

Individual, Family, and School Factors Indicative of Caring: Predicting High School Graduation
for NLTS2 Students with ED

Thomas O. Morris

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Reading Committee:

Elizabeth West, Chair

Dixie Massey

Kevin Haggerty

Robert Abbott

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University of Washington

Abstract

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Thomas O. Morris

Chair of the Supervisory Committee:

Elizabeth West, Associate Professor

Special Education

This study examined data from the National Longitudinal Transition Study 2 (NLTS2) to determine if factors indicative of caring were predictive of high school graduation for students with ED. Selection of NLTS2 variables was guided by resiliency theory, which implies that an individual can successfully adapt to factors that threaten his or her viability; Murray's (2003) conceptual framework, noting risk and protective factors at the individual, family, school, and community levels; and an extensive review of the literature examining qualities of a caring teacher from the adolescents' perspective. Selected NLTS2 variables served as the risk and protective factors analyzed for this study.

Each factor at the individual, family, and school level was dichotomized so as to represent a risk or protective factor. Factors at the individual level were considered protective if the student identified as having ED; was at or above grade level in reading and math; and had no disciplinary actions, in or out-of-school suspensions, or expulsions for the current school year.

Factors at the family level were considered protective if the students' parents participated in school and class events, attended parent/teacher conferences, and believed the student would graduate with a regular diploma. Factors at the school level were considered protective if the students' teacher felt prepared to teach students with disabilities; if the teacher valued daily classwork, attitude/behavior, and class participation as a means of evaluating student progress; if mental health services were available at school; if students had little to no trouble getting along with teachers and peers; if students relied on teachers when making important decisions; if students enjoyed school and felt like they belonged; and if students believed an adult at school cared about them.

An individual, family, and school composite variable was created and analyzed using binary logistic regression to determine if, after controlling for gender and ethnicity, any of the composites were predictive of high school graduation for NLTS2 students with ED. Protective factors at the individual level were found to be predictive of high school graduation at $p = .02$, however protective factors at the family and school level were not found to be statistically significant at $p = .06$ and $p = .30$ respectively. Descriptive statistics are also provided and discussed for each factor included in the composite.

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DEDICATION

To my husband, Quinton Morris, thank you for showing me how to truly love someone.

Chapter I

Introduction

PL 94-142

Public Law 94-142 (PL 94-142) (1975), also known as the Education for All Handicapped Children Act (EHA) defines emotional disturbance (ED) as 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; and e) a tendency to develop physical symptoms or fears associated with personal or school problems. ED includes schizophrenia, however the term does not apply to children who are socially maladjusted, unless it is determined that they have an ED. According to Brown and Palmer (1977), in 1976, an estimated 81% of the nation's children with emotional disturbance were unserved by public schools. However, by September 1, 1978, public schools were required to provide a free and appropriate education (FAPE) to all children with ED between the ages of 3 and 18, with the maximum age increasing to 21 by September 1, 1980. This meant many students with ED who were formally educated at home, in residential facilities, or in state institutions would be entering public schools for the first time. Most school districts experienced difficulty finding teachers qualified to work with this population, particularly at the preschool and secondary levels.

ED Programming: A Developing Landscape

Early training for teachers of students with ED was primarily attained through

organizations providing direct services to children, professional seminars, or at one of ten universities across the United States (Rabinow, 1960). Due to a shortage of educational leadership personnel, teacher trainers, and researchers (Brown & Palmer, 1977), curriculum was eclectic and operated without a clear point of view (Haring & Fargo, 1969), philosophy (Morse, 1976), and empirical validation (Voeltz, 1976). Consequently, leaders in the field took it upon themselves to determine the ideal dispositions of teacher candidates for students with ED. Hewett (1966), for example, believed that traits such as kindness, firmness, empathy, fairness, and intuitiveness were primarily innate; whereas Cullinan, Epstein and Schultz (1986) believed that skills such as assessment, behavior management, instructional programming, interactions with parents and professionals, administrative duties, and general knowledge could be learned. Others (Bullock, 1973; Bullock & Whelan, 1971) looked to inservice teachers to determine which characteristics and skills were most frequently required to perform the duties of the job.

Ongoing disagreements in the field concerning the etiology, terminology, definition, identification, and interventions regarding students with ED prompted *The National Needs Analysis in Behavior Disorders*, a federally funded study conducted by Grosenbeck and Huntze (1980). This report highlighted an increasing reliance on emergency certification due to insufficient human resources and inferior teacher training programs, which ultimately resulted in staggering numbers of public school students with ED continuing to be inadequately or inappropriately served.

Federal Examinations of Student Outcomes

In response to increasing concerns regarding the outcomes of students with disabilities in general, the U.S. Congress mandated and funded the implementation of the National Longitudinal Transition Study (NLTS) in 1983. National sampling and a longitudinal design

provided generalizable information to practitioners, policy makers, researchers, and others in the special education community regarding the transition of students with disabilities from seventh grade to early adulthood. From 1987 to 1994, data on a wide range of characteristics, experiences, and outcomes of youth with disabilities were collected via interviews with parents and students, surveys of principals and teachers, and reviews of students' high school records. More than 300 school districts and 8,000 students between the ages of 13 and 21 receiving special education services during the 1985-86 school year were included in the study; with students with ED accounting for 10% of the total sample. Analyses revealed that over time, students with ED experienced a gradual pattern of disconnection from school, with only 42% graduating from high school (Marder & D'Amico, 1992), the lowest among all students with disabilities (Wagner, et al., 1991). Additionally, students with ED were more likely to be African-American (Wagner, 1995) and arrested and less likely to attend any postsecondary school or be employed after leaving high school (Marder & D'Amico, 1992). NLTS was unique in that it alerted policymakers, educators, human service workers, and parents of the pervasive negative outcomes experienced by many students with ED across the United States.

Referencing findings from NLTS, the U.S. Department of Education funded the *National Agenda for Achieving Better Results for Children and Youth with Serious Emotional Disturbance* (Chesapeake Institute, 1994). This report stressed the importance of effectively serving and meeting the needs of students and their families. Failing to do so would threaten the success of the nation's educational objectives and limit life-long opportunities for many individuals. Seven interdependent strategic targets were set forth to effectively serve and meet the needs of children and youth with ED and their families: 1) provide students with opportunities to develop the knowledge, skills, and attitudes essential for educational, social, and workplace achievement; 2)

strengthen school and community capacity to serve students in the least restrictive environment; 3) value and address diversity to foster equitable outcomes for all students; 4) collaborate with families and support their active participation in planning and evaluation; 5) promote appropriate assessments that are integral to the identification, design, and delivery of services; 6) provide ongoing support and professional development of teachers and other service providers; and 7) create comprehensive and collaborative systems that are family-centered, community-based, and appropriately funded. Prior to this report, leaders in the field (Jones, 1987; Kauffman, et.al, 1985, Reitz, 1994) relied heavily on their personal experiences to determine best programming practices for students with ED, however, now leaders (Jones, Dohrn, & Dunn, 2004; Walker & Fecser, 2002) had a set of federally recommended targets and incorporated them into their suggested programming components.

Statewide Explorations of Student Outcomes

In addition to NLTS, numerous single and multi-state studies were conducted to examine the secondary and postsecondary outcomes of students with ED. Neel, Meadows, Levine, and Edgar (1988) followed up with students with ED in Washington ($n = 160$) who graduated between 1978 and 1986 and found that secondary students receiving mental health services were not likely to continue receiving services upon leaving school. Blackorby, Edgar, and Kortering (1991) reviewed the school files of special education students in Washington ($n = 462$) who stopped attending school during the 1985-86, 1986-87, and 1987-88 school years and found that students with ED were more likely to experience school disruptions and less likely to graduate. Additionally, Kortering and Blackorby (1992) concluded that students with ED in Washington ($n = 103$) who left school during the 1986-87 and 1987-88 school years were more likely to be non-white and dropout, reenter school, and dropout again without ever graduating. One year post

graduation, Frank, Sitlington, and Carson (1991) interviewed students with ED ($n = 330$) in Iowa in 1985 and 1986 and found that the mean reading and math grade level equivalent for graduates was 7.88 and 7.05 respectively. In a similar study, Frank and Sitlington (1997) interviewed a new sample of students with ED in Iowa ($n = 22$) who graduated in 1993 and found that overall reading and math scores had decreased to 7.15 and 6.89 respectively. Oswald and Coutinho (1996) examined national child count data for all U.S. identified students with ED ages 14 and older who exited school in 1990, 1991, and 1992 and found that students had a 35% graduation rate. Finally, Sample (1998) interviewed secondary students with ED in Colorado ($n = 30$) who exited in 1994 at 6 months, 12 months, and 24 months and found that 60% of students had graduated from high school.

Ongoing Federal Examinations of Student Outcomes

By 1997, PL-94-142 had evolved into the Individuals with Disabilities Education Act (IDEA). IDEA and was significantly reshaped during its congressional reauthorization to include methods of new knowledge production via large-scale longitudinal studies noting intervention and educational outcomes of individuals with disabilities. The Special Education Elementary Longitudinal Study (SEELS), conducted from 2000 to 2004, focused specifically on the characteristics, experiences, and achievements of students with disabilities ages 6 through 12 as they transitioned from elementary to middle to high school (Wagner, Marder, & Blackorby, 2002). Participants were selected through a two-stage sampling process to produce a nationally representative sample, thus ensuring the results would be statistically reliable and generalizable. Data were collected on student and family characteristics; student school programs, instruction, and accommodations; and a broad set of student outcome measures including academic progress and social development three times over a five-year period. Across all 12 disability groups,

students with ED received the poorest grades, had poor social skills and classroom behaviors, had low rates of academic growth, and were more likely to be involved in disciplinary incidents at school (Blackorby, Knokey, Wagner, Schiller, & Sumi, 2007). While this study provided the most comprehensive analysis of the behavior and performance of students with disabilities at the elementary and middle school levels to date, it could not confirm if students eventually completed high school and had successful postsecondary lives.

The U.S. Congress also mandated the National Longitudinal Transition Study 2 (NLTS2) in 1997 to provide another national picture of the characteristics, experiences, and outcomes of students with disabilities as they transitioned to early adulthood. Funded by the U.S. Department of Education, NLTS2 was intended to update many of the topics addressed by NLTS and examine new issues such as access to general education high school curriculum, student social adjustment, and increasing participation in postsecondary education. NLTS2 included more than 11,280 students who were ages 13 to 16 years and receiving special education services in seventh through twelfth grade on December 1, 2000. A stratified random sample of more than 500 school districts was drawn with students from each of the 12 special education disability categories, randomly selected from each district. Five waves of longitudinal data were collected from 2000 to 2009. Information on high school coursework and placement, academic performance, extracurricular activities, postsecondary education and training, adult services, employment, independent living, and community participation were collected via interviews with parents and students, surveys of principals and teachers, and reviews of students' high school records. A total of 1,250 students included in the sample were identified as having ED. Zablocki and Krezmien (2013) found that among all NLTS2 students with disabilities ($n = 5,930$), students with ED were more likely to dropout of high school especially if they have been suspended, expelled, or

retained. Schifter (2011) explored the length of time NLTS2 students with ED ($n = 730$) took to graduate from high school and found that after entering high school those who did graduate did so in about six years.

Summary and Purpose of Study

The 1975 enactment of PL 94-142 granted students with ED the right to a free and appropriate public education in the least restrictive environment. Much confusion and debate ensued regarding how to effectively serve students with ED due to limited human resources, program indicators, and published research. Over the past four decades, a number of federal, state, and district level studies have examined the secondary and postsecondary outcomes of students with ED. Specifically, Wagner and Newman (2012) noted that NLTS students with ED had a 42% high school completion rate in 1990; with this number increasing to 83% for NLTS2 students with ED by 2009. Given these findings, nearly 20% of students with ED still continue to leave high school without graduating. Fortunately, secondary teachers are in a unique position to develop positive relationships with students with ED and improve their outcomes through the cultivation of caring relationships (Mihalas, Morse, Allsopp, & Alvarez-McHatton, 2008).

This study seeks to understand how NLTS2 students with ED who graduate from high school differ from those who do not graduate and if individual factors at the student level combined with factors believed to be indicative of caring at the family and school levels are predictive of high school graduation. The research questions guiding this study are as follows:

1. How do individual, family, and school factors differ for NLTS2 students with ED who graduated versus NLTS2 students with ED who did not graduate?
2. To what extent are factors at the individual, family, and school levels predictive of high school graduation for NLTS2 students with ED?

Chapter II

Literature Review

Theoretical Framework

Resiliency theory will be used to guide this study. As noted by Alvord and Grados (2005), early studies in resilience (Murphy & Moriarty, 1976; Rutter, Tizard, Yule, Graham, & Whitmore, 1976; Bleuler, 1984; Garmezy, Masten, & Tellegen, 1984; Werner, 1993) spawned an interest in determining why some children are able to cope with adversity whereas others are not. The term resilience has been defined in many ways (Alvord & Grados, 2005), however, for the purpose of this study, Masten, Best, and Garmezy's (1990) the more familiar and widely accepted definition of resilience (Alvord & Grados, 2005) will be used, which defines resilience as *the process of, capacity for, or outcome of successful adaptation despite challenging or threatening circumstances*. Zimmerman and Arunkumar's (1994) model examining risk and protective factors, as illustrated below, was inspired by the work of Garmezy, Masten, and Tellegen (1984) and will serve as the theoretical framework for this study.

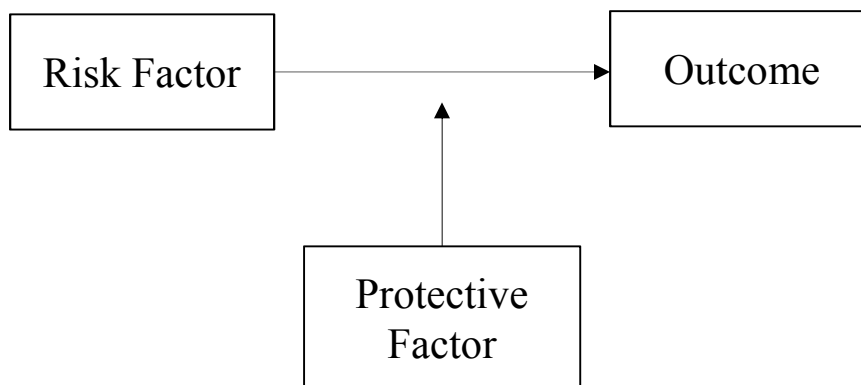


Figure 1: Zimmerman & Arunkumar (1994)

Conceptual Framework

Additionally, this study will use Murray's (2003) conceptual framework illustrating the relationship between risk factors, protective factors, the vulnerable student, and postschool outcomes, as noted below.

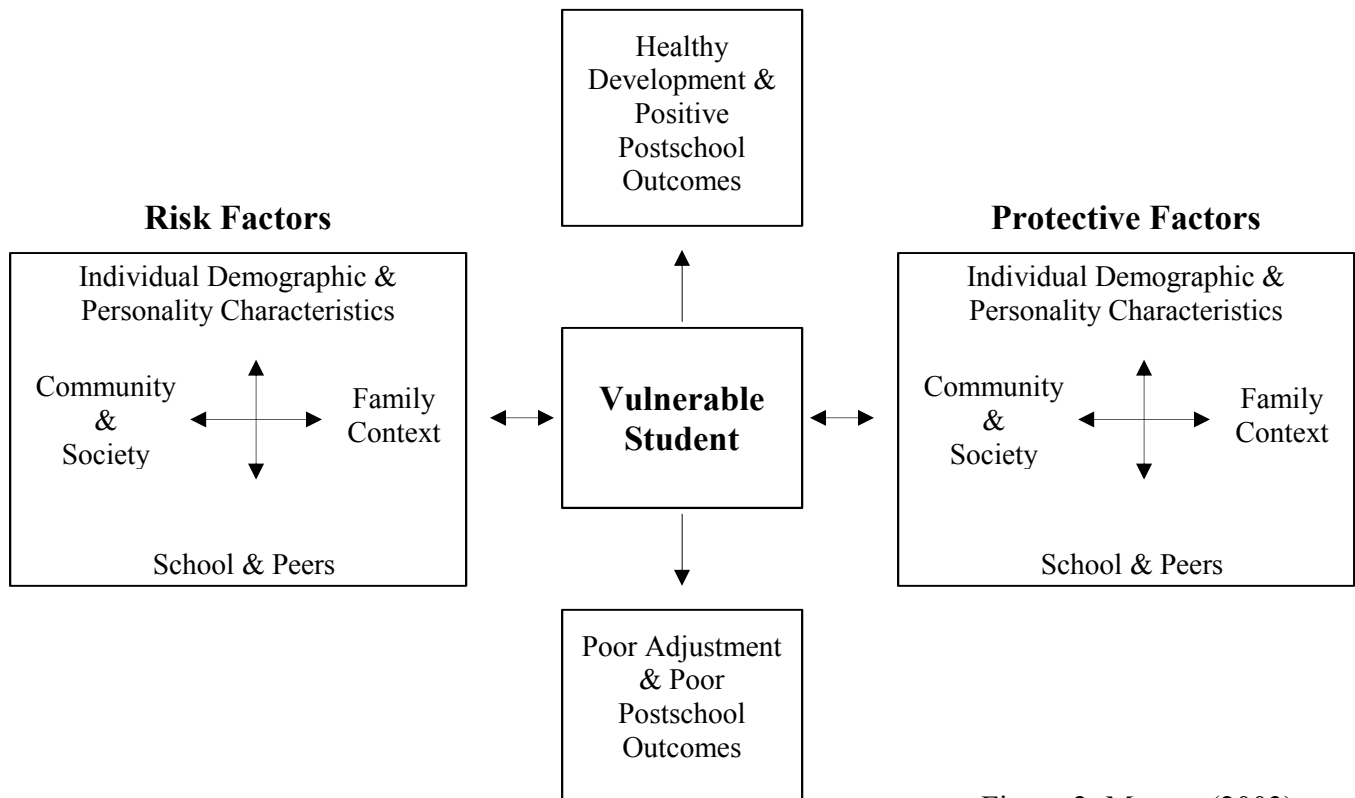


Figure 2: Murray (2003)

This framework was created specifically to help understand and support the adult transitions of youth with high-incidence disabilities (learning, behavioral, and/or intellectual disability). Based on the findings of numerous longitudinal studies involving students with disabilities (Benz, Yovanoff, & Doren, 1997; Blum, Kelly, & Ireland, 2001; Halpern, Yovanoff, Doren, & Benz, 1995; Wagner, 1995; Werner, 1993) and studies focused specifically on students with ED (Carson, Sitlington, & Frank, 1995; Frank, Sitlington, & Carson, 1995; Leone, 1991; Malmgren, Edgar, & Neel, 1998; Wagner, 1995), Murray attributes poor adjustment and poor postschool

outcomes and healthy development and positive school outcomes to various risk and protective factors respectively. These factors include individual demographic and personality characteristics, family context, school and peers, and community and society.

Review of the Literature

Every year, approximately one fourth of students in the U.S. do not graduate from high school (Bernstein-Yamashiro & Noam, 2013). According to Lee and Burkam (2003), leaving school prior to graduation is dependent upon many factors. For some students, school provides an opportunity to increase the likelihood of success as adults, but for others, it is a frequent reminder of one's lack of academic success. Most agree, however, that dropping out of school is particularly harmful and a major detriment to achieving high status and social mobility. Students with disabilities are at particular risk for school failure, with students with ED having the highest dropout rate of any disability group (Bartick-Ericson, 2006; USDOE, 2016).

Schools that intentionally focus on establishing a climate of caring can provide students with at least one adult to serve as a concerned advocate (Morse, 1994). Caring is the glue that binds teachers and students together, provides opportunities for academic and interpersonal learning, and makes classroom experiences more meaningful (Noblit, Rogers, & McCadden, 1995). As noted by Mihalas, Morse, Allsopp, and McHatton (2008), teachers are oftentimes the primary adult role model for students with ED, thus guiding and supporting their social-emotional, behavioral, and academic growth. When there is an established relationship based on trust, respect, and communication; students are more willing to engage in successful school behaviors and strive for high levels of achievement. Unfortunately, as students transition from one primary teacher in elementary school to multiple teachers in middle and high school, their connection to teachers tend to suffer (Fredricksen, Rhodes, Noam & Fiore, 2004). This

ultimately results in over two thirds of middle school students reporting low levels of teacher support and eventual disengagement in school (Bernstein-Yamashiro & Noam, 2013).

A number of qualitative studies have examined caring relationships between students and teachers at the secondary level. Due to small sample sizes, it is difficult to generalize the findings to the broader population, however, it is important to note that these studies do provide valuable insights into students' perspectives regarding school and specific characteristics associated with and demonstrated by teachers who care. Unfortunately, NLTS2 does not define *caring*, therefore, through an examination of studies relying on interviews with middle and high school students, an operationalized definition of caring was crafted for the purpose of this study.

Student Perceptions of Caring

To identify studies examining what it means to be a caring teacher, an extensive review of the literature was conducted using multiple processes including electronic, hand, and ancestral searches. Search terms included “caring adult”, “caring teacher”, “caring schools”, “secondary”, “middle school”, “high school”, “student teacher relationships”, “student connections”, “disability”, “special education”, “emotional and behavioral disabilities”, “emotional disturbance”, “ED”, and “EBD”. To be considered eligible for this review, the study must have been conducted with middle and/or high school students (sixth through twelfth grade), present findings from the perspective of the student, and have been conducted in the United States. No date or methodological limitations were imposed in hopes of capturing a broad sampling of literature. A total of 16 articles (Appendix A) met this inclusion criteria (Alder, 2002; Bosworth, 1995; Certo, Cauley, & Chafin, 2003; Daniels & Arapostathis, 2005; DeFur & Korinek, 2010; Doda & Knowles, 2008; Ellerbrock, Kiefer, & Alley, 2014; Ferreira & Bosworth, 2001; Garrett, Barr, & Rothman, 2009; Garza, 2009; Hayes, Ryan, & Zsellar, 1994; McHugh, Horner, Colditz,

LaBaron, & Wallace, 2013; Ozer, Wolf, & Kong, 2008; Steinberg & McCray, 2012; Tosolt, 2010; Zieman & Benson, 1980). These studies have a combined sample of 3,679 students (See Table 2).

After careful examination of the characteristics shared by the students in each study, two distinct categories emerged. Teachers demonstrated caring towards students via academics or through relationship building. In regards to academics, students mentioned characteristics such as teacher qualifications; having high standards and well managed classrooms; being helpful; having interesting, engaging, and individualized content; taking extra time to help students understand content; providing feedback; offering encouragement; and involving families. In regards to relationships, students mentioned characteristics such as teachers being caring, kind, open, fair, fun, interested in students as individuals, respectful, good communicators, and trustworthy.

Academic Indicators of Caring Teachers

Fifteen studies, spanning from 1980 to 2013, attributed academic characteristics associated with teacher caring (Alder, 2002; Bosworth, 1995; Certo, Cauley, & Chafin, 2003; Daniels & Arapostathis, 2005; DeFur & Korinek, 2010; Doda & Knowles, 2008; Ferreira & Bosworth, 2001; Garrett, Barr, & Rothman, 2009; Garza, 2009; Hayes, Ryan, & Zseller, 1994; McHugh, Horner, Colditz, LaBaron, & Wallace, 2013; Steinberg & McCray, 2012; Tosolt, 2010; Zieman & Benson, 1980).

Strong Classroom Management. Students ($n = 127$) in three studies (Alder, 2000; Bosworth, 1995; Zieman & Benson, 1980) noted classroom management as being an indication of teacher caring. According to the students, caring teachers were strict, had control over the classroom (Alder, 2002), maintained order, (Ferreira & Bosworth, 2001), were straightforward,

and were consistent (Zieman & Benson, 1980).

Engaging Academic Content. Students ($n = 282$) in four studies (Certo, Cauley, & Chafin, 2003; Defur & Korinek, 2010; Ferreira & Bosworth, 2001; Hayes, Ryan, & Zseller, 1994) associated academic content with caring. According to students, caring teachers were knowledgeable adults who guided learning (Defur & Korinek, 2010), made class interesting (Certo, Cauley, & Chafin, 2003), provided fun activities (Ferreira & Bosworth, 2001) as well as interesting content (Hayes, Ryan, & Zseller, 1994).

Encouraging. Students ($n = 3,146$) in six studies (Bosworth, 1995; Certo, Cauley, & Chafin, 2003; Daniels & Arapostathis, 2005; Doda & Knowles, 2008; Ferreira & Bosworth, 2001; Hayes, Ryan, & Zseller, 1994) mentioned encouragement as a characteristic of caring teachers. Some students simply noted the act of providing encouragement (Bosworth, 1995; Certo, Cauley, & Chafin, 2003; Doda & Knowles, 2008; Ferreira & Bosworth, 2001), whereas others defined it as encouraging reluctant learners (Daniels & Arapostathis, 2005) and encouraging positive feelings (Hayes, Ryan, & Zseller, 1994).

Provide Feedback. Students ($n = 27$) in two studies (Alder, 2002; Tosolt, 2010) stated that teachers who provided specific feedback on academic performance (Alder, 2002; Tosolt, 2010) and answered questions (Alder, 2002) exhibited caring behavior.

Helpful. Students ($n = 2,748$) in three studies (Certo, Cauley, & Chafin, 2003; Doda & Knowles, 2008; Zieman & Benson, 1980) believed that teachers demonstrated caring by simply being helpful.

Hold High Standards. Students ($n = 477$) in six studies (Alder, 2002; Bosworth, 1995; Certo, Cauley, & Chafin, 2003; DeFur & Korinek, 2010; Hayes, Ryan, & Zseller; Tosolt, 2010) noted that caring teachers had high standards. Specifically, teachers pressured students to

complete work (Alder, 2002) and were success oriented (Bosworth, 1995). These teachers were concerned with student achievement (Certo, Cauley, & Chafin, 2003; Tosolt, 2010), maintained high expectations (DeFur & Korinek, 2010), and encouraged success (Hayes, Ryan, & Zseller, 1994) by urging students to work hard (Tosolt, 2010).

Individualize Instruction and Involve Families. Students ($n = 827$) in nine studies (Alder, 2002; Bosworth, 1995; DeFur & Korinek, 2010; Ferreira & Bosworth, 2001; Garrett, Barr, & Rothman, 2009; Garza, 2009; Hayes, Ryan, & Zseller, 1994; McHugh, Horner, Colditz, LaBaron, & Wallace, 2013; Steinberg & McCray, 2012) noted that teachers who individualized instruction (Alder, 2002), provided scaffolding (Garza, 2009), explained work (Bosworth, 1995; Hayes, Ryan, & Zseller, 1994; McHugh, Horner, Colditz, LaBaron, & Wallace, 2013; Steinberg & McCray, 2012), checked for understanding (Ferreira & Bosworth, 2001) and involved families (Alder, 2002) were demonstrating care.

Relational Indicators of Caring Teachers

All sixteen studies, spanning from 1980 to 2014, attributed relational characteristics associated with teacher caring (Alder, 2002; Bosworth, 1995; Certo, Cauley, & Chafin, 2003; Daniels & Arapostathis, 2005; DeFur & Korinek, 2010; Doda & Knowles, 2008; Ellerbrock, Kiefer, & Alley, 2014; Ferreira & Bosworth, 2001; Garrett, Barr, & Rothman, 2009; Garza, 2009; Hayes, Ryan, & Zseller, 1994; McHugh, Horner, Colditz, LaBaron, & Wallace, 2013; Ozer, Wolf, & Kong, 2008; Steinberg & McCray, 2012; Tosolt, 2010; Zieman & Benson, 1980).

Emotional Support. Students ($n = 613$) in nine studies (Alder, 2002; Bosworth, 1995; Certo, Cauley, & Chafin, 2003; Ellerbrock, Kiefer, & Alley, 2014; Garza, 2009; Hayes, Ryan, & Zseller, 1994; McHugh, Horner, Colditz, LaBaron, & Wallace, 2013; Steinberg & McCray, 2012; Tosolt, 2010; Zieman & Benson, 1980) indicated that caring teachers provided emotional

support. Expressing care (Steinberg & McCray, 2012; Ziemann & Benson, 1980) and emotional support (Ellerbrock, Kiefer, & Alley, 2014) was demonstrated by being available (Garza, 2009) and included listening (Alder, 2002; Certo, Cauley, & Chafin, 2003), providing guidance (Hayes, Ryan, & Zsellar, 1994), and advice (Bosworth, 1995; McHugh, Horner, Colditz, LaBaron, & Wallace, 2013).

Fair. Students ($n = 15$) in one study (Ziemann & Benson, 1980) indicated that teachers demonstrate care by being fair and assigning appropriate discipline.

Fun. Students ($n = 410$) in four studies (Garrett, Barr, & Rothman, 2009; Hayes, Ryan, & Zsellar, 1994; Ozer, Wolf, & Kong, 2008; Ziemann & Benson, 1980) associated caring teachers with being fun. Fun teachers (Hayes, Ryan, & Zsellar, 1994; Ziemann & Benson, 1980) have personality (Garrett, Barr, & Rothman, 2009) and a good sense of humor (Hayes, Ryan, & Zsellar, 1994; Ozer, Wolf, & Kong, 2008).

Students as Individuals. Students ($n = 564$) in eight studies (Daniels & Arapostathis, 2005; DeFur & Korinek, 2010; Ferreira & Bosworth, 2001; Garza, 2009; Hayes, Ryan, & Zsellar, 1994; McHugh, Horner, Colditz, LaBaron, & Wallace, 2013; Ozer, Wolf, & Kong, 2008; Steinberg & McCray, 2012) believed that caring teachers acknowledged them as individuals. Teachers were genuinely interested in students (Daniels & Arapostathis, 2005, Ferreira & Bosworth, 2001; Ozer, Wolf, & Kong, 2008; Steinberg & McCray, 2012), curious about their lives outside of school (DeFur & Korinek, 2010; Hayes, Ryan, & Zsellar, 1994) and helped them with career planning (McHugh, Horner, Colditz, LaBaron, & Wallace, 2013).

Kind. Students ($n = 3192$) in nine studies (Bosworth, 1995; Certo, Cauley, & Chafin, 2003; Doda & Knowles, 2008; Ferreira & Bosworth, 2001; Garza, 2009; McHugh, Horner, Colditz, LaBaron, & Wallace, 2013; Ozer, Wolf, & Kong, 2008; Tosolt, 2010; Ziemann & Benson, 1980)

indicated that caring teachers are kind. Kind teachers (Bosworth, 1995; Doda & Knowles, 2008; Garza, 2009; Ozer, Wolf, & Kong, 2008) were polite and tolerant (Bosworth, 1995; Doda & Knowles, 2008), warm (Ferreira & Bosworth, 2001; Tosolt, 2010), friendly (Zieman & Benson, 1980), nonjudgemental (Doda & Knowles, 2008; McHugh, Horner, Colditz, LaBaron, & Wallace, 2013), happy (Doda & Knowles, 2008), and increased students' general sense of school belonging (Certo, Cauley, & Chafin, 2003).

Build Relationships. Students ($n = 344$) in six studies (Bosworth, 1995; Certo, Cauley, & Chafin, 2003; Daniels & Arapostathis, 2005; DeFur & Korinek, 2010; Ferreira & Bosworth, 2001; Ozer, Wolf, & Kong, 2008) indicated that caring teachers were able to build relationships. They were easy to relate to (Certo, Cauley, & Chafin, 2003) and had common interests with students (Ozer, Wolf, & Kong, 2008). Additionally, they openly expressed empathy and feelings (Bosworth, 1995), could foster relationships at different levels (Ferreira & Bosworth, 2001) and understood how relationships increased student motivation and effort (Daniels & Arapostathis, 2005).

Respectful and Trustworthy. Students ($n = 2,886$) in four studies (Alder, 2002; Bosworth, 1995; DeFur & Korinek, 2010; Doda & Knowles, 2008) indicated that caring teachers were respectful and trustworthy. Respectful teachers (Bosworth, 1995, Doda & Knowles, 2008) were loyal (Bosworth, 1995) and built confidence (DeFur & Korinek, 2010) by keeping conversations private (Alder, 2002).

Defining Caring

Given the findings of these 16 studies, a caring teacher can be defined as *someone who is engaging, trustworthy, helpful, and encouraging; provides individualized academic and emotional support in a well-managed classroom; and holds students to high standards.*

Relationships are central to teaching (Marlowe, 2011; Newberry, 2010). According to Klem and Connell (2004), teachers who create caring, well-structured learning environments with high expectations report higher levels of student engagement. Similarly, Reinke and Herman (2002) noted that a positive school climate combined with intentional and supportive interactions with adults help foster student achievement and academic success in school. Therefore, this study posits that if selected risk and protective factors indicative of caring are present at the individual, family, and school level, students may be more likely to graduate from high school.

Chapter III

Method

To examine if the presence of a caring adult increases the likelihood of high school graduation for students with ED, specific NLTS2 variables at the individual, family, and school levels reflective of secondary students' definition of a caring teacher were selected for inclusion in this study. This chapter discusses an overview of NLTS2, the variables included in this study, and the procedures performed in preparation for data analysis.

Overview of NLTS2

Description. According to Stanford Research International (SRI) (2002), NLTS2 was a congressionally mandated longitudinal study sponsored by the Office of Special Education Programs (OSEP), U.S. Department of Education. Conducted in five waves from 2000-2001 to 2009-2010 by SRI, NLTS2 provided the field with a better understanding of the educational, vocational, social, and personal experiences of students with disabilities as they transition from adolescence to early adulthood. Of primary importance were factors such as high school coursework and placement, academic performance, extracurricular activities, postsecondary education and training, adult services, employment, independent living, and community participation.

Sampling. As noted by SRI (2002), sampling for NLTS2 was designed so that information from the study is representative of youth with disabilities nationally as a group, youth in each of the 12 federal special education disability categories, and youth in each age group. Sampling was conducted in two stages. First, a stratified random sample of 3,630 LEAs was selected from approximately 12,000 LEAs serving students receiving special education in at least one grade from grade seven through grade twelve. Selection criteria included geographic region, size, and

socioeconomic status. A target sample of 500 LEAs and 40 special schools agreed to participate. Next, each LEA provided a roster of students who were receiving special education services and were 13 to 16 years of age. Students were then stratified by disability category and selected at random to produce a study sample of approximately 12,000 students.

Data Collection Activities and Instruments. Per SRI (2002), NLTS2 data is representative of students, parents, and school staff who served students with disabilities. Parents and youth were interviewed by phone every two years during the duration of the study with parent interviews beginning in 2001 and youth interviews beginning in 2002. School characteristic information was collected in 2002 and school program information was collected in 2002 and 2004 via a mailed survey from the school principal and teacher and/or school staff member respectively. Direct assessment of the students’ core academic skills, content knowledge, self-concept, self-determination skills, and views of school was conducted by a trained professional once in either 2002 or 2004. And high school transcripts were collected each year beginning in 2002 (Table 1).

Table 1.

Instruments	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5
Parent phone interview and/or mail survey	2001				
Youth phone interview and/or mail survey	2002	2003	2005	2007	2009
Student assessment	2002	2004			
School characteristic survey	2002				
School program survey	2002	2004			
Teacher survey	2002	2004			
Transcript	2002	2003/04	2005	2006/07	2008/09
*Only one student assessment collected per participant.		<i>(http://nlts2.org/studymeth/index.html)</i>			

Data Access. Because NLTS2 data contains individually identifiable data, access to the data is restricted to institutions and individuals who meet the necessary requirements to ensure that the data remains confidential and secure. After completion of necessary forms, approval from IES Data Security was granted on 2/15/17 under the license of University of Washington personnel, Dr. Selma Powell. A physical copy of the data arrived shortly thereafter via certified mail. Institutional Review Board approval was obtained on 1/30/17 to analyze the data.

NLTS2 Variables Included in Present Study

The variables below in Table 2 represent the 26 NLTS2 variables selected for examination in this study. These data were found in Wave 1 of the School Program Survey, Wave 1 of the Teacher Survey, Waves 1 and 2 of the Parent Survey, and Waves 2, 3, 4, and 5 of the Parent/Youth Survey. These variables were selected to a) provide a demographic profile of the student sample and b) reflect the following definition of a caring teacher as noted in Chapter II: *A caring teacher is someone who is engaging, trustworthy, helpful, and encouraging; provides individualized academic and emotional support in a well-managed classroom; and holds students to high standards.*

Table 2.

NLTS2 Variables, Survey Instruments, and Data Collection Waves

Survey Instrument and Variable Name	Variable ID	Wave
School Program Survey		
Primary disability	npr1D2b	1
Grade level	np2Q5	1
Reading level	npr1B2b	1
Math level	npr1B3b	1
Disciplinary actions	npr1B5a	1
In-school suspension	npr1B5b	1
Out-of-school suspensions	npr1B5c	1
Expulsions	npr1B5d	1
Daily classwork	npr1D14e	1
Attitude/behavior	npr1D14h	1
Class participation	npr1D14i	1

Mental health services at school	npr1D7h	1
Teacher Survey		
Prepared to teach students with disabilities	nts1D4a	1
Parent Survey		
Gender	np1a1, np2a1	1, 2
Ethnicity	np1a3b, np2a3b	1, 2
Attended school or class events	np1E1b1	1
Attended parent/teacher conference	np1E1d1	1
Graduate with diploma	np1J1	1
Parent/Youth Survey		
Disability perception	np2Q5	2
School belonging	np2R1b	2
School enjoyment	np2R1a_K3b	2
Presence of caring adult	np2R4a_a_K3c	2
Relies on teachers	np2U10g	2
Trouble with teachers	np2R5a_K2	2
Trouble with students	np2R5d_K1	2
Graduated high school	np2S1a, np2S1a_D3b, np3S1a, np3S1a_D1k_D2d_D3b, np4S1a, np4S1a_D1k_D2d_D3b, np5S1a, np5S1a_A2e	2, 3, 4, 5

Referencing the theoretical framework of Zimmerman and Arunkumar (1994) and conceptual framework of Murray (2003), each NLTS2 variable was identified as an individual, family, or school factor as indicated below in Figure 3. Determining if a variable is a risk or protective factor is dependent on how the participant responds to the survey question. For example, in this study disciplinary referrals would be considered a risk factor if a student had one or more referrals. However, if a student had no disciplinary referrals, this indicator would be considered a protective factor.

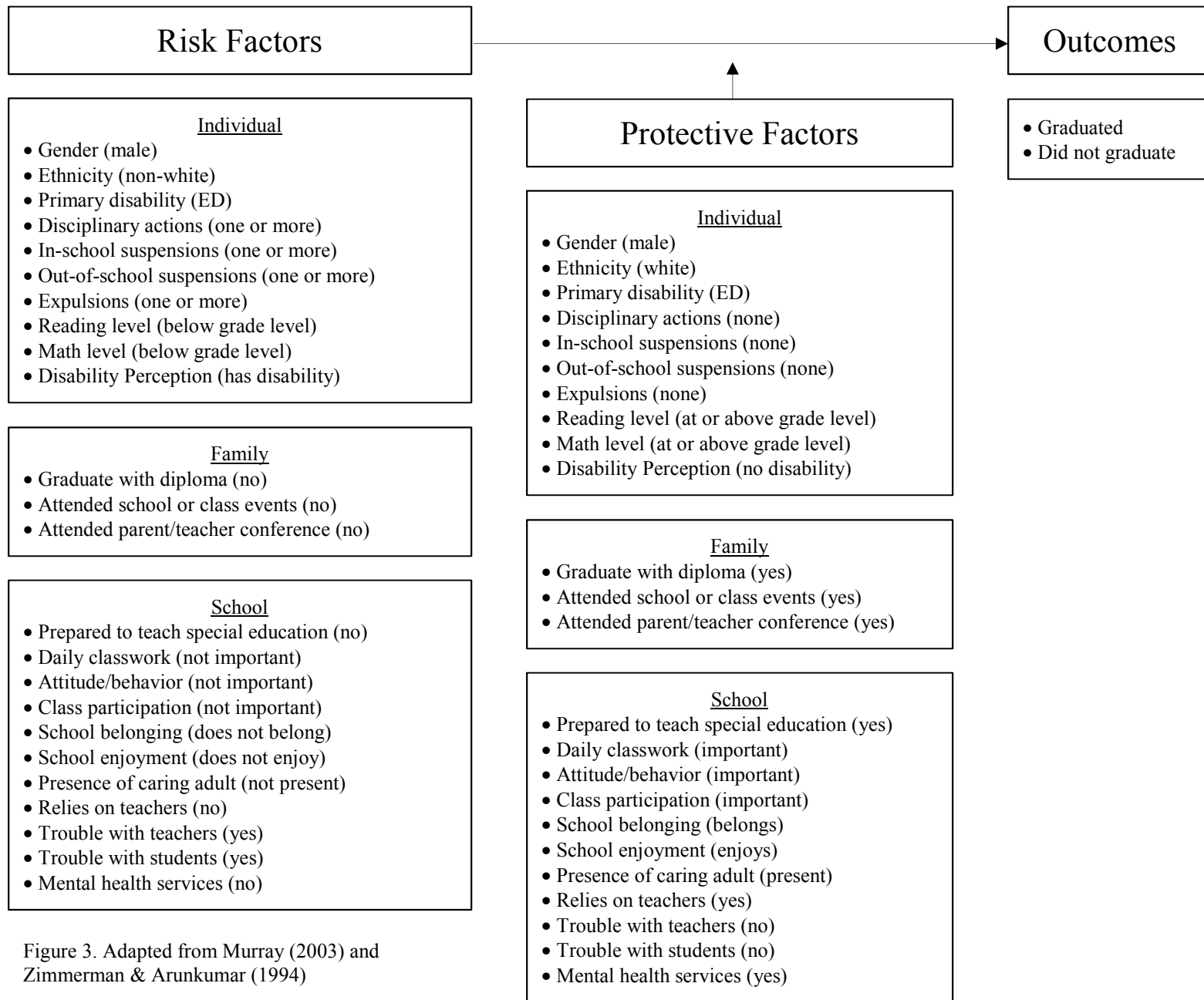


Figure 3. Adapted from Murray (2003) and Zimmerman & Arunkumar (1994)

NLTS2 Indicators Representative of a Caring Teacher

NLTS2 variables were selected based on the thematic findings of the literature review regarding the secondary students' perspective on what it means to be a caring teacher. Students in the studies examined in Chapter II viewed caring teachers as having strong classroom management, seeing each student as an individual, building relationships with students, holding students to high academic standards, providing feedback on work, and individualizing instruction. Additionally, students indicated that teachers who are respectful and trustworthy, provide emotional support and are encouraging, helpful, kind, fair, and fun are also viewed as demonstrating care (Table 3).

Table 3.

Variables by Factors and Themes

NLTS2 Variables	Literature Review Themes
Individual Factors	Student characteristics
Primary disability (npr1D2b)	
Gender (np1a1, np2a1)	
Ethnicity (np1a3b, np2a3b)	
Grade level (np2Q5)	
Disciplinary actions (npr1B5a)	
In-school suspension (npr1B5b)	
Out-of-school suspensions (npr1B5c)	
Expulsions (npr1B5d)	
Reading level (npr1B2b)	
Math level (npr1B3b)	
Disability perception (np2Q5)	
Family Factors	Involve families
Graduate with diploma (np1J1)	
Attended school or class events (np1E1b1)	
Attended parent/teacher conference (np1E1d1)	
School Factors	Strong classroom management
Academic Indicators of Caring Teachers	Students as individuals
Prepared to teach students with disabilities (nts1D4a)	Build relationships
Daily classwork (npr1D14e)	Hold high standards
Attitude/behavior (npr1D14h)	Provide feedback
Class participation (npr1D14i)	Individualize instruction
Trouble with teachers (np2R5a_K2)	Engaging academic content
Trouble with students (np2R5d_K1)	
Relational Indicators of Caring Teachers	Respectful and trustworthy
Relies on teachers (np2U10g)	Emotional support
School belonging (np2R1b)	Encouraging

School enjoyment (np2R1a_K3b)	Helpful
Presence of caring adult (np2R4a_a_K3c)	Kind
Mental health services at school (npr1D7h)	Fair
	Fun

Individual Level Variables. At the individual level, 11 variables from Waves 1 and 2 were identified as risk and protective factors. Individual student variables include primary disability category, gender, ethnicity, grade level, number of disciplinary actions, number of in-school suspensions, number of out-of-school suspensions, number of expulsions, reading level at time of last assessment (via Woodcock-Johnson III), math level at time of last assessment (via Woodcock-Johnson III), and if a student perceives him or herself as having a disability. These NLTS2 indicators were selected to establish a demographic profile for each student in the sample. Nine of the individual level indicators were obtained via the Wave 1 School Program Survey. Gender and ethnicity were obtained via Waves 1 and 2 of the Parent Survey.

Family Level Variables. At the family level, three variables from Wave 1 were identified as risk and protective factors. These include whether or not the parent or guardian expects the student to graduate with a regular diploma, if the parent or guardian attended school or class events, and if the parent or guardian attended the most recent parent/teacher conference. These NLTS2 indicators were selected because students in the literature review noted that involving families was demonstrating of care. All family level data was obtained via Wave 1 of the Parent Survey.

School Level Variables. At the school level, 11 variables from Waves 1, 2, 3, 4, and 5 were identified as risk and protective factors. These factors were then divided into academic and relational indicators of caring teachers. Academic indicators include how prepared the teacher feels he or she is to teach students with disabilities, the importance of daily classwork in evaluating progress, the importance of attitude/behavior in evaluating progress, the importance

of class participation in evaluating progress, the degree to which the student had trouble getting along with the teacher, and the degree to which the student had trouble getting along with other students. Relational indicators include how much the student relies on teachers, how much the student feels he or she is a part of school, how much the student enjoys school, if the student believes a caring adult is present at school, and if mental health services are available at school. These NLTS2 indicators were selected because students in the literature review noted the importance of strong classroom management, treating students as individuals, building relationships with students, holding students to high standards, providing feedback, individualizing instruction, and providing engaging academic content. Additionally, students believed a caring teacher was respectful and trustworthy, provides emotional support, is encouraging, and is helpful, kind, fair, and fun. School level data was obtained via Wave 1 of the School Program Survey, Wave 1 of the Teacher Survey, and Waves 2, 3, 4, and 5 of the Parent/Youth Survey.

Dependent Variable. For the dependent variable, eight variables indicating high school graduation status throughout Waves 2, 3, 4, and 5 were included for examination.

Data Preparation

To prepare for data analysis, one database of all relevant cases and variables was needed. SPSS (version 24) was used to merge six data files (n2w1parent, n2w1prog, n2w1tchr, n2w2paryouth, n2w3paryouth, n2w4paryouth, n2w5paryouth) into one data file, using the student identification number to match cases. Syntax was used to save only the variables of interest into a new dataset. Cases in which the primary disability category was blank or contained any disability category other than ED were deleted. A total sample of 270 cases remained (all sample size numbers have been rounded to the nearest 10 per IES restricted-use guidelines).

Next, the eight variables indicating high school graduation across Waves 2, 3, 4, and 5 were combined into one variable that captured high school graduation status of each student across the duration of the study. Similarly, because gender and ethnicity information was collected across Waves 1 and 2, one combined variable was created for gender and another combined variable was created for ethnicity.

Missing Data. Visual inspection of the dataset indicated a number of missing values across all variables. A missing values analysis conducted in SPSS indicated that approximately 33% of the data was missing overall (Table 4). To determine if the data was missing completely at random (MCAR), Little’s MCAR test was performed using IBM SPSS Statistics, version 24 (SPSS [IBM, 2016]). A non-significant p -value of .280 indicated that the data was likely to be MCAR, thus the missingness was not likely dependent on the variable of interest or any other variable observed in the dataset (Scheffer, 2002).

Table 4.

Percent Missing Data (N=270)

Variable Name	Total Responses	Percent Missing
Individual Factors		
Primary disability	270	0%
Gender	230	14%
Ethnicity	230	13%
Grade level	260	1%
Disciplinary actions	220	19%
In-school suspensions	220	16%
Out-of-school suspensions	230	12%
Expulsions	220	16%
Reading level	170	36%
Math level	160	39%
Disability perception	90	65%
Family Factors		
Graduate with diploma	220	19%
Attended school or class events	220	18%
Attended parent/teacher conference	210	20%
School Factors		
Prepared to teach students with disabilities	120	53%
Daily classwork	190	29%
Attitude/behavior	190	27%

Class participation	190	27%
School belonging	90	68%
School enjoyment	130	51%
Caring adult	130	52%
Relies on teachers	60	79%
Trouble with teachers	130	51%
Trouble with students	130	52%
Mental health services	240	10%
Dependent Variable		
Graduated high school	170	37%

Multiple imputation: Because the missing data was found to be MCAR, the multiple imputation procedure in SPSS was employed to fill in the missing data. Multiple imputation looks for patterns in the data and replaces the missing data values with the most likely response values (Bannon, 2014). The intent of this procedure is to preserve important characteristics of the data set as a whole, not to obtain the original missing values (Graham, 2009). According to Graham, Olchowski, and Gilreath (2007), multiple imputation theory suggests that three to five imputations yield excellent results. However, based on their simulation research, multiple imputation with fewer imputations can lead to an unacceptable power falloff, especially if the number of imputations falls below 40. Therefore, for this study, 40 imputations were conducted.

Variable Recoding: Of the 26 variables included in this study, six were dichotomous and 20 were either categorical or continuous (Appendix B). Given the high ratio of predictor variables to participants, all variables were dichotomized after imputing the missing values to preserve power and because the effect of the presence (protective factor) or absence (risk factor) of variables was of primary interest and to represent either a risk or protective factor (Tables 5-8).

Table 5.

Recode of Individual Factors

Survey Question	Variable ID	Value
Primary disability	npr1D2b	Only ED included

Gender	np1a1, np2a1	0 Female 1 Male
Ethnicity	np1a3b, np2a3b	0 White 1 All other races
Disciplinary actions	npr1B5a	0 One or more 1 None
In-school suspensions	npr1B5b	0 One or more 1 None
Out-of-school suspensions	npr1B5c	0 One or more 1 None
Expulsions	npr1B5d	0 One or more 1 None
Reading level	npr1B2b	0 Below grade 1 At or above grade
Math level	npr1B3b	0 Below grade 1 At or above grade
Disability perception	np2Q5	0 No 1 Yes

Table 6.

Recode of Family Factors

Survey Question	Variable ID	Value
Graduate with diploma	np1J1	0 No 1 Yes
Attended school or class events	np1E1b1	0 No 1 Yes
Attended parent/teacher conference	np1E1d1	0 No 1 Yes

Table 7.

Recode of School Factors

Survey Question	Variable ID	Value
Prepared to teach students with disabilities	nts1D4a	0 No 1 Yes
Daily classwork	npr1D14e	0 Not to somewhat important 1 Very important
Attitude/behavior	npr1D14h	0 Not to somewhat important 1 Very important
Class participation	npr1D14i	0 Not to somewhat important 1 Very important
School belonging	np2R1b	0 Belongs a little to not at all 1 Belongs some to a lot
School enjoyment	np2R1a_K3b	0 Enjoys a little to not at all 1 Enjoys some to a lot
Presence of caring adult	np2R4a_a_K3c	0 Disagree 1 Agree
Relies on teachers	np2U10g	0 A little to some

Trouble with teachers	np2R5a_K2	1 A fair amount to a lot 0 Once a week to every day
Trouble with students	np2R5d_K1	1 Never to a few times 0 Once a week to every day
Mental health services at school	npr1D7h	1 Never to a few times 0 No 1 Yes

Table 8.

Dependent Variable

Survey Question	Variable ID	Value
Graduated high school	np2S1a	0 No
	np2S1a_D3b	1 Yes
	np3S1a	
	np3S1a_D1k_D2d_D3b	
	np4S1a	
	np4S1a_D1k_D2d_D3b	
	np5S1a	
	np5S1a_A2e	

Descriptives. Descriptive statistics were conducted on the original data to understand how individual, family, and school risk and protective factor rates differ for NLTS2 students with ED who graduated versus NLTS2 students with ED who did not graduate.

Composites. Three composites were created and used for analysis. The first composite is the sum of each students' individual risk and protective factors including disciplinary actions, in-school suspensions, out-of-school suspensions, expulsions, reading level, math level, and disability perception. The second composite is the sum of each students' family risk and protective factors including whether or not the parent or guardian expects the student to graduate with a regular diploma, if the parent or guardian attended school or class events, and if the parent or guardian attended the most recent parent/teacher conference. The third composite is the sum of each students' school risk and protective factors including how prepared the teacher feels he or she is to teach students with disabilities, the importance of daily classwork in evaluating progress, the importance of class participation in evaluating progress, the degree to which the

student had trouble getting along with the teacher, the degree to which the student had trouble getting along with other students, how much the student relies on teachers, how much the student feels he or she is a part of school, how much the student enjoys school, if the student believes a caring adult is present at school, and if mental health services are available at school.

Analysis. Data were analyzed using frequency counts, descriptive statistics, and logistic regression (Table 9). Frequency counts and descriptive statistics will be reported for the imputed data to determine how individual, family, and school risk and protective factors differ for NLTS2 students with ED who graduated from high school versus those who did not graduate from high school. Binary logistic regression will be conducted using the imputed data to determine if individual, family, and school factor composites are predictive of high school graduation for NLTS2 students with ED.

Table 9.

Research Questions and Analysis Plan

Research Question	Analysis Method
How do individual, family, and school risk and protective factor rates differ for NLTS2 students with ED who graduated versus NLTS2 students with ED who did not graduate?	Descriptive statistics of imputed data
To what extent are the selected risk and protective factors at the individual, family, and school levels predictive of high school graduation for NLTS2 students with ED?	Binary logistic regression of imputed data

Chapter IV

Results

The preceding inquiries were guided by the premise that high school graduation for students with ED is influenced by risk and protective factors at the individual level as well as factors believed to be indicative of caring at the family and school level. As described in Chapter 3, data were drawn from students identified as having a primary disability of ED who participated in Waves 1 through 5 of NLTS2. This chapter reports the results of various statistical analyses using SPSS. Descriptive statistics addressing Research Question 1 are reported for the imputed variables at the individual, family, and school level for both graduates and non-graduates. Additionally, the results of a binary logistic regression addressing Research Question 2 are reported for individual, family, and school level composites to determine if any are predictive of high school graduation for NLTS2 students with ED.

Individual, Family, and School Descriptive Statistics

Individual, family and school level descriptive statistics are presented for NLTS2 students with ED who graduated from high school and those who did not graduate from high school. The following section addresses Research Question 1: *How do individual, family, and school risk and protective factor rates differ for NLTS2 students with ED who graduated versus NLTS2 students with ED who did not graduate?*

Individual Level Factors. As noted in Table 10, at the individual level, students were primarily male, White, and in high school. One fourth of graduates were at or above grade level in reading with fewer graduates at or above grade level in math. About half of graduates believed they had a disability, whereas only about a third of non-graduates believed they had a disability. In regards to overall disciplinary procedures, more graduates than non-graduates received no

disciplinary actions, in-school suspensions, out-of-school suspensions, and expulsions during Wave 1 data collection.

Table 10.

Individual Factor Responses for Graduates and Non-Graduates

NLTS2 Factors	Graduates	Non-Graduates
Gender		
Male	71%	74%
Female	29%	26%
Ethnicity		
White	65%	67%
Non-White	35%	33%
Grade level		
Middle school	9%	23%
High school	91%	77%
Disciplinary actions		
None	28%	15%
One or more	72%	85%
In-school suspension		
None	54%	43%
One or more	46%	57%
Out-of-school suspensions		
None	59%	43%
One or more	41%	57%
Expulsions		
No	98%	95%
Yes	2%	5%
Reading level		
At or above grade level	25%	20%
Below grade level	75%	80%
Math level		
At or above grade level	17%	16%
Below grade level	83%	84%
Disability perception		
Has disability	47%	34%
Does not have disability	53%	66%

Family Level Factors. As noted in Table 11, at the family level, more parents of graduates believed their child would graduate high school with a regular diploma. Additionally, parents of graduates also attended more school or class events and attended the most recent parent/teacher conference than parents of non-graduates.

Table 11.

Family Factor Responses for Graduates and Non-Graduates

NLTS2 Factors	Graduates	Non-Graduates
Graduate with diploma		
Yes	83%	74%
No	17%	26%
Attended school or class events		
Yes	54%	45%
No	46%	55%
Attended parent/teacher conference		
Yes	76%	67%
No	24%	33%

School Level Factors. As noted in Table 12, at the school level, fewer teachers of graduates believed they were prepared to teach students with disabilities. Further, more teachers of graduates believed that daily classwork, attitude/behavior, and class participation were important indicators to consider when evaluating student progress. More teachers of students who did not graduate stated that mental health services were provided at school. More students who graduated noted that they didn't have trouble getting along with teachers, though these students also noted that they had slightly more trouble getting along with other students than non-graduates. Students who graduated relied on teachers more when making important decisions, felt like they belonged at school, and believed there was a caring adult at school. Graduates and non-graduates enjoyed school equally.

Table 12.

School Factor Responses for Graduates and Non-Graduates

NLTS2 Factors	Graduates	Non-Graduates
Prepared to teach students with disabilities		
Agree	55%	61%
Disagree	45%	39%
Daily classwork to evaluate progress		
Very important	84%	85%
Not important to somewhat important	16%	15%
Attitude/behavior to evaluate progress		
Very important	78%	73%
Not important to somewhat important	22%	27%

Class participation to evaluate progress		
Very important	57%	48%
Not important to somewhat important	43%	52%
Trouble getting along with teachers		
Never to just a few times	68%	57%
About once a week to everyday	32%	43%
Trouble getting along with students		
Never to just a few times	64%	67%
About once a week to everyday	36%	33%
Relies on teachers for important decisions		
A fair amount to a lot	47%	43%
A little to some	53%	57%
Feels a part of the school		
Belongs some to a lot	58%	44%
Belongs a little to not at all	42%	56%
Enjoys school		
Some to a lot	52%	52%
A little to not at all	48%	48%
Presence of a caring adult		
Agree	80%	72%
Disagree	20%	28%
Mental health services at school		
Yes	54%	58%
No	46%	42%

Dependent Variable. As noted in Table 13, of the entire sample of NLTS2 students with ED included in this study, 74% ultimately graduated from high school at some point during the duration of the study.

Table 13.

Dependent Variable Responses

NLTS2 Factor	Total Percentage of Responses
Graduated high school	
Yes	74%
No	26%

Binary Logistic Regression

A binary logistic regression was performed using SPSS to assess the prediction of factors at the individual, family, and school level on high school graduation for NLTS2 students with ED. The following section addresses Research Question 2: *To what extent are the selected risk*

and protective factors at the individual, family, and school levels predictive of high school graduation for NLTS2 students with ED?

For this analysis, individual factors included disciplinary actions, in-school suspensions, out-of-school suspensions, expulsions, reading level, math level, and disability perception. Family factors included the expectation that the student would graduate with a regular diploma and if the parent attended school or class events and the most recent parent/teacher conference. School factors included how prepared the teacher felt to teach students with special needs; the importance of using classwork, attitude/behavior, and class participation to evaluate progress; the availability of mental health services at school; teacher and student relations; reliance on teachers; school enjoyment and belonging; and the presence of a caring adult at school. Gender and race were used as control variables.

Of the variables examined, missing data due to participant refusal or question applicability, uncertainty, and skipping was a concern. Missing data analysis conducted in SPSS indicated that 33% of the data was missing. Little's MCAR test indicated a non-significant p -value of .28; therefore, missing data values for both the independent variables and the dependent variable were imputed using the multiple imputation function in SPSS. A sample size of 270 students with ED who graduated and did not graduate high school was utilized for this analysis. Values across all variables were dummy coded and summed to create individual, family, and school composite variables.

Table 14 illustrates the correlation matrix for the three composite variables (individual, family, and school) and two control variables (gender and race). A small negative correlation was found between gender and individual ($p = .06$) and negligible negative correlations were found between gender and race ($p = .82$), gender and family ($p = .87$), gender and school ($p =$

.74), race and individual ($p = .20$), race and family ($p = .52$), race and school ($p = .65$), and individual and family ($p = .85$). A negligible positive correlation was found between individual and school ($p = .62$) and family and school ($p = .48$). None of the predictors were found to be statistically significant.

Table 14.

Correlation Matrix for Independent Variables

	Gender	Race	Individual	Family	School
Gender	1				
Race	-.015	1			
Individual	-.129	-.089	1		
Family	-.011	-.044	-.014	1	
School	-.024	-.035	.040	.060	1

$p < .05$

Collinearity statistics were also examined for each of the controls and composites. None of the predictors had a tolerance level less than .20 or a variance inflation (VF) greater than 5, as noted in Table 15. Therefore, no indication of multicollinearity was found.

Table 15.

Collinearity Statistics for Composites

	Tolerance	VF
Gender	.98	1.02
Race	.98	1.02
Individual	.97	1.03
Family	.99	1.01
School	.98	1.02

A chi-square test of independence was performed to investigate the associations between the control variables (gender and race), composite variables (individual, family, and school) and outcome variable (high school graduation status) for NLTS2 students with ED. A significant association was found between the individual composite and graduation ($\chi^2 (7, N = 270) = 17.45, p = .05$) and between the family composite and graduation ($\chi^2 (3, N = 270) = 11.96, p = .04$). Non-significant associations were found between race and graduation

($\chi^2 (1, N = 270) = .62, p = .58$), gender and graduation ($\chi^2 (1, N = 270) = .53, p = .58$), and school and graduation ($\chi^2 (9, N = 270) = 11.52, p = .29$).

Good model fit was evidenced by nonstatistically significant results on the Hosmer-Lemeshow test ($\chi^2 (n = 270) = 8.41, df = 8, p = .46$) and small effect size indices using the Cox and Snell ($R^2 = .08$) and Nagelkerke ($R^2 = .12$). These results suggest that the two control variables and the three composite predictors, as a set, may not reliably distinguish between NTLS2 students with ED who graduate and those who do not graduate.

After controlling for gender and race, only the individual composite was a statistically significant predictor of high school graduation (Wald = 10.62, $df = 1, p = .02$). This suggests that for every one-point increase in individual protective factors, the odds of NLTS2 students with ED who graduate from high school increased by 43%. In other words, as the number of individual protective factors increased, the probability of high school graduation for NLTS2 students with ED increased. Family and school composites were not found to be statistically significant, which suggests that the odds of NLTS2 students with ED who graduate high school (relative to those who did not graduate) are similar regardless of factors at the family and school levels. Overall, the logistic regression model accurately predicted 76% of graduation outcomes for NTLS2 students with ED.

Table 16 presents the results for the model including the regression coefficients, Wald statistics, odds ratios, and 95% CIs for the odds ratios. This is followed by Table 17, which presents the group means and standard deviations of each predictor for high school graduates and non-graduates.

Table 16.

Logistic Regression Results

	β	SE	Wald χ^2	p	Exp (B)	95% CI for Exp (B)	
						Lower	Upper
Intercept	-1.72	1.12	4.93	.13	.18	.02	1.63
Gender	-.012	.41	.46	.98	.99	.45	2.20
Race	.19	.39	.87	.64	1.20	.56	2.60
Individual	.36	.13	9.63	.02	1.43	1.07	1.90
Family	.41	.22	6.04	.06	1.51	.98	2.34
School	.13	.21	2.89	.30	1.13	.89	1.45

$p \leq .05$

Table 17.

Group Means (and Standard Deviations) of Predictors

Predictor	Did Not Graduate High School	
	Graduated High School	Did Not Graduate High School
Gender	.71 (0.45)	.74 (0.44)
Race	.35 (0.48)	.33 (0.47)
Individual	3.29 (1.42)	2.65 (1.35)
Family	2.14 (0.80)	1.86 (0.92)
School	6.97 (1.68)	6.59 (1.68)

Chapter V

Discussion

This study examined if factors indicative of caring were predictive of high school graduation for NLTS2 students with ED. Selection of NLTS2 variables was guided by resiliency theory, which implies that an individual can successfully adapt to factors that threaten his or her viability; Murray's (2003) conceptual framework, noting risk and protective factors at the individual, family, school, and community levels; and an extensive review of the literature examining qualities of a caring teacher from the adolescents' perspective.

The first research question examined the differences between individual, family, and school factors of NLTS2 graduates and non-graduates with ED. Selected NLTS2 variables served as the risk and protective factors analyzed for this study. Each factor at the individual, family, and school level was dichotomized so as to represent a risk or protective factor. Factors at the individual level were considered protective if the student identified as having ED; was at or above grade level in reading and math; and had no disciplinary actions, in or out-of-school suspensions, or expulsions for the current school year. Factors at the family level were considered protective if the students' parents participated in school and class events, attended parent/teacher conferences, and believed the student would graduate with a regular diploma. Factors at the school level were considered protective if the students' teacher felt prepared to teach students with disabilities; if the teacher valued daily classwork, attitude/behavior, and class participation as a means of evaluating student progress; if mental health services were available at school; if students had little to no trouble getting along with teachers and peers; if students relied on teachers when making important decisions; if students enjoyed school and felt like they belonged; and if students believed an adult at school cared about them.

The second research question examined the extent to which protective factors at the individual, family, and school levels were predictive of high school graduation. An individual, family, and school composite variable was created and analyzed using binary logistic regression to determine if, after controlling for gender and ethnicity, any of the composites were predictive of high school graduation for NLTS2 students with ED. This chapter will provide a detailed discussion of the findings, consider the limitations, and address implications for practice and future research.

Findings for Individual Factors

Gender and Ethnicity. Students in this study were predominately White and male. For graduates, 65% of students were White and 71% were male. For non-graduates, 67% of students were White and 74% were male. An overrepresentation of male students with ED has been well documented in the literature (McIntyre & Tong, 1998), however the high percentage of White students in this study is contradictory to previous research which states that African-American students are two times more likely to be labeled as ED than students in other racial or ethnic groups (DOE, 2016; Wagner, 1995). Although many of the contributing factors, such as poverty and institutional discrimination, are systemic in nature (Artiles, Harry, Reschly, & Chinn, 2002), teachers must continue to examine their own personal biases that reinforce and maintain discriminatory practices resulting in male students of color continuing to be over identified as having ED.

Disability Perception. For graduates, 47% identified as having a disability compared to 34% of non-graduates. This finding was unexpected and suggests that students who identify as having ED may have an advantage over students who do not. Considering that 84% of the sample consisted of high school students, it is possible that students identifying as having ED is

correlated with time spent in an ED program. As suggested by Wagner et al., (2006), students exposed to targeted social and/or life skills instruction may have more opportunities to learn the skills needed to accept their disability, advocate for their needs, and make decisions based on their abilities, limitations, and preferences. Therefore, components of self-determination, particularly self-awareness, self-knowledge, and self-advocacy (Wehmeyer, 1999) should be an integral part of programming for all students with ED.

Grade Level Reading and Math. Deficits in basic reading, writing, and math skills can significantly impair a student's educational, social, and emotional ability across multiple domains (Trout, Nordess, Pierce, & Epstein, 2003). In this study, 75% of graduates and 80% of non-graduates were found to have below grade level reading skills. This finding is contradictory to established research which states that students who are not proficient readers by the end of third grade are four times more likely to dropout than proficient readers (Hernandez, 2011). A possible explanation for this discrepancy may be the result of teacher perceived student self-control. According to Tangney, Baumeister, and Boone (2004), students with high self-control get better grades, are better adjusted, and have better interpersonal skills and relationships. Therefore, it is possible that a student with ED who exhibits greater self-control may receive a higher grade than a student who exhibits less self-control, regardless of his or her academic ability. In regards to math ability, 83% of graduates in this study were found to have below grade level skills compared to 84% of non-graduates. This finding is consistent with current research stating that students with ED continue to experience high rates of poor math achievement (Mulcahy, Maccini, Wright, & Miller, 2014). This is largely due to a paucity of math intervention studies ($n = 8$) conducted over the past four decades designed to improve math ability for students with ED (Mulcahy, Krezmien, & Travers, 2016). Given this understanding, it

is likely that teachers for students with ED are not receiving adequate training in best math practices, which ultimately impacts students' math competency. Individualizing reading and math instruction for a classroom of students working at various levels can be challenging. Computerized intervention programs, such as Success Maker, use adaptive software technology to continuously match academic content to the instructional needs of each student. Kiriakidis and Geer (2014) found that by integrating Success Maker software into the curriculum students increased their proficiency in math as measured by state tests. More studies are needed to explore how the integration of computer-based instruction can aid in teacher planning and increase the skill attainment of students with ED.

Disciplinary Incidents. Students with ED are oftentimes described as disruptive, noncompliant, verbally abusive, and aggressive (Reid, Gonzalez, Nordness, Trout, & Epstein, 2004). These characteristics have been shown to increase the likelihood of disciplinary actions, in and out-of-school suspensions, and expulsions. For graduates in this study, 72% had one or more disciplinary actions, 46% had one or more in-school suspensions, 41% had one or more out-of-school suspensions, and 2% had been expelled. For non-graduates, 85% had one or more disciplinary actions, 57% had one or more in-school suspensions, 57% had one or more out-of-school suspensions, and 5% had been expelled. Students with disabilities continue to be suspended twice as often as students without disabilities (Losen & Gillespie, 2012), though research has indicated that disciplinary removal increases alienation (Morrison, et al., 2001) and the risk of high school dropout (Losen & Skiba, 2010). Alternatives to disciplinary removal include restitution, community service, and behavior plans (Peterson, 2005). These solutions keep students in school where they can continue to learn appropriate behaviors via caring and concerned adults. As noted by Skiba and Sprague (2008), when adults teach, expect, and

acknowledge appropriate student behavior; serious problem behavior has been shown to decrease while overall school climate improves. For students with ED, this is likely to convey a message of success and acceptance, as opposed to failure and exclusion.

Individual Factors Logistic Regression. After controlling for gender and ethnicity, results indicate that protective factors at the individual level (identify as having ED; at or above grade level in reading and math; and no disciplinary actions, in or out-of-school suspensions, or expulsions for the current school year) were predictive of high school graduation for students with ED ($p = .02$). As the number of individual protective factors increased, the likelihood of graduation increased for students with ED. In other words, a student with ED who identified as having ED; was working at grade level or above in reading and math; and had no disciplinary actions, in or out-of-school suspensions, or expulsions; was more likely to graduate from high school than a student who did not identify as having ED; was working below grade level in reading and math; and had one or more disciplinary actions, in or out-of-school suspensions, or expulsions. By definition, students with ED are characterized by challenging intrapersonal and interpersonal relationships, which can lead to below grade level academic functioning. Therefore, a student with ED with all of the protective factors listed above does not seem very likely. This suggests that some NLTS2 students in the study identified as ED may have been misidentified due to the subjective nature of the legal definition (Wery & Cullinan, 2011). It is also possible that this student profile is more reflective of internalizing rather than externalizing students with ED.

Findings for Family Factors

Parental Expectations and School Participation. Predictably, student achievement was found to be positively associated with parental expectation of high school graduation (Zhang,

Hsu, Kwok, Benz, & Bowman-Perrott, 2011), whereas high school students with uninvolved parents were more likely to drop out within the first two years of high school (Bridgeland, Dilulio, & Morison, 2006). In this study, 76% of parents of graduates attended the most recent parent/teacher conference compared to 67% of parents of non-graduates; 54% of parents of graduates attended school or class events compared to 45% of non-graduates; and 83% of parents of graduates believed their child would graduate from high school with a regular diploma compared to 74% of non-graduates. According to Kutash, Duchnowski, and Green, (2015), there is no protective factor more powerful than a caring, knowledgeable parent who is engaged in every aspect of his or her child's life. For students at the elementary level, parent participation in school events and activities was found to have no significant effect on student achievement (Zhang, Hsu, Kwok, Benz, & Bowman-Perrott, 2011). To the contrary, Catsambis (2001) found that students with more involved parents from middle through high school were more academically prepared as seniors. Parents of students with ED are more likely to be engaged with school in reaction to disciplinary infractions; therefore effort should be made to involve parents proactively and academically (Sinclair, Christenson, Evelo, & Hurley, 1998) because meaningful involvement of parents is fundamental to making a positive impact on students with ED (Walker & Fecser, 2002).

Family Factors Logistic Regression. After controlling for gender and ethnicity, analyses indicate that protective factors at the family level (parents participated in school and class events, attended most recent parent/teacher conference, and believed the student would graduate with a regular diploma) were not predictive of high school graduation for NLTS2 students with ED ($p = .06$).

Findings for School Factors

Teacher Preparedness. As reported by Grosenick and Huntze (1980), an ongoing teacher shortage in the late 1970s resulted in the hiring of teachers with temporary certifications to start programs for students with ED. Unfortunately, these teachers were minimally trained and unprepared to work with students with severe ED, resulting in staggering numbers of inadequately or inappropriately served students. The findings of this study echo those of Grosenick and Huntze (1980) with only 55% of teachers of graduates and 61% of teachers of non-graduates feeling as if they are prepared to teach students with disabilities. Given that about one third of new teachers leave the field within the first five years, unprepared teachers can drain a school's financial and human resources (Darling-Hammond, 2003) as costs to recruit, hire, and train replacement teachers are substantial (Barnes, Crowe & Schaefer, 2007). Students with ED thrive in environments that are structured and predictable (Walker & Fecser, 2002), however high levels of teacher turnover can negatively impact their academic and behavioral progress. Therefore, greater efforts must be made at the university, district, and school level to determine what specific skills new teachers for students with ED must possess to ensure their longevity in the field.

Evaluating Student Progress. In this study, 84% of teachers of graduates valued daily classwork in the evaluation of student progress compared to 85% of teachers of non-graduates. Similarly, 78% of teachers of graduates valued student attitude/behavior in the evaluation of student progress compared to 73% of teachers of non-graduates. Only 57% of teachers of graduates valued class participation compared to 48% of teachers of non-graduates. Historically, programs for students with ED have focused on addressing behavioral issues as a prerequisite to delivering academic instruction (Mulcahy, Krezmien, & Maccini, 2014). The findings of this

study are reflective of this and of those of Knitzer, Steinberg, and Fleisch (1990), who found that an overreliance on direct instruction and independent worksheets are often used to control behavior in programs for students with ED. Current researchers are advocating for a more balanced approach to instructional practices. Morris, McGuire, and Walker (2017) found that by integrating social/emotional learning and academic targets, students with ED could successfully participate in inquiry based social studies lessons. Too often the assumption is that students with ED are incapable of participating in collaborative group work due to behavioral concerns, however, opportunities for authentic social practice must be provided if skills are expected to improve.

Relationships with Teachers and Peers. According to Rumberger (2011), to remain in school, students must engage in positive behaviors and avoid negative behaviors. This includes getting along with teachers and students. In this study, 68% of graduates reported that they had little to no trouble with teachers compared to 57% of non-graduates; however, 64% of graduates reported that they had little to no trouble with students compared to 67% of non-graduates. Given the interpersonal challenges characteristic of students with ED (Trout, Nordess, Pierce, & Epstein, 2003), it is not surprising that more graduates than non-graduates in this study indicated having trouble with other students. One explanation may be that as students who are known to be disruptive begin to learn and apply new social skills, positive changes in behavior may be viewed as uncharacteristic to peers thus resulting in relational tension (Rodkin, Farmer, Pearl, & Van Acker, 2006).

Reliance on and Connection to Teachers. Students are willing to engage in successful school behaviors and strive toward high levels of achievement when there is a level of trust, respect, and communication between students and teachers (Mihalas, Morse, Allsopp, &

Alvarez-McHatton, 2008). In this study, 80% of graduates believed there was an adult at school who they felt close to and who cared about them compared to 72% of non-graduates. Further, 47% of graduates and 43% of non-graduates relied on teachers when making important decisions. These findings suggest that students can identify a caring adult at school, but may not rely on them when making important decisions. Students with ED may choose not to rely on teachers due to a lack of trust towards adults. As noted by Hobbs (1983), trust between a student with ED and an adult is essential and is the foundation upon which all else is built. Building trust with students who are generally untrusting of adults takes considerable effort and patience. Training at the preservice and inservice level can help remind teachers working directly with students with ED that time is an ally (Hobbs, 1966; Newman, 2012).

School Enjoyment and Belonging. In this study, 58% of graduates and 44% of non-graduates felt as if they were a part of school and 52% of both graduates and non-graduates stated that they enjoyed school. It seems likely that students with ED who do not enjoy school would have more frequent negative interactions with staff, thus decreasing their feelings of belongingness. Teachers of students with ED should strive to create an atmosphere encompassing of belonging and joy (Newman, 2012). Teachers who hold negative or low student expectations convey the message that students are neither able nor worthy to continue through graduation (DeRidder, 1991). Further, teachers of students with ED who are not properly trained are at greater risk for burnout, which leads to greater job dissatisfaction, frustration, tension, anxiety, anger, hostility, and depression (Morgan & Krehbiel, 1985). Given the findings of this study, teachers may need more guidance on how to create welcoming and supportive programs for students with ED as well as self-care techniques. Teachers utilizing a humanistic approach to teaching were found to be less likely to experience feelings of burnout than teachers utilizing a

behavioral approach (Morgan & Krehbiel, 1985). Therefore, more research regarding ideal ED programming indicators is needed to determine the ideal philosophical approach to working with this population.

School Based Mental Health Services. In this study, 54% of graduates and 58% of non-graduates had access to school based mental health services. According to Rossen and Cowan (2014), untreated mental health problems can ripple across a classroom or the entire school community. Although students with ED are more likely to receive school based mental health services compared to other students with disabilities (Bradley, Henderson, & Monfore, 2004), only about half of students in this study actually received services. The availability of school mental health professionals may have a significant influence on a school's efforts to address students' mental health issues, however the current shortage of school mental health professionals is problematic (Moon, Williford, & Mendenhall, 2017).

School Factors Logistic Regression. After controlling for gender and ethnicity, analyses indicated that protective factors at the school level (teacher felt prepared to teach students with disabilities; teacher valued daily classwork, attitude/behavior, and class participation as a means of evaluating student progress; mental health services were available at school; students had little to no trouble getting along with teachers and peers; students relied on teachers when making important decisions, students enjoyed school and felt like they belonged, and students believed an adult at school cared about them) were not predictive of high school graduation for NLTS2 students with ED ($p = .30$).

Limitations

The NLTS2 restricted database contains information on thousands of variables for students with disabilities across a span of 10 years. However, NLTS2 and the present analyses

are not without limitations. First, NLTS2 variables were selected based on the adolescents' understanding of what it means to be a caring teacher and Murray's (2003) risk and protective factor conceptual framework. It is possible that the variables selected may not have been the best representation of these concepts. Second, due to the self-report nature of the survey questions, it is unknown if participants interpreted questions correctly as definitional terms were not provided for all questions. For example, given the results of the research examined in Chapter II, different cultures define caring differently and may have interpreted the term based on their own unique experiences rather than a unified understanding. Third, in some instances, parents may have completed the Youth Survey on behalf of students. There is no indication as to who completed the survey; therefore answers provided on the Youth Survey may not always be reflective of the youth's perspective. Fourth, due to the incorporation of optional sampling weights, a higher than expected percentage of White students made up the sample for this study and is not reflective of the true population of students with ED. Fifth, due to when NLTS2 data was collected, the results may be somewhat dated. Finally, missing data was a concern across numerous variables. Listwise deletion of cases with missing data would have resulted in a study consisting of only five participants. Instead, multiple imputation was employed to preserve the characteristics of the existing data as a whole (Graham, 2009). Although multiple imputation has experienced a steady growth in popularity across numerous disciplines since the late 1980s (Graham, Olchowski, & Gilreath, 2007), imputed data does not replace original data. Therefore, replications of this study may result in dissimilar results.

Implications and Recommendations

Interpretations for these analyses were based on descriptive rather than experimental data. In this study, protective factors at the individual level were found to be predictive of high school

graduation for NLTS2 students with ED, however protective factors at the family and school level were not found to be statistically significant. Future studies should explore how much time NLTS2 students with ED spend in general versus special education settings, as this may have an impact on the number of disciplinary incidents a student receives. For example, students who spend more time in the special education classroom may have access to more frequent social skills lessons exploring issues related to self-determination and self-advocacy, thus resulting in fewer disciplinary incidents. Examination of the degree to which school wide positive behavior intervention supports (SWPBIS) are in place could also provide a greater understanding of consistencies and inconsistencies across various school settings and how this affects the social and academic learning of students with ED. Ensuring that students with ED are, at a minimum, working at or above grade level in reading and math should be of utmost importance to practitioners and researchers to ensure students are able to access increasingly more difficult content as they progress through high school. Finally, strengthening the connection between school and home may help to provide students with the necessary encouragement and continuum of support from teachers and parents to stay on track to graduate.

Since the conclusion of NLTS2, researchers (Simpson, Peterson, & Smith, 2011; Walker & Cheney, 2014) have continued to work towards a set of agreed upon programming components to effectively meet the needs of students with ED. Most recently, Walker and Cheney (2014) addressed this need through the creation of the Participatory and Expert Evaluation and Review for Programs Serving Students with Emotional and Behavioral Disabilities (PEER-EBD). This tool combines the program indicators of Grosenick, et al. (1987), Cheney and Barringer (1999), Walker and Fecser (2002), Neel, Cessna, Borock, and Bechard (2003), and Jones, Dohrn, and Dunn (2004) into one comprehensive instrument. According to

Tsai, Cheney, and Walker (2013), a total of 91 indicators, organized into 19 practices within four constructs inclusive of classroom foundation and philosophy, classroom structure, climate and group process, and individual programming are rated using a five-point Likert scale; where a response of 1 indicates that the practice is not in place and a response of 5 indicates that the practice is fully in place. The PEER-EBD process occurs in three phases and consists of individual assessments, a team assessment, and an expert review. The goal of the PEER-EBD is to provide teams with an understanding of programming strengths and needs in regards to evidence-based practices. Absent from the PEER-EBD is the presence of student and parent voices and specific indicators exploring the presence of a caring adult. Inclusion of these variables could provide a more thorough snapshot of ED programming that is inclusive of all members of the IEP team.

Similar in methodology to the NLTS2, NLTS 2012 is the third congressionally mandated study to assess IDEA, specifically the experiences, and post-high school outcomes of a nationally representative sample of youth with disabilities. Preliminary descriptive data was recently made available via two policy briefs (Lipscomb et al., 2017a; Lipscomb et al., 2017b). From 2012 to 2014, NLTS 2012 surveyed nearly 13,000 students with disabilities and their parents, teachers, and principals. A total of 2,299 students with ED were included in the sample, with complete data available for 1,052 students. In regards to individual factors, 75% of the ED sample was male and 43% identified as either African-American or Hispanic. Further, 65% had been suspended and 19% had been expelled. In regards to family factors, 48% attended a school or class event and 85% of parents indicated that they attended the most current parent/teacher conference. In regards to school factors, 54% of students received mental health services and 74% indicated that they were happy with school. NLTS 2012 data was made available to

researchers on April 30, 2017 (IES, personal communication, May 3, 2017). Analysis of NLTS 2012 data independent of and combined with these NLTS2 findings could reveal additional insights into protective factors indicative of caring at the individual, family, and school level and how these factors continue to influence high school graduation for students with ED.

Examination of national studies indicate that graduation rates of students with ED has continued to increase from 42% in the early 1980s (Marder & D'Amico, 1992), to 65% in the early 1990s (Oswald & Coutinho, 1996), to 74% by 2010 as noted by this study. Improvements such as these should be celebrated, however approximately one fourth of students with ED are still leaving high school without graduating. This study examined if individual characteristics and variables indicative of caring at the family and school level were predictive of high school graduation for students with ED. While a composite of combined individual characteristics were found to be statistically significant, composites at the family and school levels were not. These findings were surprising and suggest that further inquiries, such as qualitative interviews and program observations, may be needed to better understand this phenomenon. Further, additional resources should be devoted to recruiting and developing reflective teachers; creating programs focusing on student strengths and alternatives to exclusionary discipline; incorporating engaging and collaborative curriculum; and creating caring school communities that actively solicit input from students, parents, and teachers. Examination of these factors individually or combined may provide further insights and solutions that could positively impact the secondary and postsecondary outcomes of students with ED.

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Appendix A

Literature Review Studies

Study	Sample	Grade	Gender	Ethnicity	Location	Findings
Zieman and Benson (1980)	<i>N</i> = 15	7, 8, 9	Male: 15	White: 8 Hispanic: 7	Colorado	Good teachers are straightforward, friendly, fair, fun, helpful, consistent, caring, and provide appropriate discipline.
Hayes, Ryan, and Zsellar (1994)	<i>N</i> = 208	6	Male: 113	Black: 84 White: 60 Other: 50 Missing: 14	New York City	Students valued teachers who were interested in and cared about their lives outside of school, helped with academic work, encouraged success and positive feelings, were fun and humorous, provided good subject content, and counseled students.
Bosworth (1995)	<i>N</i> = 100	Middle	Not reported	Not reported	Midwest	Caring is an ongoing relationship that involves time and the act of sharing oneself. Caring teachers provided guidance, gave advice, expressed empathy and feelings, and were kind, respectful, faithful, and encouraging. They helped with work, explained, and were respectful, tolerant, involved, polite, and success oriented.
Ferreira and Bosworth (2001)	<i>N</i> = 101	Middle	Not reported	Not reported	Midwest	Good teachers help students with work, explain work, check for understanding, encourage students, maintain an orderly classroom atmosphere, and provide fun activities. They are warm, genuinely interested in students, and able to foster relationships at different levels.

Study	Sample	Grade	Gender	Ethnicity	Location	Findings
Alder (2002)	<i>N</i> = 12	6, 7, 8	Not reported	Black: 12	Not reported	Care is interpreted as teachers being strict, having control over disruptive behavior, pressuring students to complete work, teaching for understanding, individualizing instruction, answering questions, helping with academic problems, providing specific feedback, listening to students, holding private conversations, and involving families
Certo, Cauley, and Chafin (2003)	<i>N</i> = 33	10, 11, 12	Male: 12 Female: 21	White: 26 Black: 5 Other: 2	Virginia	Students felt teachers who cared were easy to relate to, good listeners, encouraging, and helpful. They cared about student achievement and made class interesting. All students reported that having a caring adult at school helped to increase their sense of belonging.
Daniels and Arapostathis (2005)	<i>N</i> = 4	High	Male: 4	Hispanic: 4	Southwestern town	Relationships between students and teachers influenced the levels of intrinsic motivation and the amount of effort students were willing to exert. Teachers who built relationships and were genuinely interested in students encouraged reluctant learner to trust their intentions and engage in school. Students wanted to be seen as an individual and not a grade.

Study	Sample	Grade	Gender	Ethnicity	Location	Findings
Doda and Knowles (2008)	<i>N</i> = 2700	Middle	Not reported	Not reported	U.S. and Canada	Students longed for healthy and rewarding relationships with teachers and peers. Teacher qualities were helpful, kind, happy, encouraging, patient, respectful, and nonjudgmental.
Ozer, Wolf, and Kong (2008)	<i>N</i> = 32	High	Male: 13 Female: 19	Asian: 22 Hispanic: 6 Indian: 2 White: 1 Black: 1	Western state	Caring teachers are funny, nice, and someone with whom students shared commonalities. Students expressed a desire to be known as a person versus just as a student.
Garrett, Barr, and Rothman (2009)	<i>N</i> = 155	6, 9	Not reported	Latino: 69 Black: 46 White: 40	New Jersey	For 6th graders, the teacher's personality was more prominently mentioned, whereas in 9th grade academic support became the most frequently cited category.
Garza (2009)	<i>N</i> = 83	14-18 yrs.	Male: 13 Female: 36	Latino: 49 White: 44	Central Texas	Caring teachers provided scaffolding, were kind in deposition and actions, were always available to the student, showed a personal interest in the student's well being inside and outside the classroom, and provided effective academic support in the classroom.
DeFur and Korinek (2010)	<i>N</i> = 74	Middle and High	Male: 39 Female: 35	White: 64 Black: 10	Southeastern state	Students want knowledgeable adults to guide their learning while also maintaining high expectations. They value teachers who give students a voice, build their confidence, and connect with where they come from.

Study	Sample	Grade	Gender	Ethnicity	Location	Findings
Tosolt (2010)	<i>N</i> = 50	5, 6, 7, 8	Not reported	Black: 27 White: 19 Asian: 2 Hispanic: 1 Am. In.: 1	Midwestern	Black and female students were more likely to value behavior that encourages academic achievement than were White and male students, who were more likely to value warm interpersonal behaviors. Females were more likely to value caring that helped them achieve greater academic success, while males were more likely to value caring that built strong interpersonal relationships. Females were more likely than boys to identify academic behaviors as caring, as were Black students over White students. Black students viewed teachers as caring when they provided feedback on academic performance and urged students to continue to work hard.
Steinberg and McCray (2012)	<i>N</i> = 16	Middle	Female: 13 Male: 3	White: 13 Black: 2 Asian: 1	Not reported	Students desired teachers that cared about them, were willing to work with them as individuals, and helped them understand the content.
McHugh, Horner, Colditz, LaBaron, and Wallace (2013)	<i>N</i> = 78	14-20 yrs.	Not reported	Black: 40% Asian: 23% Hispanic: 20% White: 17% Multi: 5% Am. In.: 4%	Pittsburgh Minneapolis Los Angeles	Teacher support was identified as giving advice, having a nonjudgmental attitude, helping students learn tasks, and career planning.

Study	Sample	Grade	Gender	Ethnicity	Location	Findings
Ellerbrock, Kiefer, and Alley (2014)	<i>N</i> = 18	6, 7, 8	Male: 9 Female: 9	White: 7 Latino: 6 Asian: 2 Multi: 2 Black: 1	Not reported	Students indicated that they received emotional support for personal needs from their teachers and overwhelming described being known and accepted by peers as important to fostering school belonging.

Appendix B

Original NLTS2 Variables

IV	Factor	File	Wave	Item	Survey Question	Response Options
Gender	Individual	N2W1Parent N2W2Parent	1, 2	np1a1 np2a1	Is this youth male or female?	<ul style="list-style-type: none"> • Male • Female
Ethnicity	Individual	N2W1Parent N2W2Parent	1, 2	np1a3b np2a3b	Which of the following categories best describe this youth?	<ul style="list-style-type: none"> • White • African American or Black • American Indian or Alaska Native • Asian • Native Hawaiian or Other Pacific Islander • Other race or ethnicity. Please describe
Primary disability	Individual	N2W1Prog	1	npr1D2b	Please mark the student's primary disability.	<ul style="list-style-type: none"> • Serious emotional disturbance/behavior disorder
Disciplinary actions	Individual	N2W1Prog	1	npr1B5a	During this school year, how many times has this student experienced disciplinary actions (e.g., referral to the office, detentions, etc.), excluding suspensions or expulsions?	<ul style="list-style-type: none"> • Open field
In-school suspensions	Individual	N2W1Prog	1	npr1B5b	During this school year, how many times has this student experienced in-school suspensions?	<ul style="list-style-type: none"> • Open field
Out-of-school suspensions	Individual	N2W1Prog	1	npr1B5c	During this school year, how many times has this student experienced out-of-school suspensions?	<ul style="list-style-type: none"> • Open field
Expulsions	Individual	N2W1Prog	1	npr1B5d	During this school year, how many times has this student experienced expulsions?	<ul style="list-style-type: none"> • Open field

IV	Factor	File	Wave	Item	Survey Question	Response Options
Reading ability	Individual	N2W1Prog	1	npr1B2b	What is the student's grade level in reading as of the most recent assessment?	<ul style="list-style-type: none"> • Open field
Math ability	Individual	N2W1Prog	1	npr1B3b	What is the student's grade level in math as of the most recent assessment?	<ul style="list-style-type: none"> • Open field
Disability perception	Individual	N2W2ParYouth	2	np2Q5	Some people have a disability or special need that makes it hard for them to do some things. Do you consider yourself to have any kind of disability?	<ul style="list-style-type: none"> • Yes • No
Expects to graduate high school	Family	N2W1Parent	1	np1J1	How likely do you think it is that this youth will graduate from high school with a regular diploma?	<ul style="list-style-type: none"> • Definitely will • Probably will • Probably won't • Definitely won't • Already has done
Attended school or class events	Family	N2W1Parent	1	np1E1b1	During the past school year, did you or another adult in the household go to a school or class event?	<ul style="list-style-type: none"> • Yes • No
Attended parent/teacher conference	Family	N2W1Parent	1	np1E1d1	During the past school year, did you or another adult in the household go to a general school meeting, such as back-to-school night or a meeting of a parent-teacher group?	<ul style="list-style-type: none"> • Yes • No
Prepared to teach students with disabilities	School	N2W1Prog	1	nts1D4a	I feel well prepared to work with students with disabilities	<ul style="list-style-type: none"> • Strongly disagree • Disagree • Agree • Strongly agree
Importance of daily class work	School	N2W1Prog	1	npr1D14e	How important is performance on daily classwork in evaluating progress for this student in the class?	<ul style="list-style-type: none"> • Not important • Somewhat important • Very important • Not applicable

IV	Factor	File	Wave	Item	Survey Question	Response Options
Importance of attitude/behavior	School	N2W1Prog	1	npr1D14h	How important is attitude/behavior in evaluating progress for this student in the class?	<ul style="list-style-type: none"> • Not important • Somewhat important • Very important • Not applicable
Importance of class participation	School	N2W1Prog	1	npr1D14i	How important is class participation in evaluating progress for this student in the class?	<ul style="list-style-type: none"> • Not important • Somewhat important • Very important • Not applicable
School belonging	School	N2W2ParYouth	2	np2R1b	How much do you feel you are part of the school?	<ul style="list-style-type: none"> • Not at all • A little • Pretty much • A lot
School enjoyment	School	N2W2ParYouth	2	np2R1a_K3b	How much do you enjoy school?	<ul style="list-style-type: none"> • Not at all • A little • Pretty much • A lot
Presence of caring teacher	School	N2W2ParYouth	2	np2R4a_a_K3c	There is an adult at school who I feel close to and who cares about me.	<ul style="list-style-type: none"> • Agree a lot • Agree a little • Disagree a little • Disagree a lot
Relies on Teachers	School	N2W2ParYouth	2	np2U10g	How much do you rely on teachers when making important decisions or when having problems?	<ul style="list-style-type: none"> • Not too much • Just some • A fair amount • A lot
Teacher Relations	School	N2W2ParYouth	2	np2R5a_K2	Since school started this year, how often have you had trouble getting along with your teachers?	<ul style="list-style-type: none"> • Never • Just a few times • At least once a week but not every day • Every day

IV	Factor	File	Wave	Item	Survey Question	Response Options
Peer Relations	School	N2W2ParYouth	2	np2R5d_K1	Since school started this year, how often have you had trouble getting along with other students?	<ul style="list-style-type: none"> • Never • Just a few times • At least once a week but not every day • Every day
Mental Health Services	School	N2W1Prog	1	npr1D7h	Have mental health services, personal/group counseling, psychiatric care been provided to this student from or throughout the school system during this school year?	<ul style="list-style-type: none"> • Yes • No

DV	File Name	Wave	Item	Survey Question	Results
Graduate High School	N2W2ParYouth N2W3ParYouth N2W4ParYouth N2W5ParYouth	2, 3, 4, 5	np2S1a np2S1a_D3b np3S1a np3S1a_D1k_D2d_D3b np4S1a np4S1a_D1k_D2d_D3b np5S1a np5S1a_A2e	Did youth graduate from high school?	<ul style="list-style-type: none"> • Yes • No