's social and emotional learning in five domains: self-awareness, self-control, social support, self-perception, and academic mindset (CIS, 2017a). This assessment, along with interventions focusing on SEL and student engagement, could influence the way students perceive school and have positive impacts related to dropout ideation and students' academic grades.

One resource that monitors students overall social-emotional health is Panorama Education. Panorama Education offers a dashboard system and surveys that measures student and teacher perceptions of SEL with interactive reports. This can be used as a tool for success coaches and administration to keep track of their students overall SEL. With

this system teachers and administration also have access to Playbook, an online resource

center created by educators and research partners (Panorama Education, 2018).

Implications for Policy

Part of the purpose of this study was to identify additional factors that put students

at risk of dropping out. It is important to note that although the findings from this study

did not completely align with the literature (i.e., high student engagement, high parental

involvement, low youth risk behavior, etc.), it does not change the fact that this sample is

still defined as at risk of dropping out under standards set by TEA. If anything, it

identifies a gap in the current system. Initially looking at the results the researcher did not

see that there were very many concerns with the students taking the survey, but upon

further analyzing, it supports the need for additional risk indicators in the current

eligibility criteria such as school climate and student engagement factors.

This study also raises the question of target areas and the need for them. If success

coaches continue to only see students twice a month, target areas may not be needed or

effective, as seen in the results. Policymakers should reconsider the need for target areas

and consider expanding them or solely having service plans based on the goals of the

student. Furthermore, if the only significant impact on semester two academic outcomes

were semester one outcomes, there may need to be an increase of service time between

success coaches and students to have more meaningful time for effective change.

In response to these findings, there are also school policies that should be re-

considered. As previously mentioned, consequences for students who misbehave and are

being punished are at risk of being removed from their extracurricular activities. Schools

should work with students and success coaches to come up with alternative plans of

action before removing students. Rather, allowing for other consequences before removal may increase student support from administration and teachers, and increase students overall sense of engagement and belonging.

Implications for Research

Although this study contributes to the literature regarding at-risk students, there is a need for research in this specific area testing the relationships between non-academic factors and academic factors. This study's sample size was not generalizable, and it is for this reason and the lack of current research that more studies should be conducted with larger sample sizes that can be generalized. A longitudinal study that follows students past graduation should be conducted as well to see patterns of graduation and dropout while taking these implications and intervention recommendations. Applying these findings to further research would continue to bridge the gap between services and eligibility criteria for CIS Texas affiliates.

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Limitations

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Several limitations to this research should be noted. As mentioned before, this study utilized convenience sampling as the method for gathering study participants. Convenience sampling was done due to the availability and feasibility of this population. Because of this method, however, this study lacks in generalizability and external validity. The sample size also affects the generalizability of this study as it was very small and not representative of the entire population of students that CIS serves. CIS serves four independent school districts, and this study used one of them because it was the largest of the four with six total schools, whereas CIS was only implemented in one or two schools in the other districts.

Another limitation includes the social work interns' schedule. This made it difficult to know when surveys would be administered based on the days there were available and on campus. This uncertainty could affect how many students the interns were able to administer the survey to. Interns also may have received the students that the success coaches might have thought would have been "easier" to work with, resulting in outcomes that could potentially account for the higher grades.

There are other reasons that students may be targeted that are usually included in the academic, attendance, and behavior categories that were not taken into account. Some of these include homework completion, tardiness, family crisis, and self-esteem. The researcher only used data including their grades, state-reported absences, and disciplines and referrals as these were measurable data the student would have. Lastly, the time constraint for this study did not allow for a longitudinal study to see the effects of interventions after additional factors were identified.

Conclusions

The purpose of this study was to identify additional academic and non-academic risk factors associated with student dropout, and to see if there was a relationship between these factors to better identify students to be case managed by CIS. Effectively changing students' lives so they can achieve better in school can be difficult when they are only on campus for so long, so it is important that success coaches use their time wisely with each student to provide the most intentional services. This study provides findings and implications that can help success coaches achieve this. High student activity, high student engagement, and peer risk activity were all significantly related to dropout ideation. Students who were involved in school, had high perceptions of

engagement, and did not have peers that were involved in risky behaviors thought about dropping out of school less. Students with higher student engagement also had higher average grades. Lastly, students with higher levels of youth risk behaviors had higher levels of behavioral outcomes such as office referrals and disciplines. This study also identified gaps in the current eligibility criteria and provided implications for policy and support for additional criteria. Overall, this study has addressed the importance of school climate factors that should be taken into consideration regarding students and their achievement in school.

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APPENDIX A

Institutional Review Board Approval Letter

ABILENE CHRISTIAN UNIVERSITY
Educating Students for Christian Service and Leadership Throughout the World

Office of Research and Sponsored Programs
320 Hardin Administration Building, ACU Box 29103, Abilene, Texas 79699-9103
325-674-2885

January 29, 2019

Karla Carrasco

Department of Social Work

Abilene Christian University

Dear Karla

On behalf of the Institutional Review Board, I am pleased to inform you that your project titled
"An Examination of Multiple Risk Factors Contributing to Student Dropout Risks Using an Ecological Systems Theory",

was approved by expedited review (Category 7) on 1/29/2019 (IRB # 19-001). Upon completion of this study, please submit the Inactivation Request Form within 30 days of study completion.

If you wish to make any changes to this study, including but not limited to changes in study personnel, number of participants recruited, changes to the consent form or process, and/or changes in overall methodology, please complete the Study Amendment Request Form.

If any problems develop with the study, including any unanticipated events that may change the risk profile of your study or if there were any unapproved changes in your protocol, please inform the Office of Research and Sponsored Programs and the IRB promptly using the Unanticipated Events/Noncompliance Form.

I wish you well with your work.

Sincerely,

Megan Roth

Megan Roth, Ph.D.
Director of Research and Sponsored Programs

APPENDIX B

Student Survey

Student Engagement

How do you feel about going to this school?	Strongly Disagree	Disagree	Agree	Strongly Agree
I like this school.	1	2	3	4
I am proud to be a student at this school.	1	2	3	4
I feel like I belong at this school.	1	2	3	4
I usually finish my homework.	1	2	3	4
I want to learn as much as I can at school.	1	2	3	4
Getting good grades is very important to me.	1	2	3	4

School Disciplinary Structure

Thinking about your school, pick the answer that is closest to how you feel.	Strongly Disagree	Disagree	Agree	Strongly Agree
The school rules are fair.	1	2	3	4
The consequences for breaking school rules is the same for all students.	1	2	3	4

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Students at this school are only punished when they deserve it.	1	2	3	4
Students are suspended without a good reason.	1	2	3	4
When students are accused of doing something wrong, they get a chance to explain.	1	2	3	4
Students are treated fairly regardless of their race or ethnicity.	1	2	3	4
The adults at this school are too strict.	1	2	3	4

Student Support- Respect for Students

Most teachers and other adults at this school…	Strongly Disagree	Disagree	Agree	Strongly Agree
…care about all students.	1	2	3	4
…want all students to do well.	1	2	3	4
…listen to what students have to say.	1	2	3	4
…treat students with respect.	1	2	3	4

Student Support- Willingness to Seek Help

How much do you agree or disagree with these statements?	Strongly Disagree	Disagree	Agree	Strongly Agree

There are adults at this school I could talk with if I had a personal problem.	1	2	3	4
If I tell a teacher that someone is bullying me, the teacher will do something to help.	1	2	3	4
I am comfortable asking my teachers for help with my school work.	1	2	3	4
There is at least one teacher or other adult at this school who really wants me to do well.	1	2	3	4

Additional items not included in Support scale (Modified)

How much do you agree or disagree with these statements?	Strongly Disagree	Disagree	Agree	Strongly Agree
I feel safe in this school.	1	2	3	4
I like coming to school.	1	2	3	4

Academic Expectations

How much do you agree or disagree with these statements?	Strongly Disagree	Disagree	Agree	Strongly Disagree
My teachers expect me to work hard.	1	2	3	4
My teachers really want me to learn a lot.	1	2	3	4

	1	2	3	4
My teachers expect a lot from students.	1	2	3	4
My teachers do not really care how much I learn.	1	2	3	4
My teachers expect me to attend college.	1	2	3	4

Peer Support

How much do you agree or disagree with these statements?	Strongly Disagree	Disagree	Agree	Strongly Agree
Most students at this school care about all students.	1	2	3	4
Most students at this school want all students to do well.	1	2	3	4
Most students at this school listen to what other students have to say.	1	2	3	4
Most students at this school treat other students with respect.	1	2	3	4

Educational Expectations- Self

How far do you expect to go in school?	
0	I do not expect to graduate from high school.
1	I might or might not graduate from high school.
2	I expect to graduate from high school.
3	I expect to graduate from a two-year college or technical school.
4	I expect to graduate from a four-year college.
5	I expect to complete post-graduate studies (such as master's degree or doctoral degree) after graduating from a four-year college.

Dropout Ideation

How much do you agree or disagree with this statement?	Strongly Disagree	Disagree	Agree	Strongly Agree
I have seriously thought about dropping out of school.	1	2	3	4

Educational Expectations and Involvement- Parent/Guardian

How much do you agree or disagree with these statements?	Strongly Disagree	Disagree	Agree	Strongly Agree
My parents/legal guardians talk about their hopes and expectations for me in school and when I grow up.	1	2	3	4
My high school graduation is important to my parents/legal guardians.	1	2	3	4
My parents/legal guardians drop me off at school and/or meet with my teachers (school events, etc.)	1	2	3	4
My parents/legal guardians and I talk about school such as my grades or my teachers.	1	2	3	4

Parent/Guardian Educational Attainment

How far did your mother, father, or other guardian go in school? (Pick the one who went further)	
0	Did not graduate from high school.

1	Graduated from high school.
2	Graduated from a two-year college or technical school.
3	Graduated from a four-year college.
4	Completed post-graduate studies (such as a master's degree or doctoral degree) after graduating from a four-year college.

Youth Risk Behavior (Centers for Disease and Control and Prevention, 2019)

During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club on school property?	
	0 days
	1 day
	2 or 3 days
	4 or 5 days
	6 or more days
During the past 12 months, how many times were you in a physical fight on school property?	
	0 times
	1 time
	2 or 3 times
	4 or 5 times
	6 or 7 times
	8 or 9 times
	10 or 11 times
	12 or more times
During the past 30 days, on how many days did you have at least one drink of alcohol?	
	0 days
	1 or 2 days
	3 to 5 days
	6 to 9 days
	10 to 19 days
	20 to 29 days
	All 30 days
During the past 30 days, how many times did you use marijuana?	
	0 times
	1 to 2 times
	3 to 9 times
	10 to 19 times
	20 to 39 times
	40 or more times
During the past 30 days, on how many days did you smoke cigarettes?	
	0 days
	1 or 2 days
	3 to 5 days
`	6 to 9 days

	10 to 19 days
	20 to 29 days
	All 30 days
During the past 30 days, on the days you smoked, how many cigarettes did you smoke per day?	
	I did not smoke cigarettes during the past 30 days
	Less than 1 cigarette per day
	1 cigarette per day
	2 to 5 cigarettes per day
	6 to 10 cigarettes per day
	11 to 20 cigarettes per day
	More than 20 cigarettes per day

Peer Risk Activity

How much do you agree or disagree with these statements?	Strongly Disagree	Disagree	Agree	Strongly Agree
Most of my friends drink alcohol.	1	2	3	4
Most of my friends smoke marijuana.	1	2	3	4
Most of my friends bully others or get in fights.	1	2	3	4

Student Activities

How many school activities have you participated in this year?	None	1	2	3 or more
Number of clubs as Key Club, Spanish Club, Honor Society, etc.	0	1	2	3
Number of performing arts groups, such as	0	1	2	3

band, chorus, or drama, etc.				
Number of sports teams, such as basketball, volleyball, or track, etc.	0	1	2	3
Number of other activities, such as student government, ROTC, etc.	0	1	2	3

After-School Activities

If you have a job, how many hours a week do you work?	0	Less than 12	12	13-19	20+
	1	2	3	4	5
What do you typically do after school?	Work	Babysit Siblings	Homework	Sports/Extracurricular activity	Other
	1	2	3	4	5

Living Situation (based off McKinney-Vento Act)

Please choose which of the following situations that you currently reside in (choose all that apply)	House or apartment with parent or guardian	Sharing house with friends or family (other than or in addition to parent/guardian)	Motels/Hotels	Shelter or other transitional housing	Unsheltered; in a car, park, substandard housing
	1	2	3	4	5

Number of Parents in Home

How many of your parents live with you? Include biological parents and adoptive parents.	
2	Two parents
1	One parent
0	No parents

Pregnant/Parenting

Please choose which best describes your current situation.	Yes	No	Prefer not to say
Do you have any children?	1	2	3
Are you pregnant?	1	2	3

Mobility

How many times have you moved houses in the last year?	
	0
	1
	2
	3
	4
	5
	More than 5
How many times have you changed schools in the middle of the school year?	
	0
	1
	2
	3
	4
	5
	More than 5

Demographics and Academics (questions that may be answered with intern)

Are you male or female?	
	Male
	Female
Does your family speak a language other than English at home?	
	Yes
	No
Are you Hispanic or Latino?	
	Yes

	No
What is the best description of your race?	
	American Indian or Alaska Native
	Asian
	Black or African American
	Native Hawaiian or Pacific Islander
	White
What grade level are you in?	
	6th
	7th
	8th
	9th
	10th
	11th
	12th
Do you receive a free or reduced-price meal at school?	
	Yes
	No
What was your target area for CIS in Spring of 2018?	
	Attendance
	Academics
	Behavior
What was your target area for CIS in Fall of 2018?	
	Attendance
	Academics
	Behavior
What were your final grades from your core classes in the Spring of 2018? (English, Math, History, Science)	
	Mostly A's
	Mostly A's and B's
	Mostly B's
	Mostly B's and C's
	Mostly C's
	Mostly C's and D's
	Mostly D's
	Mostly D's and F's
What were your final grades from your core classes in the Fall of 2018? (English, Math, History, Science)	
	Mostly A's
	Mostly A's and B's
	Mostly B's
	Mostly B's and C's
	Mostly C's
	Mostly C's and D's
	Mostly D's

	Mostly D's and F's
How many total office referrals/disciplines did you receive in the Spring of 2018?	
	0
	1
	2
	3
	4
	5
	More than 5
How many total office referrals/disciplines did you receive in the Fall of 2018?	
	0
	1
	2
	3
	4
	5
	More than 5
How many total state reported absences did you receive in the Spring of 2018?	
	0
	1
	2
	3
	4
	5
	More than 5
How many total state reported absences did you receive in the Fall of 2018?	
	0
	1
	2
	3
	4
	5
	More than 5
Have you ever been held back a grade/retained?	
	Yes
	No