THE IMPACT OF EXTRACURRICULAR ACTIVITY INVOLVEMENT ON DROPOUT RATES FOR STUDENTS WITH EMOTIONAL AND BEHAVIORAL DISORDERS

by

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(Under the Direction of Amy Reschly)

ABSTRACT

In the current educational climate that is fueled by high stakes testing, evidence-based practices, and teacher/administrator accountability students' academic achievement and post-secondary pursuits are of high importance. However, students with emotional and behavioral disorders (EBD) remain at the adverse end of nearly all outcomes, including punitive disciplinary measures and school completion. In focusing on the latter, that is school completion, increasing student engagement has been the target of many of the initiatives employed to decrease dropout rates. Student engagement is a multidimensional construct comprised of a behavior, emotion, and cognition (Fredricks, Blumenfeld, & Paris, 2004). Behavioral engagement which includes behavioral problems as well as students' attendance and participation in extracurricular activities (ECA) is strongly associated with student outcomes (Juvonen, Espinoza, & Knifsend, 2012; Reschly & Christenson, 2012). Students with EBD have difficulty with engagement (Reddy & Richardson, 2006), particularly engagement in ECA (Reeves, 2008; Reschly & Christenson, 2006b). The benefits of ECA for youth are well-described in the literature. Furthermore, ECA participation is considered to be the key indicator of a students' engagement with school. What is

less known, however, is the impact of ECA participation for students with EBD, a group clearly at high-risk for poor education and poor life outcomes. This dissertation sought to examine the impact of ECA involvement for students with EBD using the Education Longitudinal Study of 2002 (ELS: 2002), a report produced by the National Center for Educational Statistics. A close analysis of this database, primarily using logistic regression, helped answer the following questions (a) does involvement in extracurricular activities affect dropout rates for students with EBD; (b) are certain types of ECA strong predictors of student dropout, and (c) does ECA participation predict dropout above all other factors that affect graduation rates? The results indicated that among the categories of ECA examined, sports emerged as the most predictive of dropout rates. Specifically, participation in basketball was found to have the most positive impact of all ECA analyzed. This study will help teachers, program designers, and policy makers to better understand the needs and interests of students with EBD.

INDEX WORDS: Student engagement, Dropout, Extracurricular activities, Emotional-behavior disorders, Behavior problems, Special Education

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DEDICATION

Where do I begin? There are so many people who have had a hand in supporting me throughout my life to prepare me for moments like this, whether it be for a second, season, or unending, thank you. Thinking about how to articulate all of this became overwhelming, so much so that I frequently moved this item to the end of my task list. Despite that overwhelming feeling of wanting to say so much and thank to so many (without forgetting anyone), I realize that if nothing else, I'm incredibly blessed.

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To my *Heavenly Committee,* I believe that you continue to watch, cheer and guide me and are proud of this accomplishment. For that I am eternally grateful for you and your sacrifices. May you continue to rest well: Annie Ruth McCracken, Mary Alice Gilliam, Sallie Mae Amos, William Sanders McCracken Sr., Mattie Sharpe, Bertha Linder, William Sanders McCracken Jr., Douglas Gilliam, Frank Spellman Borris, and Betty Jean Linder.

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CHAPTER 1

INTRODUCTION

In the current educational climate that is fueled by high stakes testing, evidence-based practices and teacher accountability for student performance, students' academic achievement and post-secondary pursuits are of high importance. However, students with emotional and behavioral disorders (EBD) remain at the adverse end of nearly all outcomes, including punitive disciplinary measures and school completion. In focusing on the latter, increasing student engagement has been a focus of many of the initiatives employed to decrease dropout rates for students in general. Student engagement is a multidimensional construct comprised of students' behavior, emotion, and cognition (Fredricks, Blumenfeld, & Paris, 2004). Behavioral engagement is typically thought to include indicators such as students' attendance, behavioral problems (behavioral incidents, suspensions, detentions), and participation in extracurricular activities (ECA). Given the strong associations among these indicators of behavioral engagement and student outcomes (Juvonen, Espinoza, & Knifsend, 2012; Reschly & Christenson, 2012), and the difficulties students with emotional behavior disorders have in this area (Reddy & Richardson, 2006), behavioral engagement, particularly engagement in extracurricular activities, is the focus of this dissertation.

Extracurricular activities are generally defined as activities that students are involved in outside of the regular academic school schedule. There is variance across these additional activities. Extracurricular activities range from involvement with competitive and intramural sports to academic and civic clubs and organizations. The benefits of ECAs are well-described in the literature (Feldman & Matjasko, 2005; Juvonen, Espinoza, & Knifsend, 2012; Reschly & Christenson, 2012). Furthermore, ECA participation is considered to be a key indicator of students'

engagement with school (Reschly & Christenson, 2012). What is less known, however, is the impact of extracurricular participation for students with EBD, a group clearly at high-risk for poor educational and life outcomes.

Background of the Problem

Education is perennially a hot topic for youth in our country. Though foci shift based on trends, data, current events, and administrations, the importance of a successful pursuit of a high school diploma remains a "non-negotiable." A high school diploma and in some cases the general equivalency development (GED) or general equivalency diploma is the minimum of what students need to be productive vocationally. This remains the foundation of productivity regardless of ideology, race, socioeconomic status, and gender; not completing high school or an equivalent credential has negative consequences and significantly thwarts attempts for upward mobility. High school graduation encapsulates so much more than simply receiving that sheet of paper and participating in the ceremony surrounded by peers. High school graduation not only represents a significant milestone in a student's matriculation, but also opens the doorway to a plethora of other opportunities both vocational and post-secondary educational. Not completing high school places students at an enormous risk for negative outcomes. In the current school climate, schools are faced with addressing many concerns and agendas such as making sure students are prepared to succeed in post-secondary settings and meeting state and national guidelines.

Investigating how to facilitate more positive outcomes for students with EBD has been a key concern for parents, policy makers, and administrators. Within schools, those charged with developing effective academic and behavior plans that include goal-based outcomes for these students is oftentimes a challenge. In additional to developing such plans, daily management of behavior for this population of students is often cited as a major issue. These individuals often feel

like they are reactively “putting out fires” and managing students daily rather than feeling like their efforts successfully address problem behaviors and support students to not only succeed in their the school and community as students but as adults after they exit (with or without a diploma).

Students with EBD have negative outcomes, increased risk for dropping out of school, low academic achievement, a greater likelihood to use illegal substances and have negative contact with law enforcement (Greenbaum et al., 1996). To discover best practices or methods to intervene and ultimately remediate the adverse outcomes that these students are expected to encounter was the purpose of this dissertation. The benefits of discovering better ways to support these students with EBD and to reduce their risk of dropping out improves out comes for these students both in school and in community settings.

Given this information, the purpose of this study was to determine the impact of extracurricular activity involvement on dropout rates for students with EBD. It is expected that this study will inform future approaches for educating and providing services to this population of students. Another question of interest was if participation in certain types of extracurricular activities was more predictive than other activities. Lastly, this study sought to determine if participation in extracurricular activities could predict dropout rates above other factors. Data for this study were drawn from the Education Longitudinal Study of 2002 (ELS: 2002), a report produced by the National Center for Educational Statistics. The data needed to identify students with EBD, with certainty, based on federal guidelines were not accessible for the purpose of this study. Thus a variable which identified students with behavior problems was used as a proxy to identify the group of interest in this study. Students identified in this study in the EBD group do not have a confirmed exceptionality of EBD.

This chapter (Chapter 1) serves to provide a brief introduction to study topic and motivation for this investigation. The following chapter, Chapter 2, provides an overview of the literature base, outcomes for students who dropout, and a description of the students who are most likely to drop out of school. Of note, particular emphasis was placed on studies with students with EBD, in order to explore and identify ways in which to best understand and support this population. Additionally, theories regarding student engagement, dropout and relevant processes of dropout were reviewed. In Chapter 3, an overview of the data analysis plan and a description of variables will be presented. The purpose of Chapter 4 is the presentation of the results of the analyses, whereas Chapter 5 serves to intermesh the outcomes presented in Chapter 4 with existing research and suggestions for future investigation.

CHAPTER 2

REVIEW OF LITERATURE

Emotional and Behavioral Disorder

Despite the heavy focus on increased academic standards, students with emotional and behavioral disorders (EBD) remain at the adverse end of nearly all outcomes, both inside and outside of school. Addressing students' engagement at school and with learning is key to both school reform and dropout prevention initiatives (Christenson, Reschly, & Wylie, 2012; McPartland, 1993; Rumberger, 1987; Thurlow, Sinclair, & Johnson, 2002). However, it appears that for students with disabilities in general, and students with EBD in particular, disengagement from school is prevalent and especially pernicious.

Students with EBD are a population that warrants attention devoted to developing better methods for identification and intervention. Students with EBD are more likely to fail courses and repeat their grade level when compared to other students with disabilities, which inevitably leads to lower graduation rates (American Psychological Association, 2012; Bradley, Doolittle, & Bartolotta, 2008; Office of Special Education and Rehabilitative Services, Office of Special Education Programs [OSEP], 2014; Reschly & Christenson, 2006; U.S. Department of Education). Furthermore, these youth are three times more likely to be arrested before graduating or dropping out of school, and of those who dropout 73% were arrested within five years. Moreover, students with EBD are twice as likely to have spent time in a correctional facility, halfway house, drug treatment center, or to have been homeless after leaving school as compared to their same-age peers without a disability (Wright & Wright, 2012). Research indicates that students with high incidence disabilities, including EBD, are at increased risk to experience the negative effects of

disengagement, culminating in high dropout rates, poorer employment outcomes, and so forth (American Psychological Association, 2012, Reschly & Christenson, 2006; Rumberger, 1987, 1995). For example, students with high incidence disabilities (that is, students with emotional behavioral disorders, students with learning disabilities, or students with speech and language disorders) have much higher dropout rates than other groups of students in the United States (OSEP, 2014). Of these, those with EBD exhibit the highest rates of dropout. According to the 36th Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act (2014), there was a 20.5% dropout rate across all disability categories in the 2011-12 academic year, for comparison, the national event dropout rate among all students the same year was 3.3%. According to OSEP (2014), among those with disabilities, students with EBD had the highest rate of dropout (38.1%), followed by those with specific learning disabilities (19.9%). Many scholars agree that behaviors are most pliable in early childhood. However, as children age, those patterns and behavior begin to solidify of behaviors, both prosocial and maladaptive, are more difficult to change (Dishion, Patterson, Stoolmiller & Skinner, 1991; Gagnon & Meyer, 2004; Walker et al., 1996). Equipped with such information, the need for early and effective intervention is clear, yet students rarely receive intervention at this crucial point (Conroy, 2004).

Defining Emotional and Behavioral Disturbance

Students with EBD display impairments across school, social, and home settings (Reddy, 2001); however, despite numerous research studies progress and outcomes from students with EBD remain poor (Bradley, Doolittle, & Bartolotta, 2008). Moreover, there is great variance in the nomenclature for these students, variously referred to as those with emotional disturbance (ED), behavioral disturbance (BD), severe emotional disturbance (SED), and severe emotional and

behavioral disturbance (SEBD). For the purposes of this paper, students in all these categories will be referred to as EBD.

All labels and state criteria flow from the federal definition. *Emotional disturbance,* as defined in IDEA (Section §300.8 c4) is as follows:

> Emotional disturbance means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance:
>
> (A) An inability to learn that cannot be explained by intellectual, sensory, or health factors.
>
> (B) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers.
>
> (C) Inappropriate types of behavior or feelings under normal circumstances.
>
> (D) A general pervasive mood of unhappiness or depression.
>
> (E) A tendency to develop physical symptoms or fears associated with personal or school problems.
>
> (ii) Emotional disturbance includes schizophrenia. The term does not apply to children who are socially maladjusted, unless it is determined that they have an emotional disturbance under paragraph (c)(4)(i) of this section.

Although this is the federal definition, it is not without criticism, which largely focuses on the lack of clarity in some of the terms used, like “marked degree” and “long period of time” (Forness & Knitzer, 1992; Merrell & Walker, 2004). Other criticism appears related to the conflicting criteria. For example, one criterion refers to the inability to form “satisfactory” relationships, alluding to social interaction and adjustment issues, while another criterion explicitly

excludes those who are socially maladjusted, which would seem to refer to those same social interaction and adjustment issues. Though a number of challenges exist, for the purposes of this study we will use data that were collected for students with EBD using the federal criteria.

When considering the public perception, outward or external manifestations of behavior are often associated with students with EBD. Due to the visibility of externalizing behaviors, (e.g., aggression is often manifested by a refusal to adhere to rules or a lack of respect for authority) students who exhibit acute behaviors are more likely to be identified than students who display internalizing behaviors, e.g., depression, anxiety (Smith & Taylor, 2010).

Students with EBD are presented with challenges across a number of domains. In terms of cognitive ability, a student's cognitive abilities in the EBD category *may* fall in the intellectual disability range, standard score of 70 and below, albeit a large portion of the students score in the average range (Smith & Taylor, 2010; Trout, Nordness, & Pierce, 2003). In addition, despite higher levels of measured intellectual functioning, many students with EBD perform poorly in school, much lower than expected based on their IQ scores (Anderson, Kutash, & Duchnowski, 2001; Trout et al., 2003). Comorbidity with other mental health issues is another confound that affects the academic performance of students with EBD, such as attention deficit disorder (ADHD) and specific learning disability (SLD), and/or communication disorders (Cullinan & Saborine, 2004; Reddy, 2001).

As one might expect, students with EBD also frequently display deficits in social skills (Cullinan & Sabornie, 2004). These social skill deficits influence the students' relationships with their teachers and peers; specifically, students with EBD face peer rejection and often engage in a coercive reinforcement cycle with the teacher that reinforces inappropriate behavior, much like the cycle of coercive parenting (Belsky, 1997; Bor & Sanders, 2004). Cullinan and Saborine (2004)

investigated the five criteria as defined in the federal definition of EBD, comparing youth with disabilities to those without. They found that significant main effects for all five categories, indicating that youth with EBD had more maladaptive behaviors across all disability categories and among those without disabilities.

School Outcomes for Youth with EBD

The quality of educational services that students with EBD receive is another concern as it relates to outcomes, academic achievement, and engagement. Given the challenges and support that students under this exceptionality face, it is imperative that services stretch beyond focusing solely on the child and include services that seek to enhance connections to the community and support for and from their families (Bradley, Doolittle, & Bartolotta, 2008).

As previously referenced, students with EBD also experience difficulty accessing the curriculum, and consequently students receive services in the general education setting at a rate much lower than their peers with other exceptionality/disability categories. For example, roughly 30% of students with EBD in elementary and middle school are educated in special education settings, a figure much larger than students identified in other disability categories (Bradley et al., 2008; Wagner et al., 2006). Though the majority of students with EBD are educated in the traditional school building, most are served in classes with peers with the same exceptionality, an occurrence that happens more often for students with EBD than other disability categories (Henderson, Klein, Gonzalez, & Bradley, 2005; OSEP, 2014). However, given the often difficult behaviors that students within this category tend to exhibit, some argue that it is more feasible to include these students together in settings away from other students (e.g., self-contained classroom) when they might receive more specialized instruction (academically, behaviorally, and socially) with trained teachers. In general education classrooms, there is a greater possibility to

encounter more students and less specialized assistance (e.g., non-special education trained teachers and less paraprofessionals) (Henderson et al., 2005). Conversely, other researchers retort that in restrictive settings with other students with EBD, the opportunities to observe appropriate behaviors are significantly diminished (Henderson et al., 2005). Additionally, examinations into those employed as special education teachers reveal that many are not highly qualified: that is, many have emergency or provisional certifications and thus are not fully equipped (Henderson et al., 2005). It is also estimated that many of these same students will interact/be served by paraprofessionals, again posing the question of appropriateness and preparation to provide services. This is not highlighted as an indictment of teachers, but rather to provide perspective to lead to true reflection on the incongruence of expectations and reality of supports (or lack thereof) that students are faced with in the school setting.

Greenbaum et al. (1996) conducted a study analyzing outcomes for students with EBD. They found that almost half of students in the study experienced two or more disorders concurrently (e.g., conduct disorder, depression, anxiety, schizophrenia, attention-deficit hyperactivity disorder); this rate was highest for students with conduct disorder (CD), of which 66.7% had an additional diagnosis. Academically, deficits in reading and mathematics were also observed: 93% of youth were below grade level in mathematics, whereas almost 58% were below grade level in reading (Greenbaum et al., 1996). With regard to service delivery, youth with EBD were more likely to receive support from service delivery agencies (e.g., mental health, school-based special education, child welfare, juvenile justice, vocational services) compared to those without EBD. Additionally, youth with EBD were more likely to have contact with law enforcement due to their commission (or suspected commission) of a crime (Greenbaum et al., 1996). Of note, in that same study, 67% who recorded contact with law enforcement: 43.3% were

arrested once, nearly 50% had to appear before a judge due to the infraction, and 34% were adjudicated and found guilty of the crime. Among those who encountered law enforcement, typically the person was male, a member a minority group (i.e., Hispanic or African American/Black), an adolescent, and had been placed in a mental health facility at some point in the past. Those who had previously been admitted to a mental facility or correctional facility were more likely to be readmitted to mental facility or correctional facility within the following year.

In the Greenbaum et al. (1996) study, poor educational attainment persisted for youth across the sample. At the conclusion of the study, reading and mathematics rates for those who had a cognitive ability score of 70 or above and were 18 years old or older, approximately 75% were below grade level in reading and nearly 97% were below grade level in mathematics. These figures were similar for youth under 18 at the conclusion of the study as well. Moreover, the percentage of students below grade level increased as the study concluded. One hypothesis for the gradual increase in those below grade level could be due to time spent outside of class due to their presenting mental health disorders; another possibility is the level of instruction and rigor within the educational program could also impact their academic attainment (Wagner, Blackorby, & Hebbeler, 1993). Additionally, only 25% of students received a regular high school diploma and 17% obtained a General Education Development (GED) degree. The review by Greenbaum et al., (1996) discussed a number of adverse outcomes for youth with EBD, but at a summative level, their work stressed the need for comprehensive and interrelated service delivery due to the persistence of issues over time, as well as increased rates of criminal activity, maladaptive behavior, and low levels of academic achievement, a view also shared by Bradley, Doolittle, and Bartolotta (2008).

Social outcomes in the school setting. Interpersonally, youth with EBD report lower friendship quality and interaction frequency with friends compared to those without disabilities (Schonert-Reichl, 1993). Middle school youth with EBD were more likely to receive infractions for discipline problems, including violence and fighting, as compared to youth without discipline problems (Tobin & Sugai, 1999). Antisocial behaviors displayed for youth with EBD are not restricted to the school setting: youth with EBD are more likely to display these behaviors outside of school as well (Cullinan & Saborine, 2004). Moreover, as noted earlier, the highest rates of dropout among youth with disabilities are exhibited by those with EBD (Cullivan & Sabornie, 2004). Though students with disabilities comprise a small percentage of students in schools, these students are more likely to be suspended and/or expelled than their peers without disabilities (Losen & Skiba, 1995; Skiba & Knesting, 2011).

Dropout in the United States

Studies on dropout in the United States, past and present, paint a bleak picture for students who discontinue high school prior to graduation. Traditionally, dropout rates are higher for students from families whose income falls at or below the federal poverty threshold. Compared to students from families with high socioeconomic statuses, students from families with low socioeconomic statuses graduate a rate of five times less than their peers (American Psychological Association [APA], 2012). Dropout rates are also high among students who are overage, meaning older than their same grade peers, Black and Hispanic/Latino students as well as those whose native language is not English (APA, 2012).

In 1990, the outlook and urgency for a resolution prompted former President Bush and governors from around the nation to center one of the National Goals of Education on dropout, aiming for a graduation rate of 90% by 2000 (U.S. Department of Education, 1990). Moreover,

within this goal, increasing the graduation rate for minorities was also a focus, as research revealed that dropout rates were increasingly higher among those populations across all dropouts. As previously noted, in addition to decreased academic achievement and possibly less skill or employment training, dropouts are more likely to earner lower wages, experience poorer health, and rely on government assistance as compared to high school graduates (Balfanz & Legterz, 2004; Finn, 1989; OSEP,2014; Rumberger, 1987). As it currently stands, our nation is still in pursuit of that 90% graduation rate set in 1990. Based on a report by the U.S. Department of Education, Office of Elementary and Secondary Education, the 2014-2015 adjusted cohort graduation rate (ACGR) was 83%, the highest rate recorded for on-time graduation for public high school students in four years. Schools across the country are striving for the same goal, but have missed the goal date by twenty to twenty-five years. Though progress is being made, it remains slow, and by some estimates, growth in recent years would have to be doubled to meet the goal in 2020. Organizations like GradNation, a campaign led by General Colin Powell and Mrs. Alma Powell, aid with the push toward that goal. Further, despite progression overall, groups that have traditionally had lower school completion rates continue to show a divide. Specifically, students with disabilities graduated at rates lower than 70 percent, a figure found across thirty-three states, of which in approximately half of the states' rates are below sixty percent (DePaoli, Balfanz, Bridgeland, Atwell, & Ingram, 2017).

Path to dropout. In the early stages of dropout research, there was a debate over whether dropout itself was a single decision made by the student or a culmination of various factors gradually, and cumulatively, impacting a student's decision to discontinue schooling (Finn, 1989; Rumberger, 1995). Currently, it is widely agreed that the latter is true: dropout is indeed a gradual process. Finn's (1989) participation-identification model poses a developmental

approach to dropout. The model describes students from a strengths-based approach, one that yields positive outcomes. *Figure 1* below, displays the positive outcomes that are associated with students who successfully "participate" and "identify" with their school and academic process.

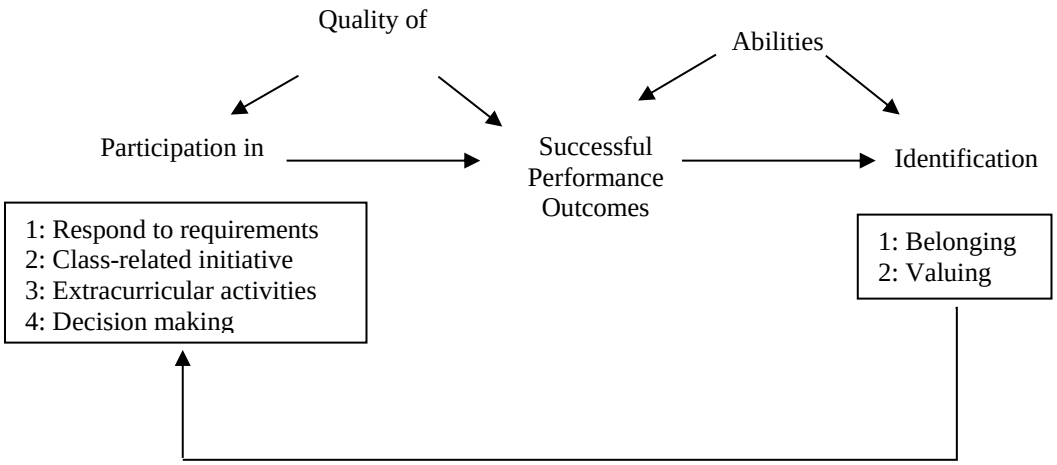

*Figure 1***.** Participation-Identification Model from Finn (p.130, 1989).

Finn (1989) posited that in order for students to be successful, it is necessary for one to be an active participant in school activities, in addition to experiencing feelings of belongingness and valuing of school achievement. The lack of belongingness and value of schooling are limitations that muddle the pathways for students to remain engaged with school. As the requirements and opportunities (e.g., extracurriculars, leadership) change across levels of schooling, students' participation must also change to sustain the participation-success-identification cycle. Students' earliest experiences in school typically occur in prekindergarten or kindergarten, levels at which the motivation to engage are facilitated primarily by the child's parents (Finn, 1989). As the child progresses through school, it is the expectation that the student will experience extracurricular success and assume greater roles of responsibility for their own success. However, there are those

who do not have the attitudes and behaviors they need to successfully participate, which impacts the development of belonging: the cycle then becomes one of disengagement and withdrawal (Reschly & Christenson, 2012). Variations in patterns of participation and belonging can be seen as early as primary school; similarly engagement-related behaviors have been found to be predictive of dropout as early as grades 1 - 3 (Finn, 1989; Barrington & Hendricks, 1989; Ensminger & Slusarick, 1992; Lehr, Sinclair, Christenson, 2004; National Dropout Prevention Center/Network (NDPC/N), 2009). For example, Barrington and Hendricks (1989) identified differences in groups of students, those who would drop out and those who would not. These differences were identified by the third grade and accurately predicted dropout for students 66% of the time. Aggressive behaviors combined with low academic achievement, measured by course grades, were also indicated as a predictive and risk factor for males in the first grade (Ensminger & Slusarick, 1992). However, the authors found that despite their ratings for aggressive behavior and poor grades, those male students had an increased chance of graduation if their mother attained academic success during their schooling (i.e., received at least a high school diploma). Across all of these studies, the theme of early and targeted intervention was overwhelmingly present given how early (with accuracy) risk factors could be identified. Although parental involvement and influence are related to students' engagement at school and with learning (Reschly & Christenson, 2018), schools also have an impact on students' engagement, such as the school's disciplinary climate, classroom management and goal structure, teacher-student relationships, and so forth (Reschly, Appleton, & Pohl, 2014; Reschly & Christenson, 2012). With respect to ECAs in particular, schools often enforce policies that can limit a student's participation in ECAs due to their age or grade level, academic performance/course grades, or disciplinary issues. In the section below we will further discuss practices and policies schools enforce that *push* students out of

school, factors that *pull* students out of school and those that cause students to *fall* out (Doll, Eslami, & Walters, 2013).

Push, pull, and fall out. As one can surmise from the theories above, dropping out of school and the mechanisms behind it are not readily identified nor the same for every student. Factors that *push* students out if school are those factors that exist at the school level. These factors are embedded in a school's structure and are often driven by the policies enforced at and by the school. Most often these *push* out factors are those that punish students for infractions and incidents like absenteeism, behavior problems, or poor achievement. The enforcement of these polices further damage a student's connection to the school, negatively contributing to the student's disengagement (Jordan, Lara, & McPartland, 1994; Rumberger, 1987).

On the other hand, *pull* factors are those that exist outside the school setting, namely the home environment, community/neighborhood setting, peer groups, and the presence of (and participation in) community, religious, legal, and health organizations and institutions (Jordan et al., 1994). *Pull* factors interfere with a student's interaction with school due to an incompatibility of what is valued, expected, or necessary to do in regard to those outside factors. For example, attending school and working to obtain good grades might not be valued among a student's peer group or family. Another explanation could be based on a student's need to work to help provide additional income for his or her family. Students experience factors that led them to *fall out* of school when they no longer attain the level of academic success to remain on-track for promotion or graduation and the distance or amount of work needed to reach the appropriate level. Further compounding this issue is when students do not receive the support in school to close the gap in order to be on track. The concept of *falling out* of school was presented by Watt and Roessingh (1994) because they noticed the importance of including this third factor when aiming to

conceptualize and describe the process of dropout. Notably they argue that *falling out* of school is a "side-effect of insufficient personal and educational support" (p.293), rather than the fault or agency being placed on the student or school.

Whether a *push, pull, or fall out,* the end result is poor. However, when aiming to reduce the incidence of dropout, understanding these factors are paramount, especially considering the who or what is responsible for the factors leading to dropout (Doll et al., 2013). This information coupled with the indicators or predictors for dropout are critical to identifying best areas to intervene. *Table 1* below outlines the top push, pull, and fall out factors for students identified in the follow-up of ELS: 2002.

Table 1

Education Longitudinal Study (2002) Ranked Reasons for Dropout in 2006 by Student Dropouts

Type	Rank	Cause of dropout	Overall frequency percentage	Males	Females
	Overall	Pushed out—10 factors	48.7	53.1	47.1
		Pulled out—8 factors	36.9	30.4	40.0
		Falling out—3 factors	14.3	16.5	12.9
Total[a]			100.0	100.0	100.0
		School-related reasons:			
Push	1	Missed too many school days	43.5	44.1	42.7
Pull	2	Thought it would be easier to get GED	40.5	41.5	39.1
Push	3	Was getting poor grades/failing school	38.0	40.1	35.2
Fall	4	Did not like school	36.6	40.1	32
Push	5	Could not keep up with schoolwork	32.1	29.7	35.3
Push	8	Thought could not complete course requirements	25.6	22.9	29
Push	9	Could not get along with teachers	25.0	27.7	21.6
Fall	12	Did not feel belonged there	19.9	19.9	19.9
Push	13	Could not get along with other students	18.7	17.7	20.1
Push	14	Was suspended	16.9	22.9	9.0
Fall	17	Changed schools and did not like new one	11.2	14.5	7.0
Push	18	Thought would fail competency test	10.5	9.0	12.3
Push	19	Did not feel safe	10.0	10.5	9.5
Push	20	Was expelled	9.9	15.2	3.0!
		Family-related reasons:			
Pull	6	Was pregnant[a]	27.8	—	27.8
Pull	11	Had to support family	20.0	17.6	23.0
Pull	15	To care for a member of the family	15.5	15.2	16.0
Pull	16	Became a father/mother of a baby	14.4	6.2	25.0
Pull	21	Married or planned to get married	6.8	3.0	11.6
		Employment-related reasons:			
Pull	7	Got a job	27.8	33.5	20.3
Pull	10	Could not work at same time	21.7	23.1	19.9
		Sample size	663	375	288

Source. Dalton, Glennie, Ingels, and Wirt (2009, p. 22); Dropout Indicator 29.
[a]Detail may not sum to totals due to rounding.

Predictors of dropout. Wells, Bechard, and Hamby (1989, p.2) identified indicators often cited in research regarding the best way to identify students at greatest risk for dropping out of school. The variables listed below encompass/extend over various areas or spheres of student's life as described in work of Bronfenbrenner (1977):

- Poor attendance
- Low grade point average
- Low standardized test composite scores
- Number of grade retentions
- Number of discipline referrals
- Educational level of parent
- Special program placement

- Free/reduced lunch program
- Number of school moves (transfers)
- Low reading and math scores
- Ethnic/gender distinctions
- Language spoken in the home
- Number of suspensions
- Interest in school
- Participation in extracurricular activities
- Pregnancy/teen parent
- Number of counseling referrals
- Family status (single parent family, family size)

Rumberger and Lim (2008) organized predictors into four factors that influence a student's likelihood of dropping out of school: educational performance, behaviors, attitudes, and background all of which are considered individual factors. Within each of the previously named factors, the authors delineated specific components that influence and compose the overarching factor. *Figure 2* illustrates their model of high school performance, factors that deconstruct the underpinnings of the pathways to dropping out or graduating from high school. Broadly, the contributing factors are delineated based on the source - individual or institutional. Within those broad areas are sub-categories: individual (such as educational performance, behaviors, attitudes, and performance) and institutional (such as families, schools, and communities). In this study we focused on individual factors from the individual category - behaviors and performance. These areas are important for this current investigation for a number of reasons. Student engagement and dropout have been widely linked to a student's achievement, persistence, and eventual attainment (Finn, 2006; Finn & Rock, 1997; Reschly & Christenson, 2006; Rumberger & Lim, 2008). Beyond a student's level of academic achievement (e.g., course grades, standardized scores), the student's ability to persevere when content becomes difficult as well as when he or she experiences academic failure is key when considering how those experiences shape the student's sense of belongingness

and attitude toward education. In this vein, a student's behaviors both within and outside the curriculum (or within and outside the classroom) serve as another piece of the puzzle for understanding students' school experiences and performance. In this domain of *behaviors*, we see that a student's level of engagement is listed here. Extracurricular activity participation can be viewed as behavioral engagement.

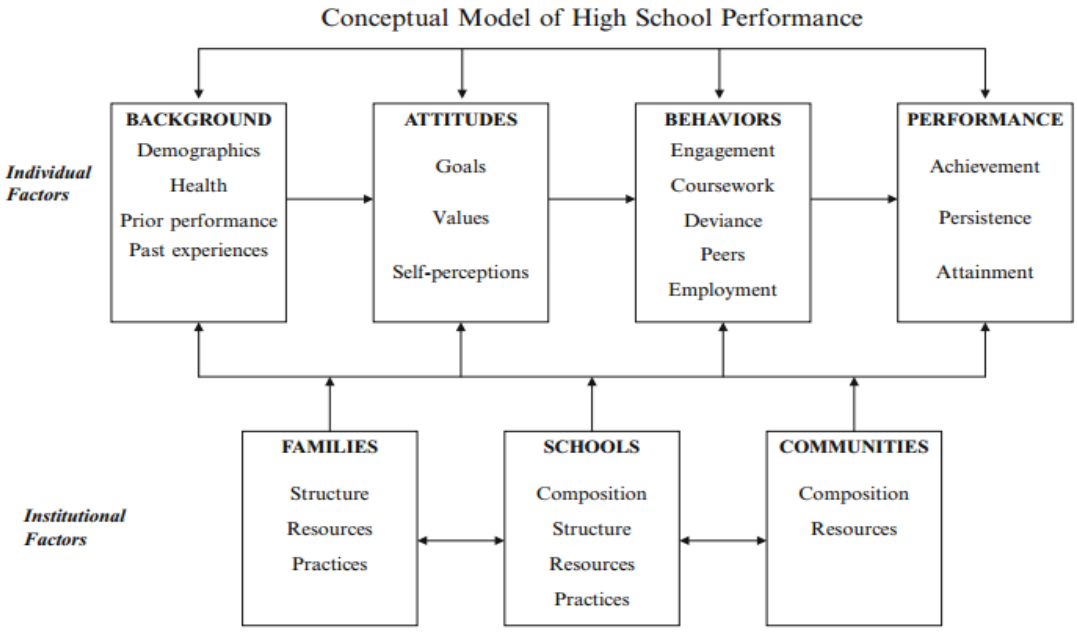

*Figure 2***.** Conceptual model of high school performance as presented by Rumberger & Rotermund (p.499, 2012)

School factors that influence dropout. "Students *drop out* of school, schools *discharge* students" (Riehl, 1999, p. 231). When investigating the effectiveness and quality of a school, students' performance on standardized tests is commonly used to arrive at a conclusion on the school's merit. However, a number of researchers posited that additional factors should include dropout rates, attendance, engagement, and social behavior (Rumberger & Palardy, 2005). Two paradigms, common and differentiated, describe the interaction of school characteristics and

student outcomes, and are often the foundation of views of school effectiveness research. However, both theories suggest that a student's dropout is a decision made by the student. Yet, the differentiated theory posits that some aspects of the school's organizational structure may, in turn, influence a student's decision to drop out (Rumberger & Palardy, 2005).

Greenbaum et al. (1996) investigated reasons for the dropout of 43.1% of special education students in their sample who discontinued school prematurely. They defined three categories for reasons for the students' subsequent dropout: behavioral, programmatic, and situational, as noted by parents and children/youth. Behavioral issues were those that involved "being bored, disinterested, unhappy, or frustrated with school" (Greenbaum et al., p.143) (26.4% of the population), being suspended or expelled or habitually truant (16.4%), running away from home (2.4%), and "exhibiting drug or alcohol-related behavior" (4.1%) (p.143). Programmatic issues were due to being incarcerated or arrested (14.8%), "enrolling in a residential program" (10.6%) (p.143), exiting a residential or mental health facility but not returning to school (5.8%). Situational reasons included having to get a job (8.2%), having a baby or getting married (4.9), aging out of the program (8.1%), or moving to another geographical location (3.3%). Reasons for discontinuing school could not be determined for approximately 21% of the sample.

Kortering and Blackorby (1992) researched students with behavior disorders. The authors cited the importance of disaggregating the data and research surrounding students with mild disabilities (i.e., learning disabilities, behavioral disorders, and mild intellectual disability) given the idea that this group of students varies significantly from other students with disabilities. Interestingly, the authors discovered that many students dropped more than once, signifying that at some time they returned to the school setting. In addition to these multiple discontinuations of school, students who dropped out reported a significantly greater number of changes in school

placements, initiated by the school whether the change reflected a transfer to a different school or amendment in services, compare to those who graduated. Also, with respect to students' school experiences, they described their placements as becoming more restrictive with each change (Kortering & Blackorby, 1992).

Lastly, the interaction of negative factors, often those that impede positive engagement, at the some schools is so great that large proportions of students eventually dropout. At these schools, often referred to as "dropout factories," the graduation rate is equal to or less than 60 percent. More shockingly, though schools of this caliber represent less than 15% of schools in the nation, nearly 50% of students who drop out of school attend one of these schools deemed a *dropout factory*. In recent years, the number of schools that fit this description are steadily decreasing; however, millions of students are enrolled in these schools. With this understanding, efforts to improve outcomes for students, specifically dropout rates, must be multi-faceted in order to effectively address challenges at the school, community, and student level (Alliance for Excellent Education, 2011; Balfanz & Legters, 2004).

Community and family influences on dropout. Across the dropout and engagement literatures, certain demographic characteristics (e.g., race-ethnicity, socioeconomic status, disability status, region of the country) have been associated with disengagement and dropout. However, these variables do little to identify those most at-risk for disengagement and dropout within these groups or do little to inform intervention (Reschly & Christenson, 2012). A common distinction, then, is the differentiation between the malleability and level (e.g., student, school) of a factor. Finn (1989) characterized these factors as status or behavior. Status factors were those that are readily observed and characterized (e.g., socioeconomic status, racial or ethnic identity) or demographic variables that are impossible or not easily amenable to change. According to

Finn (1989), these demographic variables are typically connected to where a student lives. Conversely, behavioral factors are those that are alterable: timing of the manifestation of behaviors (e.g., attendance, participation in class) is considered an indication of if the student will be successful academically. Behaviors shift depending the student's age level, but characteristics such as completing assignments and coming to school and class on-time are as associated with favorable academic outcomes. Reschly and Christenson (2006b) similarly referred to these factors as status and alterable, respectively. Although not a comprehensive list, Figure 3 provides examples of protective and risk factors at each level (Reschly & Christenson, 2006).

	Protective	***Risk***
Student	Completes homework Comes to class prepared High locus of control Good self-concept Expectations for school completion	High rates of absences Behavior problems Poor academic performance Grade retention Working
Family	Academic support (e.g., help with homework) and motivational support (e.g., high expectations, talk to children about school Parental monitoring	Low educational expectations Mobility Permissive parenting style
School	Orderly school environments Committed, caring teachers Fair discipline policies	Weak adult authority Large school size (> 1,000 students) High pupil-teacher ratios Few caring relationships between staff and students Poor or uninteresting curricula Low expectations and high rates of truancy

Figure 3. [By Context] Alterable variables excerpted from Reschly & Christenson (2012)

The authors further asserted that alterable factors are identified based on their conduciveness or detriment to school completion; factors that support school completion are

classified as protective factors and those that do not are considered risk factors and found at the individual, parent, and school levels (Reschly & Christenson, 2006b). Rumberger (1995) also described predictors of student dropout and completion as either proximal or distal. Identifying these factors is important as it aids in deciding which supports and interventions to employ (Finn, 1989; Reschly & Christenson, 2006; Rumberger, 1995).

Calculation of High School Dropout Rates

Dropout rates are calculated in one of three ways: event, status, or cohort rates (Kaufman, Alt, & Chapman, 2004). Though tabulated in different ways, each calculation can provide important information. Calculations using event rates tabulate the percentage of students who dropout within a particular school year. Event rates are calculated each year, thus allowing school administrators, researchers, or any other reviewers to compare the percentage of students who discontinue school from year to year. On the other hand, status rates calculate the percentage of students who have not completed and are not enrolled at the data collection point (Kaufman et al., 2004). Information regarding when the student discontinued school does not affect the status rate. Calculating the rates in this way is helpful because the prevalence of dropout across a particular population is easily derived. By doing such, this information can help guide intervention and programming decisions. Also, since status rates include all individuals who have dropped out, these rates are much higher due to the large span of time covered unlike event rates.

The final method to calculate dropout rates is to determine the number of students within a cohort who discontinue school over a certain time span. By using this method of calculation, one is able to calculate how many students ultimately earn a high school diploma or GED (Kaufman et al., 2004). Of note, mandates under No Child Left Behind (NCLB) legislation held schools responsible for the graduation rate across four years, i.e. those entering in 9th grade and completing

school on-time within 4 years. This is referred to as the average freshman graduation rate (AFGR). In reviewing these rates, it is important to consider that some students in special education do not receive the traditional graduation diploma (or a GED). Instead, students receive variety of alternate diplomas. The type of diploma is dependent on the curriculum track in high and the title of said alternative diploma varies by the state. For example, some states offer a certificate of achievement whereas others present students with a certificate of attendance (Thurlow, Cormier, & Vang, 2009).

Students with high incidence disabilities have much higher dropout rates than any other group of students in the United States. Of these, those with EBD are the highest. For example, according to the 36th Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act (2004), there was a 20.5% dropout rate across all disability categories in the 2011-12 academic year, for comparison, the national event dropout rate among all students the same year was 3.3%. Among those with disabilities, students with EBD had the highest rate of dropout (38.1%), followed by those with specific learning disabilities (19.9%). Additionally, students with EBD have consistently experienced the highest rates of dropout since the 2004-2005 school. *Table 2* shows rates of dropout across the thirteen eligibility categories in IDEA (OSEP, p. 37, 2014).

Table 2

Percentage of Students Ages 14 through 21 exiting IDEA, Part B, and School, who Dropped out of School, by Year and Disability Category: 2005-2006 Through 2014-2015

Disability	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15
All disabilities	26.3	25.7	24.6	22.4	21.1	20.1	20.5	18.8	18.5	18.0
Autism	9.2	7.2	7.0	6.2	6.6	6.3	7.3	7.1	7.3	7.5
Deaf-blindness[a]	9.2	8.2	9.5	9.1	13.3	15.1	14.5	14.6	12.8	14.8
Emotional disturbance	45.0	44.8	43.3	40.6	38.7	37.0	38.1	35.4	35.2	35.0
Hearing impairment	13.5	13.0	11.1	10.5	10.2	10.2	10.2	9.5	9.4	8.4
Intellectual disability	22.3	22.2	21.5	19.8	19.2	18.5	18.8	17.9	16.8	16.9
Multiple disabilities	18.6	19.1	17.6	14.9	13.9	13.1	15.8	15.2	14.2	14.7
Orthopedic impairment	11.6	13.3	13.1	13.6	12.4	11.5	11.4	10.7	11.0	9.8
Other health impairment	23.6	23.2	22.4	20.4	19.1	18.4	19.2	18.1	17.6	17.8
Specific learning disability	25.3	24.5	23.6	21.4	20.2	19.4	19.9	18.0	18.1	17.4
Speech or language impairment	22.7	20.7	20.5	18.8	17.0	16.0	15.6	14.5	13.4	13.3
Traumatic brain injury	15.1	15.4	14.6	13.2	12.5	11.4	12.3	11.1	12.2	10.8
Visual impairment	11.5	11.2	9.6	9.6	8.4	8.5	7.3	8.0	6.4	7.0

Consequences of dropping out of secondary school. Students who fail to complete high school not only miss opportunities for academic attainment and skill attainment, they are also less likely to gain employment and when employed, less likely to earn high wages as earned by peers who graduated from high school and those who obtained post-secondary degrees (Rumberger, 1987, 1995). In an effort to quantify these factors, wage estimates by the US Census Bureau asserted that over the lifespan high school dropouts earn nearly $200,000 less than those who graduate from high school. Moreover, a report conducted by Sum et al. (2009), the costs to society (taxpayers) over the lifetime of a high school dropout tallied over $290,000. Considering the increased risks for negative outcomes listed above, this figure encapsulates potential costs for incarceration, government assistance programs, and differential amounts in paid taxes. With stakes for such negative outcomes, initiatives towards prevention and intervention are imperative.

What is Student Engagement?

> "Increasing students' engagement and enthusiasm for school is much more than simply staying in school and, thus, much more than the dropout problem—it involves supporting students to meet the defined academic standards of the school, as well as, underlying social and behavioral standards." (p. 21, Christenson, Sinclair, Lehr, & Hurley,2000)

When the term *student engagement* is posed colloquially, some consider it a way to describe engaged time or how involved a student is at school. Many scholars concur that student engagement is commonly conceptualized as a multifaceted construct composed of a number of idiosyncratic factors about the student and his or her school and home settings (Reschly & Christenson, 2012; Rumberger & Rotermund, 2012). In an effort to provide consistency in the field, with regard to defining student engagement, Christensen, Reschly and Wiley (2012), presented a definition in the epilogue of their Handbook of Student Engagement. Based on their scholarship and they defined student engagement as:

> "The student's active participation in academic and co-curricular or school-related activities, and commitment to educational goals and learning. Engaged students find learning meaningful, and are invested in their learning and future. It is a multidimensional construct that consists of behavioral (including academic), cognitive, and affective subtypes. Student engagement drives learning; requires energy and effort; is affected by multiple contextual influences; and can be achieved for all learners." (pp. 816-817)

Student engagement remains a concern for educators across school levels, as well as a concern for policy makers, parents, and any person interested in the educational welfare of youth.

Student engagement is described as a student's value and dedication to learning, his or her sense of belonging at school, defined by active participation at school, and motivation to begin activities with the aspiration of attaining academic, social, and emotional goals (Christenson et al., 2008). Furthermore, Finn (1989) described engagement in a series of three levels detailing the amount of involvement and engagement a student displays. In Level 1, a student's level of acceptance of school culture and rules is measured. This acceptance ventures beyond organizational regulations such prompt arrival to school and classes across the school day, but also an agreement to meet classroom expectations of actively participating in the classroom e.g., appropriate responding to teacher in peers and bringing necessary supplies to class. Simply, a student's level of compliance is an early prediction of his or her academic success in terms of achieving learning goals and displaying problem behaviors. Level 2 analyzes a student's intrinsic motivation towards initiating further learning. This learning can include the student soliciting additional assistance on a concept or a student seeking further discussion about ideas, in an exploratory manner. Lastly, participation in activities beyond the classroom, socially, in athletics or other ECAs, describe Level 3 of engagement (Finn, 1989).

Scholars generally agree that there are three types of engagement: affective, cognitive, and behavioral (Fredricks et al., 2004; Reschly & Christenson, 2012). In one prominent model, based on the dropout intervention work with *Check & Connect*, scholars further defined the behavioral engagement subtype into academic and behavioral engagement in an effort to better inform assessment and interventions for youth. Appleton, Christenson, and Furlong (2008) created a model outlining how engagement mediates the connection between context and outcomes across the four areas of student engagement in Figure 4 below. Many studies (Christenson et al., 2008; Finn & Rock, 1997; Finn & Voekl, 1993, Kortering & Braziel, 2008; Reddy & Richardson, 2006;

Reschly & Christenson, 2012; Rumberger, 1995) focus on how schools, families, and communities can foster, and sometimes reestablish, engagement because of the numerous negative outcomes associated with disengagement.

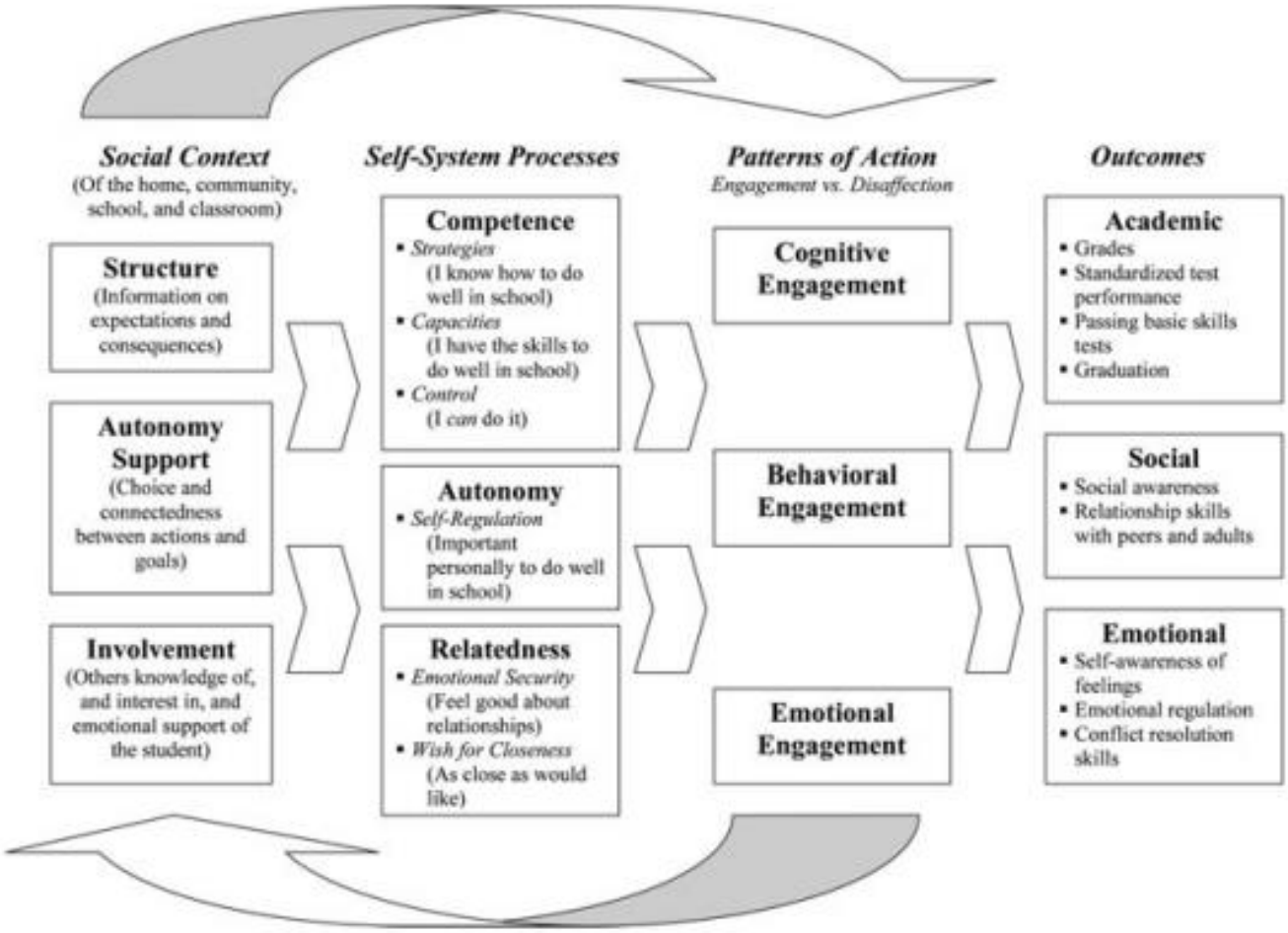

Figure 4. Self-processes model applied to educational settings. Appleton, Christenson, and Furlong's (2008) adaptation of work from Connell & Wellborn (1991, p.54); Skinner, Wellborn, & Connell (1990); Furrer, Skinner, Marchand, & Kindermann (2006); and Appleton, Christenson, Kim, & Reschly (2006).

Correlates of engagement and dropout. Theories of dropout focus on some aspect of a student's disengagement from school and related processes. For many years, the focus has been on how to reduce dropout rates for all youth, particularly among groups where the dropout rate is more prevalent. Some have argued that interventions and policies must shift from dropout

prevention to school completion (Reschly & Christenson, 2006) - a focus also reflected in the NCLB legislation. One may argue semantics with regard to saying "school dropout" versus "school completion"; however, the term school completion encapsulates success and one's attainment of a high school diploma. Finishing high school with the necessary skills is more important than one simply graduating (Christenson & Thurlow, 2004). To further illustrate this point, consider the term resilience. Resilience refers to a person who experiences positive outcomes although he or she encountered situations or obstacles that typically would preclude such good outcomes (Masten, 2001). With school completion, students are prepared for career or post-secondary experiences after the completion of high school.

Dropout interventions. Despite the wealth of information about dropout rates and the negative outcomes that typically accompany the occurrence, there are few interventions that actively, and effectively, reduce dropout rates for all students (Sinclair, Christensen, Evelo, & Hurley, 1998). Most commonly presented are best practices, strategies, or indicators, and while helpful, these lack the action steps needed to implement interventions. In this section, a theoretical framework and strategies for approaching dropout interventions are presented as well as one of the few effective dropout intervention per the What Works Clearinghouse. Lastly, a practice guide for dropout intervention recommendations and the corresponding evidence developed by the What Works Clearinghouse will be presented.

Sensing the need to expand dropout beyond local and micro levels, McPartland (1993) focused his research on developing a theory that would inform dropout prevention and interventions broadly. McPartland's four-point framework, shown in *Figure 5* was developed at the *Center for Research on Effective Schooling for Disadvantaged Students*. His work focused on Type of Organizational Environment, both formal and informal, and the internal Point of

Reference for the organization members. Through understanding the underlying processes of these variables, origins of students' motivation for remaining in school and meeting and achieving academic goals are identified. This framework further outlined specific indicators within the previous variables: opportunities for success in schoolwork, human climate of caring and support, relevance of school to students' community and future, and help with personal problems (McPartland, 1993).

Point of Reference		**Formal** (School Academic Goals)	**Informal** (School Social Relations)
	Internal (Within School Experiences)	Opportunities for Academic Success	Supportive Human Climate
	External (Connections with World Outside School)	Relevance of Schoolwork to Student's Community and Future	Help with a Student's Outside Problems

Figure 5. McPartland's framework for student's motivation to remain in school and achieve learning goals (p.32, 1993).

An analysis of these factors (i.e., internal, external, formal, and informal) was conducted by mapping the variables onto information gathered from the National Education Longitudinal Study of 1998 (NELS: 88). The validation for McPartland's (1993) four-pronged framework using the NELS: 88 further stressed that the focus for future programs ought to be on the basic components and in ways that fit the students' needs. Essentially, a true melding between theory and practice is needed rather than addressing certain aspects through adding supplements to existing programming for future dropout prevention programs or automatically flocking to popular and/or prepackaged interventions. Additionally, McPartland et al.'s (1993) findings were

particularly important for developing interventions for students from low-SES backgrounds and those from racial and/ethnic minority groups. Thus in attempting to determine ways to intervene and reduce student dropout, student engagement is an important factor to consider given the connection to student motivation.

In this same vein, the importance of identifying and focusing on critical components, 15 strategies were identified by the NDPC/N (2009) to help curb the incidence of dropout. The strategies are broken up into four broad categories: foundational strategies (school-community perspective), early interventions, basic core strategies, and managing and improving instruction. In *Table 3* specific strategies within each tenet are identified. Of note, within the basic core strategies domain lies after school and out of school opportunities, a strategy that connects to ECA. Specifically, the NDCPC/N highlighted the importance of ECA because the participation has the potential to help high need/high risk students to gain the needed academic support and have the opportunity explore interests and activities that strengthen their engagement.

Table 3

15 Effective Strategies for Dropout Prevention *Adapted from NDCPC/N (2009)*

Foundational Strategies	**Early Interventions**
Systemic Approach School-Community Collaboration Safe Learning Environments	Family Engagement Early Childhood Education Early Literacy Development
Basic Core Strategies	**Managing and Improving Instruction**
Mentoring/Tutoring Service-Learning Alternative Schooling After-School/Out-of-School Opportunities	Professional Development Active Learning Educational Technology Individualized Instruction Career and Technical Education (CTE)

Based on their work, the NDCPC/N stated that any of these strategies can be used; however, they recognize that the most positive outcomes are seen when these strategies are used in unison. NDCPC/N (2009) also asserts success with these strategies across settings (e.g. urban, suburban and rural) and age developmental ages (e.g., K-12).

Check & Connect is one of the few promising dropout interventions recognized by the What Works Clearinghouse (US Department of Education Institute of Education Sciences, 2006). The goal of *Check & Connect* is to enhance student engagement for students who are at-risk for dropout through facilitating their academic, cognitive, behavioral, and affective engagement and positive interactions and relationships with adults. This intervention is often considered an intensive, or Tier 3 intervention, that builds on existing school-wide interventions. It involves regular "checks" on the students' academic and behavioral progress. Analyzing these factors is crucial because these factors are ones that are directly related to students' school performance and likelihood of success. *Check & Connect* is delivered by a mentor, who systematically tracks students' engagement and then "connects" with students, implements individualized strategies to enhance engagement, and facilitate connection between students' families and the school (Sinclair, Christenson, Lehr, & Anderson, 2003). Originally funded by a grant from the Office of Special Education Programs (OSEP), *Check & Connect* was first implemented in the Minneapolis Public Schools in order help decrease the dropout rate for students with learning, emotional, and behavioral disorders given their high rate of drop out (Sinclair et al., 2003; Thurlow, Sinclair & Johnson, 2002) in special education. Students who received the *Check & Connect* intervention were significantly more likely to be enrolled in school and not have more than 15 absences within a school year (Sinclair et al., 2003). This program has been replicated across settings, populations, and student ability levels (Sinclair et al., 2003). Lehr, Sinclair, and Christenson (2004) investigated

the effectiveness of *Check & Connect* over a two year period. They found that students' level of engagement continued to increase over the period which resulted in decreases in tardiness and the number of absences they accrued during the school year. This increase in engagement was also noticed by nearly all of the school staff; the school staff also reported a greater parent investment in their child's progress, which coincided with the greater engagement of the students. *Check & Connect* continues to have success across multiple settings, states, and with and of importance to this study, students with emotional and behavior disorders (Sinclair, Christenson, & Thurlow. 2005; Check & Connect, 2018). The impact of these studies helps to direct future direction for effective dropout strategies and interventions.

In an effort to streamline the programming and intervention planning, the Institute of Education Science (IES) published practice guide in September 2017 entitled *Preventing Dropout in Secondary Schools.* The purpose of this guide was to provide recommendations for evidence-based intervention programming as well as a rating of the evidence based on existing studies. This practice guide was developed in conjunction with What Works Clearinghouse, an agency that partners with experts to review research and assign a rating based on the results of said research study. Notably, the panel was led by Russell Rumberger, a leader in dropout research. Collaboratively, the 2017 practice guide is a tool for practitioners, teachers and researchers that provides information about the leading recommendations, examples, and a rating of the strength of recommendation based on existing research. Below are the expert panel's four recommendations.

Table 4

Dropout Prevention Recommendations (excerpted from Rumberger et al., pp.1-3, 2017)

Recommendation	Action Steps
Recommendation 1: Monitor the progress of all students, and proactively intervene when students show early signs of attendance, behavior, or academic problems.	1. Organize and analyze data to identify students who miss school, have behavior problems, or are struggling in their courses. 2. Intervene with students who show early signs of falling off track 3. If data show high rates of absenteeism, take steps to help students, parents, and school staff understand the importance of attending school daily. 4. Monitor progress and adjust interventions as needed.
Recommendation 2: Provide intensive, individualized support to students who have fallen off track and face significant challenges to success.	1. For each student identified as needing individualized support, assign a single person to be the student's primary advocate. 2. Develop a menu of support options that advocates can use to help students. 3. Support advocates with ongoing professional learning opportunities and tools for tracking their work.
Recommendation 3: Engage student by offering curricula and programs that connect schoolwork with college and career success and that improve students' capacity to manage challenges in and out of school.	1. Directly connect schoolwork to students' options after high school. 2. Provide curricula and programs that help students build supportive relationships and teach students how to manage challenges. 3. Regularly assess student engagement to identify areas for improvement, and target interventions to students who are not meaningfully engaged.
Recommendation 4: For schools with many at-risk students, create small, personalized communities to facilitate monitoring and support.	1. Decide whether the small communities will serve a single grade or multiple grades. 2. Create teams of teachers that share common groups of students. 3. Identify a theme to help build strong sense of identity and community and to improve student engagement. 4. Develop a schedule that provided common planning time and ample opportunities for staff to monitor and support students.

Of these recommendations, only one (*Recommendation 3*: Engage student by offering curricula and programs that connect schoolwork with college and career success and that improve students' capacity to manage challenges in and out of school) was deemed to have strong evidence. Recommendations 2 and 4 have moderate evidence, while recommendation 1 has minimal evidence. Despite the varying levels of evidence, three key points/themes were identified: (1) early and consistent monitoring of data for markers of dropout is crucial in order to identify and intervene with students *before* are on-track for dropout and "off track for graduation" (Rumburger et al., 2017, p.2); (2) focusing on the individual needs of students is necessary to engage students and "meet them where they are" in order to provide effective support; and (3) customizing the school culture to meet the students' needs not only promotes student engagement but also aids in strengthening student and teacher/administrator relationships. Recommendation 3 also connects to a major benefit of ECAs: allowing students to further explore to their academic or curricular interests and providing opportunities to discover new interests (Feldman & Matjasko, 2005). Based on this connection, one can surmise the influence of student engagement for school completion efforts.

Moreover, Reschly and Christenson (2006) presented the main points from two independent reviews of the dropout intervention literature. Reschly and Christenson (2006) noted that that in addition to limited amount of studies published in peer-reviewed journals, most of those that are do not utilize a robust methodology plan. To that point, they (Reschly & Christenson, 2006), summarized Prevatt and Kelly's (2003) and Lehr et al.'s (2003) analyses. Prevatt and Kelly's (2003) found interventions regarding dropout were research based but lacked a theoretical basis. Additionally, only 11% of the studies they reviewed for their study focused on dropout intervention. Similarly, Lehr et al. (2003) noticed this gap in the literature and asserted that the

lack of theoretical foundation in this area posed obstacles to advancing practices and policies about dropout and dropout prevention. In addition to a lack of research foundation, absent are studies that are center on students with disabilities as well as those that analyze outside, but important, factors that impact a student, for example, the school and its culture, the student's family and their peers. In light of these critiques, researchers and practitioners continue to focus on various aspects to address dropout. However, the key commonality is that interventions that have shown the most promise are those whose strategies that have a foundation in student engagement (Reschly, 2017). That evidence serves as rationale for this current study of analyzing ECA participation (as a measure of behavioral engagement) as a factor in reducing dropout rates for students with EBD.

Why are ECAs important?

Many adolescents engage in ECA. Feldman and Matjasko (2005) presented results from the NCES (2002) that "25% of all high school seniors participate in academic clubs; 43% participate in athletics; 8% are members of a cheerleading or drill team; 19% are involved with the school newspaper or yearbook; 28% participate in music, drama, or debate; and 18% are members of vocational clubs" (p.161). They also compiled information in the National Longitudinal Study of Adolescent Health noting that 70% of the students in that study reported participation in at least one ECA.

ECAs allow students to "practice or 'act out' the development tasks of adolescence" (Feldman & Matjasko, 2005, p. 141). This idea parallels the importance of recess and non-instructional playtime in children's ability to navigate socially, and learn the roles that dictate that particular social setting. These interactions not only inform the child regarding their current environment but also help to shape how he or she engages with peers and adults in other social settings (Woolfolk, 2012). Additionally, ECA involvement provides students with additional

opportunities to form relationships with peers and adults beyond the constraints and demands of the school day placed upon students throughout the school year (Holland & Andre, 1987). In addition to relationships, students are also provided with chances to further develop and strengthen existing relationships with peers and adults (Feldman & Matjasko, 2005). Furthermore, ECAs, whether school or community-based, may serve as a solitary area of success for students who do not excel academically. However, while involvement in extracurricular activities may serve as an avenue of student success, participation in extracurricular activities is sometimes predicated on a student's academic achievement and following school rules. For example, schools may require participants to have a certain grade point average minimum course grade in order to engage in a particular activity. Further, schools may restrict a student's participation based on behavior infractions and/or suspensions. (Reeves, 2008).

ECAs help to enhance a student's involvement in school and create a student who is considered well-rounded. Anecdotally, students often participate in a range of ECA in order to bolster their application for college or scholarship competitions. In fact, college admissions specialists, employers, and scholarship committees often judge the breadth and depth of a student's involvement in ECAs more favorably with the greater one's involvement or amount of time invested in that particular activity (The College Board, 2018). However, more importantly, students who participate in ECA are more apt to apply to and attend post-secondary institutions (Barber, Eccles, & Stone, 2001; Eccles & Barber, 1999; Marsh & Kleitman, 2003). Further, Kaufman and Gabler (2004) delved into whether participation into certain ECA allowed impacted the caliber of college to which a student was accepted. Participation in arts aided all of the students who participated in such ECA in getting into college; however, the distinction or variant in the

caliber was based on the parent's interest. The parent's interest in the arts was connected to a student attending an elite college; this result was observed across sexes.

Feldman and Matjasko (2005) completed a comprehensive review of school-based ECA involvement. Their analysis explored findings across fields, outcomes of the participation, and factors that mediator or moderate outcomes for those that participate in ECA. Overall, ECA participation has shown positive effects on academic achievement (Feldman & Matjasko, 2005). However, the research base is mixed regarding the positive impact of ECA on academic achievement when activities beyond sports or athletics are considered (Feldman & Matjasko, 2005). In the literature, studies regarding extracurricular activities usually were centered on youths' involvement in sports and the outcomes (Feldman & Matjasko, 2005). For example, a study by Schmidt (2003) reported that although boys are more likely to participate in sports, girls are more likely to participate in ECA overall. However, girls more often participate in multiple ECA when compared to boys (Eccles, 1999). Although in some cases, ECA involvement may have a small residual and indirect effect on academic achievement, participation was found to lead to an increase of prosocial behavior (Eccels & Barber, 1999) as well a decrease in risky behaviors, except for underage and binge drinking (Zill, 1995).

On the other hand, Finn and Rock (1997) and Holland and Andre (1987) found that participation in ECAs may positively reshape attitudes and increase social interactions, but effects on the students' behavior was not observed. Zinn (1995) and Davalos, Chavez, and Guaridola (1999) further suggested that social interaction has a positive effect on a student's sense of belonging, which in turn influenced rates of retention. In relation to school dropout, Mahoney (2000) found that involvement in extracurricular activities in middle or high school lowered the likelihood of dropping out before 11th grade for students at high risk of discontinuing school.

Though there are many differences in the populations studied, Feldman and Matjasko (2005) were able to ascertain that involvement in structured, school-based ECA yielded more positive outcomes compared ECA that were not structured. Structured, school-based ECA were linked to the following outcomes: increased levels of academic achievement, lower rates of school dropout, slightly decreased rate of drug and alcohol use, improved psychological well-being (e.g., self-esteem, outlook on the future), lower rates of arrests (or other behaviors contributing to adolescent delinquency). After conducting their review, they posited that there is a need for researchers and investigators to apply an overarching theory to the study of the impact of ECA. Specifically, they suggest that future studies include a theoretical framework to serve as a foundation to explain the mechanisms and influences of ECA participation as well as set the direction for appropriate next steps (Feldman & Matjasko, 2005). Lastly, the review by Feldman and Matjasko (2005) summarized information from the previous study citing a number of mediators and moderators on the effects of ECA participation by adolescents: gender, peer associations, race, and type of activity and identity. A student's race, peer association, and gender had implications for academic achievement and outcomes, whereas identity was predictive of functioning as a young adult and a student's psychological well-being was impacted by the type of ECA a student participated in.

Farb and Matjasko (2012) conducted a follow-up to their 2005 study in order to assess developments in the field of research of ECA. Specifically they were interested in the status of the relationship of the outcomes (mentioned above from the 2005, gender, peer associations, race, and type of activity and identity) to participation in ECA. In the previous study, the authors encouraged future researchers to include theoretical frame work to guide future studies. Of those they reviewed (Feldman & Matjasko, 2005), a developmental-ecological approach, often drawing from the

seminal work of Urie Bronfenbrenner (1977). In the current review, Farb and Matjasko (2012) explored person-centered approaches to ECA participation. Citing the works of Roeser and Peck (2003), Linver, Roth, and Brooke-Gunn (2009) theorized that in order to view adolescents more holistically an emphasis on person-centered approaches is a necessity.

Since the initial publication in 2005, interest in the *overscheduling* hypothesis was often present due to the trend of an increased quantity of ECA that students participated in. Much of the onus on the actual overscheduling was placed on the parents or other influential adults in the student's life (Farb & Matjasko, 2012). The leading question for analyses in this area begged the question of if too much ECA participation stopped resulting in positive outcomes after a certain number of hours. One study conducted in this area (Mahoney et al., 2006, as reviewed by Farb & Matjasko, 2012) showed that for Black students who engaged in twenty or more hours of ECA per week, there was a decrease in reported self-esteem (i.e., psychological adjustment) when compared to those who reported no ECA participation. However, in this same study, across all groups, students who were in engaged in ECA for more than fifteen hours per week reported using alcohol at greater rates than those students who engaged in ECA for less than fifteen hours per week. Though the outcomes for students who are *overscheduled* may be cause for concern in light of the results of this study, the authors advised that further research in this area before making that assertion. In sum, Farb and Matjasko's (2012) follow-up to their previous review revealed that while much of the research in the area of ECA participation and outcomes continued to investigate academic outcomes, new information has emerged. They suggested that included in the future explorations of mediators and moderators, family variables should considered. Finally, calls for updated datasets and continued exploration into why certain students choose to get involved as well as time spent and how their participation affects other aspects of their lives.

In a follow-up regarding the overscheduling hypothesis, Fredericks (2012) explored this hypothesis using data from the ELS: 2002. She found that overall, only a small amount of students, approximately 3%, who participated in ECA to a level in which overscheduling could be considered. Further, the impact of overscheduling and significant differences were noticed for students who participated in more than five activities for 14 or more hours per week. Additionally similar to previous research studies, for example Eccels and Barber (1999) and Marsh and Kleitman (2003), findings in the Fredricks (2012) study reflect diminishing returns with regard the quantity or breadth of ECA participation. In other words, benefits typically seen with ECA participation plateau and in some cases yield negative results with high levels of participation. However, despite this negative outcome for this group of students, Fredricks (2012) posited that greater concern and intervention should be focused on the third of students who do not engage in any degree of ECA.

Juvonen et al. (2012) conducted a review of the impact peer relationships on students' level of academic achievement and engagement in extracurricular activities. In this analysis, the authors described a framework (Figure 6) for conceptualizing this interaction. They suggest that having a relationship with a peer can influence student engagement; similarly, peer relationships can affect their sense of belonging as well as the student's level of engagement. What is important is to realize that the level of influence goes in both directions.

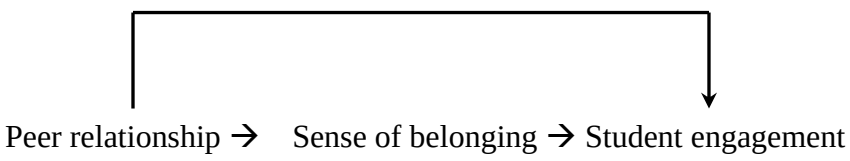

Figure 6. Impact of belonging and peer relationships on extracurricular activity used to frame the discussion on these factors (Juvonen et al., p. 388, 2012)

In their review, Juvonen et al. (2012) found that school belonging and student engagement occur bi-directionally, meaning that students who do not feel like they belong in at a school, are less likely to be involved, which leads to a decreased likelihood of that student being academically engaged and vice versa. In looking at ECA and the impact on a student's sense of belonging, Juvonen et al.'s (2012) analysis supports the impact peers can have on urging his or her peer to begin or remain in an ECA. Their review also identified that students' participation in ECAs can also introduce students to other positively engaged peers. However, given the data on peer relationships for students with EBD citing their lack of positive peer relationships and/or affiliation with negative peer groups and participation in "deviancy training," these analyses may not hold with this population of study.

Investing and striving to improve outcomes for students with EBD is important because of the aforementioned reasons but also in the many years of analysis and exploration, this group of students still only displays minimal growth academically as evidenced by longitudinal studies from as early as the 1980s to present day (Bradley, Doolittle, & Bartolotta, 2008). As one can surmise, the outcomes for students with EBD are poor both in school and beyond. Given the wealth of evidence regarding the positive impacts of strengthening positive engagement, there is no surprise that that the root of effective dropout prevention strategies and intervention are in student engagement. When faced with a population of students (those with EBD) that consistently experiences negative school interactions and alarmingly high rates of dropout compounded with a paucity of research for these students, the plan of action must be grounded in area with a robust literature of success and positive outcomes. As a result, this current study seeks to expand the literature base by investigating how this trend operates among students with EBD. It is expected

that results from this investigation will inform intervention efforts for reducing dropouts for students with EBD.

CHAPTER 3

METHOD

Research Questions

The purpose of this study was to investigate the impact of extracurricular activities on the dropout rate for students with EBD in secondary school. The following questions were addressed in this study:

1) How does participation in extracurricular activities (ECA) affect students with EBD versus those without disabilities?

2) To what degree is participation in ECA predictive of dropout for students with EBD, above and beyond other demographic and engagement variables (i.e., SES, grade retention, risk factors, achievement test scores etc.)?

3) Is there a difference in the association among certain extracurricular activities categories (i.e., sports, arts, service, leadership, academic, hobby, and vocational) and the likelihood of dropping out for students with EBD?

Data and Sample

The Education Longitudinal Study of 2002 (ELS: 2002) is a large, longitudinal dataset that is representative of the tenth and twelfth graders across the nation in 2002 and 2004, respectively. ELS: 2002 is the fourth installment of national longitudinal studies that investigate the trends of American youth's matriculation in secondary school and their transitions to postsecondary school, namely their educational and vocational outcomes. The ELS: 2002 aligned with previous National Center for Education Studies (NCES) longitudinal studies was designed to assess youth across five objectives: (a) investigate transitions of youth from secondary school to postsecondary school and

careers; (b) understand influences on the students' pathways; (c) review students', teachers', and parents' perspectives on the youth's academic experiences; (d) assess the degree of academic gains in mathematics between grades 10 – 12; (e) align with previous studies - National Longitudinal Study of the High School Class of 1972 (NLS-72), High School and Beyond (HS&B), National Education Longitudinal Study of 1988 (NELS:88), and High School Longitudinal Study of 2009 (HSLS:09) - for continued comparison between studies (NCES, 2014). For example, profiles of 10th grade students in the NELS: 88 can be compared to those same-aged participants in the ELS: 2002, or any of the aforementioned studies.

Within the ELS: 2002 dataset are two overlapping cohorts of high school students, sophomores in 2002 and seniors in 2004. High school seniors used for the 2004 sample cohort may have been enrolled in the 2002 cohort schools but not students in the 2002 sophomore cohorts. In order words, some of the students from the 2004 sample cohort may not be the same students as in the 2002 sophomore cohort; they could have transferred into the school or not participated in the initial sample 2002 sophomore cohort. A longitudinal subset can be extracted containing students present both in 2002 and 2004 or cross-sectional analyses can be conducted separately at these two years (NCES, 2014).

All of the NCES longitudinal studies for secondary school are derived from a two-stage sampling process, meaning in the initial phase the participating high schools were selected and then the students within these high schools were selected for the study. Using Common Core of Data (CCD), schools' likelihood of being chosen was aligned to their school population. In the next step, schools were divided based on three factors: region, urbanicity, and school control. Urbanicity was measured by how densely populated the area surrounding the school was, whereas the region was defined by the geographical location of the school within the United States. Lastly,

school control denoted the category in which the selected school is classified- public, non-Catholic private, and Catholic private (NCES, 2014).

Based on this sampling technique, 1,221 schools were deemed eligible and the 752 responding schools were included in the sample. The schools selected for the sample closely matched the percent of public and private schools in the United States in 2002. Of the 752, 77.13% schools were public (n = 580) and 22.87% (n = 172) were private. In the second stage, students from the selected schools were chosen. In an attempt to encourage effective follow-up efforts for the participating schools, a small number of students (n = 24 - 26) were included per school analysis. The rationale for having a small sample size per school was proposed in order to facilitate the collection of information during follow-ups (NCES, 2014).

Participants

Over 16,197 students across nearly 750 schools were included in the ELS: 2002 study. In order to conduct accurate and appropriate comparisons across groups, some groups and settings were sampled at higher rates. Non-public schools and Asian and Hispanic students were sampled at higher rates than public schools and Black and White students (Ingles et al., 2004). This oversampling enabled adequate representation in the study so that comparisons could be made more accurately across racial and ethnic groups and school types.

Instrumentation

Data collected across the study were compiled from a variety of sources during the spring of 2002/Base Year. In addition to demographic information for each participant, information was collected from the following sources: (a) student questionnaire, (b) parent questionnaire, (c) English teacher questionnaire, (d) mathematics teacher questionnaire, (e) administrator questionnaire, (f) facilities checklist, and (g) library questionnaire (Ingles et al., 2005).

Table 5

Description of Participants: Sample Sizes and Percentages

	Whole sample	EBD sample (BYP51)
Sample Size	16,197	903 (5.6)
Sex:		
Male	7653 (47.2)	625 (69.2)
Female	7717 (47.6)	278 (30.8)
Race:		
American Indian/ Alaska Native	130 (0.8)	7 (0.8)
Asian, Hawaii/Pacific Islander	1460 (9.0)	50 (5.5)
Black or African American	2020 (12.5)	148 (16.4)
Hispanic, no race specified	996 (6.1)	71 (7.9)
Hispanic, race specified	1221 (7.5)	97 (10.7)
More than one race specified	735 (4.5)	41 (4.5)
White	8662 (53.6)	463 (51.3)
Primary Language:		
English	2586 (16.0)	146 (16.2)
Other	12658 (78.2)	745 (82.5)
Number of Repeated Grades:		
Zero	11608 (71.7)	629 (69.7)
One	1458 (9.0)	221 (24.5)
Two	144 (0.7)	31 (3.4)
Risk Factors		
Zero	5014 (31.0)	184 (20.4)
One	3804 (23.5)	244 (27.0)
Two	1907 (11.8)	217 (24.0)
Three	835 (5.2)	139 (15.4)
Four	328 (2.0)	59 (7.6)
Five	78 (0.5)	14 (1.6)
Behavior Problems (Response to BYP51)		
Yes	903 (5.6)	---
No	11554 (71.3)	

Note. Values or percentages may not equal *n* or 100% due to missing data

Variables used in this study originated from the student questionnaire, achievement tests, (both detailed below), and demographic information (Ingles et. al., 2005).

Student questionnaire. The student questionnaire assessed information across seven domains: locating information, school experiences and activities, plans for the future, non-English use, money and work, family, and beliefs and opinions about self. The base year student

questionnaire was self-administered in a group setting by participants in their sophomore year at their home school. During the administration, participants also completed reading and mathematics assessments. The latter tests were given in two-stages, the first of which was a routing test. In the ELS: 2002 study, a routing test was used in order to direct and categorize students based to their ability level (low, middle or high) on the reading and mathematics assessments. In this dataset, a student's "route" was determined based on the number of questions he or she answered correctly on the reading and mathematics assessments, which lead to categorization mentioned above (Cohen & Swerdlik, 2002).

Although a significant portion of participants completed the questionnaire as previously mentioned, there were a few deviations in administration. Rather than a self-administered administration, a small subset of students (n=136) completed an abbreviated version via a computer-assisted telephone interview (CATI). Another deviation in administration was due to student's limited English proficiency. Participants needing the assessment in Spanish only completed an abbreviated Spanish version as the full version was only produced in English (Ingles et al., 2004, 2005).

Direct assessments. ELS: 2002 reading and mathematics assessments were administered during the base year of the study and only the mathematics assessment was given during the first follow-up. These assessments were collected to compare these data with factors such as student background and demographic variables and educational processes related to achievement among individuals and subgroups (Ingles et al., 2005). The NELS: 88 framework served as a foundation for ELS: 2002 tests. The mathematics tests accessed areas of skill/knowledge, understanding/comprehension, and problem solving across a number of areas, e.g., arithmetic, algebra, geometry, and data/probability (Ingles et al., 2004, 2005). On reading tests, students were

required to read a passage, with length varying from one paragraph to one page and topics ranging from English literature to natural and social science. Afterwards, participants then answered up to six questions about the preceding passage, which assessed their ability to interpret graphs, reproduce details, comprehend and infer/evaluate. The entirety of the questions on reading and nearly all of mathematics measures were delivered in multiple-choice format; open-ended question format accounted for 10 percent of mathematics questions.

In addition to using the framework of the NELS: 88, the ELS: 2002 includes reading and mathematics test items from that study and the National Assessment of Educational Progress (NAEP), and the Program for International Student Assessment (PISA). Before the 10th grade survey, items in both areas were field-tested resulting in modifications to some items. Items included in the final versions of the tests were selected based on strong psychometric characteristics and alignment with overarching framework characteristics (Ingles et al., 2004).

Academic assessments were administered in two phases. The first phase participants completed a brief multiple-choice routing task, 15 mathematics questions and 14 reading questions. Participants were stratified across difficulty levels- low, middle, or high- in the second phase of testing based on number of correct responses on the multiple-choice routing task in the first phase. The response format was blended for items in the second phase, multiple choice and open-ended. The two-stage format was developed for the ELS: 2002 to maximize the efficiency of test administration while obtaining accurate results without unintended impact floor and ceiling effects. Though tests assessed various aspects within reading and mathematics, participants were scored broadly across that subject using item-response theory (IRT), for example, a single reading score was tabulated rather than separate scores for comprehension and graph analysis. IRT tabulates scores based on the student's pattern of responding; that is, those answers that are

correct/incorrect in order to estimate the student's level of ability (Ingles et al., 2004). IRT is an optimal scoring method for a few reasons, especially in comparison to raw scoring methods because (a) participant response pattern can be used to compare tests with varying difficulty levels, (b) provides a more accurate estimate of a participant's correct response probability across test items, and (c) the likelihood of a low-ability participant earning a high score because of haphazard answer selection is minimized (Ingles et al., 2004).

Variable selection for the current study. The variables of interest from the ELS: 2002 study are displayed in *Table 6.*

Demographic variables. Students' sex, race or ethnicity, native language, and retention (i.e., grades repeated) are included as background variables.

Academic factors. A composite standardized math and reading score represented a standardized comparison measure for students with EBD. Additionally, academic risk factors were included as additional factors with regard to drop out. The number of factors a student had was analyzed for this study. Risk factors are as follows: comes from a single parent household; has two parents without a high school diploma; has a sibling who has dropped out of school; has changed schools 2 or more times (excluding changes due to promotion), repeated at least one grade; comes from a household with an income below the federal poverty threshold.

Special Education Eligibility. Variables needed to determine special education eligibility categories, specifically those identified in the EBD category were located in the ELS: 2002 restricted file. However, given research about correlates about behavior problems and dropout, as well as the likelihood that the parent of students with EBD would indicate that their child had behavior problems is great, the variable BYP51 was used to create the group for investigation. Other variables considered for use and identification of the variables of interest were parent report

variables about whether student had an IEP or is the student had an emotional disturbance. The use of these of variables posed challenges of a large number of missing variables, which would also impede data analysis.

Extracurricular activities. Given the focus of student engagement and dropout, ECA were included as a measure, or proxy, of behavioral engagement. In an effort to expand the literature on the types of extracurricular activities, fifteen various ECA were included in this analysis. The variables were analyzed separately and then compiled into groups based on the type or class of activity. ECA were combined in broader categories based on the type of activity or typical duties, expectations or goal for the ECA. For example basketball, football, cheerleading (and all other athletic activities) were included in the sports category. Similarly, ECA that were based on an interest or focus academic subject (i.e., academic club) or academic achievement (i.e., academic honor society) were compiled into the *academic* group. This process was continued until each ECA was in a category with the appropriate descriptor. Combining the ECA into specific categories allowed for further analysis into if certain types/classes of ECA impacted dropout.

Dropout. F2EVERDO variable was used as the determining factor if a student dropped out of school. This variable indicates if a student dropped out prior to graduation and was used instead of F1EVERDO. As previously mentioned, ELS: 2002 included follow-up studies at two year intervals. The use of the first follow-up (F1EVERDO) would only include students who had successfully matriculated to the 12^{th} grade. Based on what is known about the academic difficulties students with EBD experience, the use F2EVERDO was chosen which allowed for students who remained (or were retained) an additional year to be included.

Table 6

Variables of Interest

Demographic Information		
BYSEX	Sex-composite	
BYRACE	Student's race/ethnicity-composite	
BYSTLANG	Whether English is student's native language	
BYGRDRPT	Number of grades repeated (K-10)	
Academic factors		
BYTXCSTD	Standardized test composite score- math/reading	
BYRISKFC	Number of academic risk factors in 10th grade	
Special education eligibility		
BYP51	10th-grader ever had behavior problem at school	
Extracurricular Activities (proxy for behavioral engagement)		
SPORTS	BYBASEBL	Interscholastic baseball participation
	BYSOFTBL	Interscholastic softball participation
	BYBSKTBL	Interscholastic basketball participation
	BYFOOTBL	Interscholastic football participation
	BYSOCCER	Interscholastic soccer participation
	BYCHRDRL	Interscholastic cheerleading/drill team participation
ARTS	BYS41A	Participated in school band or chorus (A)
	BYS41B	Participated in school play or musical (B)
LEADERSHIP	BYS41C	Participated in student government (C)
ACADEMIC	BYS41D	Participated in academic honor society (D)
	BYS41G	Participated in school academic clubs (G)
HOBBY	BYS41E	Participated in school yearbook or newspaper (E)
	BYS41H	Participated in school hobby clubs (H)
SERVICE	BYS41F	Participated in school service clubs (F)
VOCATIONAL	BYS41I	Participated in school vocational clubs (I)
Dropout Variable		
	F2EVERDO	Ever dropped out by Follow-up 2

Analytic Method

Data screening. In an effort to approximate missing values, imputed variables are included in the ELS: 2002 dataset for some variables that contain missing data. We did not use any variables that did not have versions that imputed missing values.

Analysis of Data. All the variables included in the analysis are presented in *Table 6* and all present in the public dataset, which is described in detail above.

In order to address the research questions mentioned above, lower level analyses will be used in order to determine group variances. Specifically, parametric testing, t-test, were used to compare groups. Specifically, a chi square was utilized in order to assess for relationships between categorical variables. For questions 2 and 3, logistic regression was used to determine the contribution of extracurricular activity participation. Dropout, the dependent variable in this analysis, only has two outcomes or categories, resulting in a binary logistic regression this analysis. The use of this data analysis technique aided in identifying trends in behavior among the groups as well as serve as a foundation for predicting future behavior, i.e., dropout for students with emotional and behavior disorders (Statistics Solutions, 2015).

CHAPTER 4

RESULTS

First, the number of students with EBD and those without (or those whose parent indicted there were no behavior problems) were compared, as shown in *Table 7*. In order to determine if there was a significant difference between dropout and participation in ECA among students in the data sample, a chi-square analysis was conducted. As displayed in *Table 8* below, there were several activities in which a significant difference between ECA participation and dropout was observed. To further explore this significance and answer research question 1, additional statistical tests were conducted. The results of this preliminary test support previous findings in the literature base about ECA participation in relation to dropout.

Table 7

Participation across ECA for EBD and Non-EBD Group

Type of ECA	EBD (Yes to BYP51)	Not EBD (No to BYP51)	N
Interscholastic baseball participation	782 (6.9)	10629 (93.0)	11411 (100.0)
Interscholastic softball participation	778 (6.8)	10623 (93.2)	11401 (100.0)
Interscholastic basketball participation	778 (6.8)	10634 (93.2)	11412 (100.0)
Interscholastic football participation	785 (6.9)	10641 (93.1)	11426 (100.0)
Interscholastic soccer participation	771 (6.8)	10552 (93.2)	11323 (100.0)
Interscholastic cheerleading participation	773 (6.8)	10626 (93.2)	11399 (100.0)
School band or chorus	861 (7.1)	11280 (92.9)	12141 (100.0)
School play or musical	860 (7.1)	11279 (92.9)	12139 (100.0)
Student government	858 (7.1)	11243 (92.9)	12101 (100.0)
Academic honor society	860 (7.1)	11267 (92.9)	12127 (100.0)
Academic clubs	859 (7.1)	11236 (92.9)	12095 (100.0)
School service clubs	857 (7.1)	11239 (92.9)	12096 (100.0)
School yearbook or newspaper	857 (7.1)	11256 (92.9)	12113 (100.0)
School hobby clubs	863 (7.1)	11234 (92.9)	12097 (100.0)
School vocational clubs	852 (7.1)	11216 (92.9)	12068 (100.0)

Note. Percentages (x) may not equal *n* or 100% due to rounding.

Research Question 1: How does participation in extracurricular activities (ECA) affect students with EBD versus those without disabilities?

Descriptive statistics were conducted to display the mean participation in extracurricular activities for students with EBD and those without. T-test results reflect if participation in the activity was significantly different for those students with behavior problems as compared to those without.

Among sports categories, there was only one significant difference in the participation of students with EBD as compared those without. There were significant differences observed in other ECA. They are as follows: school band or chorus; student government; academic honor society; academic clubs; school service clubs; school yearbook or newspaper; school hobby clubs.

Research Question 2: To what degree is participation in ECA predictive of dropout for students with EBD, above and beyond other demographic and engagement variables (i.e., SES, grade retention, risk factors, achievement test scores etc.)?

In order to investigate the strength or predictive power of ECA, a logistic regression with backward variable selection was calculated. A backward selection method is conducted by beginning with all of the proposed predictors.

Table 8

Chi-square Results of ECA Participation and Dropout among Sample

ECA	Participation	Remain	Dropout	Chi-square Value
	Not Participate	9878	718	1.374
Baseball	Participate	751	64	
	Not Participate	9538	703	0.261
Softball	Participate	1085	75	
	Not Participate	9178	672	0.003
Basketball	Participate	1456	106	
	Not Participate	**8915**	**611**	**18.639**
Football	**Participate**	**1726**	**174**	
	Not Participate	9254	685	1.506
Cheerleading	Participate	1372	88	
	Not Participate	9470	703	1.62
Soccer	Participate	1082	68	
School band or chorus	**Not Participate**	**8633**	**711**	**16.485**
	Participate	**2647**	**150**	
School play or musical	Not Participate	9856	765	1.8
	Participate	1423	95	
Student government	**Not Participate**	**10374**	**825**	**17.425**
	Participate	**869**	**33**	
Academic honor society	**Not Participate**	**10072**	**829**	**43.101**
	Participate	**1195**	**31**	
Academic clubs	**Not Participate**	**10103**	**820**	**28.023**
	Participate	**1133**	**39**	
School service clubs	**Not Participate**	**9560**	**796**	**39.551**
	Participate	**1679**	**61**	
School yearbook or newspaper	**Not Participate**	**10289**	**804**	**5.981**
	Participate	**967**	**53**	
School hobby clubs	**Not Participate**	**9976**	**1258**	**8.418**
	Participate	**794**	**69**	
School vocational clubs	Not Participate	10299	773	1.257
	Participate	917	79	

Table 9

T-tests and Descriptive Statistics Extracurricular Activities by BYP51 (Behavior Problems)

	Levene's Test for Equality of Variances		t-test for Equality of Means*		
	F	Sig.	T	df	Sig. (2- tailed)
Interscholastic baseball participation	5.38	0.02	-1.11	884.26	0.27
Interscholastic softball participation	1.06	0.30	0.52	900.89	0.60
Interscholastic basketball participation	0.01	0.92	0.05	894.86	0.96
Interscholastic football participation	**63.86**	**0.00**	**-3.90**	**11424**	**0.00***
Interscholastic soccer participation	6.69	0.01	-1.35	903.52	0.18
Interscholastic cheerleading participation	6.24	0.01	1.29	901.68	0.20
School band or chorus	**79.59**	**0.00**	**4.47**	**1030.80**	**0.00***
School play or musical	7.46	0.01	1.41	1011.52	0.16
Student government	**75.79**	**0.00**	**5.52**	**1125.64**	**0.00***
Academic honor society	**202.97**	**0.00**	**10.02**	**1249.49**	**0.00***
Academic clubs	**127.14**	**0.00**	**7.24**	**1151.81**	**0.00***
School service clubs	**192.43**	**0.00**	**8.31**	**1123.16**	**0.00***
School yearbook or newspaper	**25.18**	**0.00**	**2.78**	**1040.47**	**0.01***
School hobby clubs	**36.19**	**0.00**	**3.30**	**1049.25**	**0.00***
School vocational clubs	4.92	0.03	-1.07	969.82	0.29

Note. Equal variances not assumed; significant values are bolded, *p < .05.

From that point, predictors, variables are removed based on the level of significance. This process is continued until all non-significant variables are discarded from the model. Only students who had zero missing variables were included in this analysis (n= 689). Only three variables remained, were found significant, after the backward variable selection: BASKETBALL, RISKFACTORS, and STSCORES, respectively. The seventeen variables were removed from the model due to their insignificance. The variables were removed in the following order: (a) SOFTBALL, (b) BYS41F, (c) BYS41H, (d) BYS41E, (e) NATIVELANGUAGE, (f) BASEBALL, (g) SOCCER (h) BYGRDRPT, (i) CHEERLEADING, (j) BYS41C, (k) BYS41I, (l)

RACE, (m) BYS41B, (n) FOOTBALL, (o) BYS41D, (p) BYS41G and (q) BYS41A. The resulting equation is below. This equation demonstrates that the log odds of dropout probability is -0.636 when a student did not participate in basketball or have more than one risk factors. In other words, participation in basketball had a negative relationship with dropping out of school, whereas risk factors were positively related to dropping out. Thus students with EBD who participate in basketball are less likely to drop out of school; conversely, those students with EBD experience risk factors have an increased likelihood of dropping out of school. Further, the more risk factors, the greater the risk and probability of dropping out.

$$\log\frac{P(F2DROPOUT = 1)}{P(F2DROPOUT = 0)} = -.007 - .636BASKETBALL + .233RISKFACTOR(1) + .719RISKFACTOR(2) + 1.050RISKFACTOR(3) + 1.372RISKFACTOR(4) + 2.049RISKFACTOR(5) - .029STDSCORES$$

Table 10

Logistic Regression Using Backward Variable Selection

Predictor	B	S.E.	Wald	df	Sig.	Exp (B) Odds Ratio
BASKETBALL R(1)	-.636	.288	4.866	1	.027*	.529
RISKFACTOR R			26.967	5	.000*	
RISKFACTOR R(1)	.233	.272	.733	1	.392	1.262
RISKFACTOR R(2)	.719	.264	7.400	1	.007*	2.053
RISKFACTOR R(3)	1.050	.291	13.000	1	.000*	2.856
RISKFACTOR R(4)	1.372	.384	12.766	1	.000*	3.943
RISKFACTOR R(5)	2.049	.736	73757	1	.005	7.764
STDSCORES R	-.029	.009	9.754	1	.002*	.972
Constant	-.007	.496	.000	1	.989	.993

*p < .05

Note: Risk factors are as follows: comes from a single parent household; has two parents without a high school diploma; has a sibling who has dropped out of school; has changed schools 2 or more times (excluding changes due to promotion), repeated at least one grade; comes from a household with an income below the federal poverty threshold

Based on the quantity of deleted predictor variables due to the backward selection model, a simple logistic regression, which is displayed in the chart below, was conducted. Despite this method, the same variables emerged as significant predictors of dropout rates.

Table 11

Simple Logistic Regression

Predictors	B	S.E.	Wald	df	Sig.	Exp(B)
RISKFACTORS_R			17.327	5	.004*	
RISKFACTORS_R(1)	.164	.278	.345	1	.557	1.178
RISKFACTORS_R(2)	.659	.283	5.407	1	.020*	1.933
RISKFACTORS_R(3)	1.012	.321	9.949	1	.002*	2.751
RISKFACTORS_R(4)	1.197	.433	7.654	1	.006*	3.309
RISKFACTORS_R(5)	1.931	.796	5.881	1	.015*	6.897
STDSCORES_R	-.028	.010	7.616	1	.006*	.972

*p < .05

Note: Risk factors are as follows: comes from a single parent household; has two parents without a high school diploma; has a sibling who has dropped out of school; has changed schools 2 or more times (excluding changes due to promotion), repeated at least one grade; comes from a household with an income below the federal poverty threshold

Research Question 3: Is there a difference in the association among certain extracurricular activities categories (i.e., sports, arts, service, leadership, academic, hobby, and vocational) and the likelihood of dropping out for students with EBD?

For this question, each category of predictor variables was analyzed using a logistic regression. For example, arts were reviewed as a single category rather than in their individual categories (e.g., chorus, band, theatre). The logistic regression model was used to determine if participation in particular extracurricular activities yielded better outcomes, or resiliency against dropping out of school for students with EBD. Results of this analyses shows that sports has the smallest -2 Log likelihood and largest R square values. This indicates that a student's participation in sports best predicts school completion, that is, sports serves as a protective factor against dropout

for students with EBD. After sports, involvement in arts, followed by service, leadership, academic, hobby, and vocational activities (based on this order listed) are most predictive of a student of EBD dropping out of school.

Table 12

Model Fit Statistics

Extracurricular Activity Category	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
Sports	811.247	.090	.127
Arts	941.053	.087	.122
Leadership	948.141	.084	.118
Academic	943.069	.083	.117
Service	944.755	.084	.119
Hobby	941.182	.081	.114
Vocational	940.273	.080	.113

CHAPTER 5

DISCUSSION

School dropout continues to be an area of concern; one in which concerted efforts are warranted to reduce and eradicate the issue. Within this group of students who dropout, students with disabilities often have the highest rates of dropout. In particular, students who have specific learning disabilities and those with emotional behavior disorders are most often represented. Students with EBD have many difficulties at school – regularly record poor outcomes, etc., and of great importance to this study, highest rates of dropping out, despite the provision of an Individualized Education Program.

Student engagement has emerged as the primary theory for understanding dropout and underlies the most promising interventions to address disengagement and eventual dropout (Reschly & Christenson, 2012). Extracurricular activities (ECAs), a form a behavioral engagement, have been associated with important student outcomes, including academic achievement, social-emotional adjustment and functioning, dropout and completion, and yet little is known about ECAs for students with EBD. The impact of ECA are mentioned because participation leads to, as evidenced by the literature, opportunities for success outside of the classroom, building and strengthening positive relationships with peers and adults, increased student engagement and connectedness to the school (Eccles & Barber, 1999; Farb & Matjasko, 2012; Feldman & Matjasko, 2006; Holland & Andre, 1987; Marsh & Kleitman, 2003). However, school and individual factors may limit the participation of students with EBD in ECA. For example, characteristically, students with EBD present with behaviors that result in rule infractions that lead to office disciple referrals. Further students with EBD often have poor academic

achievement and grades. Both of these factors often pose barriers to a student's participation as a school may prohibit participation or set guidelines for minimum grade point averages or little to no behavior infractions (Reeves, 2008). Nonetheless, given the poor outcomes for students with EBD and the importance of engagement for school success, the hypothesis that ECA participation can serve as conduit for improved outcomes is a plausible one. However, the lack of research in this area warrants further study.

The purpose of this study was to examine the impact of ECA participation on dropout rates for students with EBD. The first research question investigated whether there was a significant difference between participation in ECA for students with EBD and those without. Significant differences between the two populations were observed in participation in football, student government, academic honor society, academic clubs, school service clubs, school yearbook or newspaper, school hobby clubs. Research question two investigated which, if any, ECA would best predict dropout for students with EBD. Participation in basketball was on the only significant predictor among all ECA. Basketball participation had a negative impact on dropout in that participation reduced dropout likelihood for students. Following participation in basketball, the number of risk factors and poor standardized achievement scores were other significant factors in the logistic regression. Lastly, question three explored which of the ECAs was more protective of school dropout. Based on -2 Log likelihood and largest R square values, participation in sports best predicted school completion, in other words participation in sports was most protective of dropout for students with EBD.

This study aimed to expand the literature and provide information regarding the participation in ECA for students with emotional and behavior disorders. Importantly, students with EBD are often faced with poor academic and life outcomes. The results of the questions

investigated in this study provide information that can be used to inform and develop interventions for this population. In addition to incorporating ECA into interventions for students with EBD, an important next step would involve implementing policies in place at the school level to provide support to those students to help them succeed and be able to join and continue participation in ECA. This study also sought to determine if certain types of ECA were more beneficial to students. Lastly, we sought to determine if ECA were able to predict dropout rates above other factors such as race, academic achievement, and native language. The results of the current study investigated the impact of ECA participation for students with EBD and is aligned with the research in that positive outcomes for students in general who participate in ECA. Though the broader literature, typically includes students who are in general education, those without EBD, similarity of outcomes is promising for this population of students. In particular, students with EBD who participated in basketball, were found to have the largest and most significant reduction in dropout likelihood. As prescribed by Feldman and Matjasko (2005) and the abundance of literature that only focuses on sports, the current study analyzed athletic ECAs as well as those in other categories like arts, academic, vocational, service, hobbies, and leadership. Though the results in this study showed that participation in sports was found to have the best results for students with EBD, analyzing the full span of activities was beneficial to truly compare the broad impact of ECAs.

The investigation into these factors found that similar to existing research, participation in extracurricular activities does indeed have a positive impact on student engagement with regard to dropout rates. The literature, as well as anecdotal reports/perspectives, only consider sports when discussing extracurricular activities. However, the range of extracurricular activities is broad, thus multiple types of extracurricular activities were analyzed in the current study. Among the

categories of extracurricular activities (i.e., sports, arts, academic, leadership, hobby, vocational, and service), sports emerged as the most predictive of dropout rates.

Limitations

Although investigating the impact of participating in ECA for students with EBD will expand the literature and be significant in the developing interventions and supports for these students, this study is not without limitations. Given the sensitive nature of data regarding students' specific disability, variables to clearly specify which students meet IDEA criteria for the exceptionality of emotional and behavior disturbance were only available in the restricted data set. Requirements to obtain access the restricted file were beyond the scope of this study, and therefore not attainable. As an alternative, the variable BYP51, *10th-grader ever had behavior problem at school*, was used to best identify and capture those in students who would most likely be students with EBD.

The students included in this sample are not specifically identified as students meeting criteria for EBD, therefore the group of students analyzed for this study was comprised by identifying students whose parents report them as having behavior problems (see variable BYP51). This group of students served as a proxy for students with EBD and given the similarities between the two groups. Secondly, the ELS:2002 study provides comprehensive information on sophomore students across the nation, the data is dated as base year and first follow-up were collected nearly 15 years before the current analysis. Since that time, changes in educational, political, and national climate may have reshaped our perspectives and approaches in particular, the passage of No Child Left Behind in 2001 and the Individuals with Disabilities Improvement Act in 2004 (Wright & Wright, 2004). Another limitation is that information for why students

dropped out of school was not included; the inclusion of this information provides the needed perspective particularly around the student's reasons for dropping out of school.

Future Directions

As stated and displayed in the results section, participation in extracurricular activities does positively impact a student's decision to remain in school. Future studies can investigate and ultimately develop ways to ensure that these students are included and allowed to participate in these activities. This aspect is important because participation in ECAs often require an audition, application, tryout in addition to some level of academic and behavior standard (i.e., GPA and office discipline referrals). Just as accommodations and modifications are made for students' educational programming, particular attention ought to be paid to assist these students with adjusting to and navigating through the subculture that can exist among certain extracurricular sports, namely sports and the arts. Future studies should also incorporate shifting the language to focus on *school completion* and providing support. Focusing on this aspect extends beyond helping students not drop out of school, rather provides skills to succeed in the community and academically (Sinclair et al., 2003). Lastly, given that there are few studies that investigate participating in ECA among students with EBD, a deeper look into the depth (level of involvement in a particular ECA) and breadth (number of activities students participate in as well the number of hours) and how those differences impact academic, social and behavior functioning for these students.

Students with EBD are a population of students with an array of support needs but also a population that presents with difficult behaviors, behaviors that not only often lead to apprehension when working with these students but those that also lead to dire consequences in adolescence and adulthood. Despite these challenges, both perceived and actual, this is not a population of students

that can be allowed to fall by the proverbial wayside. In the words of Frederick Douglass, “it is easier to build strong children than repair broken men,” thus continued efforts should focus on aiding students with EBD. Given the preliminary results of this study, in addition to further investigating the impacts of ECA for students with EBD, efforts and supports at the school ought to be strengthened to allow for students’ participation in these activities.

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