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AN EXAMINATION OF THE RELATIONSHIP OF SIX RISK FACTORS ASSOCIATED
WITH DROPPING OUT OF HIGH SCHOOL FOR STUDENTS WITH DISABILITIES IN
SOUTH CENTRAL MICHIGAN

by

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Dissertation

Submitted to the Department of Leadership and Counseling

Eastern Michigan University

In partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

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Ypsilanti, Michigan

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ABSTRACT

The purpose of this non-experimental, quantitative, retrospective (ex post facto), research in south central Michigan was to determine the relationship of six risk factors associated with dropping out of high school to students with disabilities (SWDs). The six risk factors were (a) grade retention (never held back or held back one or more times), (b) age compared to peers (same age as peers or one year or older than peers), (c) limited English proficiency (English speaking or English as a second language), (d) category of disability (learning disabled/emotionally impaired or cognitively impaired/other), (e) mobility (the number of school districts or educational settings attended), and (f) the time of year that students moved (during the school year or in the summer months).

A logistic regression and multiple logistic regression models were used to examine whether students with any combination of six factors were at higher risk for dropping out of school. The findings indicated that the age of the student (older than peers), number of educational settings attended (attended more than one school district in school career), and the time of the year moved (moved during the school year) are all individually significant predictors of SWDs dropping out of school. The findings also suggested that the factor of being one year or older than peers is predictive of dropping out of school when time of the year the student moved is controlled and vice versa.

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CHAPTER ONE: INTRODUCTION

The dropout problem in the United States is immense. Every nine seconds in America, a student drops out of school (Lehr, Johnson, Bremer, Cosio, & Thompson, 2004). The U.S. Department of Education (1998) estimated that there were 3.9 million students aged 16 through 24 who were not enrolled in a high school program and had not completed high school. This was an average of nearly 2,805 students dropping out each day. In 2004, there were 27,819,000 18- to 24-year-olds in the United States. Of these, 78% had graduated with a diploma, earned an alternative diploma, completed some college, or earned a degree. The remaining 22% had not completed high school (Hood, 2004). Nationwide, only 70% of students earned diplomas in four years (National Center for Education Statistics, 2004).

Some demographic groups are at much greater risk of dropping out of school. Only recently has research begun to examine students with disabilities (SWDs) who drop out of school, and that research is limited (Grayson, 1998). In the school year 2000-2001, only 47.6% of SWDs ages 14 and older graduated with standard diplomas, whereas 41.1% dropped out (NCES, 2004). Wagner (1991) noted that dropout research, policy, and programming have largely overlooked SWDs, “perhaps because their special education programs are assumed to provide individualized services that should ameliorate whatever risk of dropping out these students might experience” (p. 2). The present study examined six specific risk factors and their relationship to school completion of SWDs. Some of these factors have been researched more thoroughly than others.

Background

Since the 1997 passage of the Individuals with Disabilities Education Act (IDEA) and its 2004 reauthorization, the importance of guaranteeing that SWDs successfully complete high school has grown. Blackorby and Wagner (1996) found that the dropout rate for SWDs is approximately twice that of general education students. Under the federal No Child Left Behind Act (NCLB; U.S. Department of Education, 2001), schools will be identified as failing to achieve *adequate yearly progress* if any subgroup (including SWDs) does not show an increase in performance on an annual basis (NCLB 2001 Public Law 107-110). In 2008, Michigan's State Performance Plan (SPP) was submitted to the United States Department of Education. Michigan was required to submit special education dropout statistics as part of the Part B Annual Performance Report (APR). Indicator Two of this plan measured the percentage of youth with Individualized Education Programs (IEPs) who dropped out of high school, compared to the percentage of all youth in the state who dropped out of high school. The Center for Educational Performance and Information (CEPI) provided the total student dropout rate in Michigan. The CEPI defines a dropout as a student who has been assigned to a graduating class and does not graduate, does not receive a general education diploma certificate, is not considered a transfer, or whose enrollment status is otherwise unknown. The revised Michigan Performance Data for 2004 showed that the overall percentage of dropouts for students with IEPs was 25.5%. The 2005-2006 special education dropout rate showed that the overall percentage of dropouts for students with IEPs was 25.2%. This was only slightly better than the corresponding national dropout rate of 28.3%. The target drop rate, developed by a group of stakeholders and the Michigan

Department of Education (MDE) for 2006, was 11.5%, 10% in 2007, 9.5% in 2008, 9% by 2009, and 8% by 2010.

The Michigan Legislature enacted the Michigan Merit Curriculum (MMC) into law in April of 2006. The new graduation requirements dramatically changed the educational environment in Michigan. Beginning with the graduating class of 2011 (Michigan's 2007-2008 ninth graders), students must meet rigorous academic standards to receive a regular high school diploma. The MMC includes initiatives specifically designed to reduce dropout rates for all students. School personnel are required to contact parents immediately at the first signs of a student's risk of failure. There is only one diploma offered in Michigan, with no alternative diploma under the MMC. There are some provisions for students to graduate with a diploma while following a "Personal Curriculum." This curriculum must be aligned with the student's education development plan (EDP) to meet individual academic needs. However, these requirements are very rigid and offer minimal flexibility, even for students with disabilities.

The Michigan Department of Education's Office of Special Education and Early Intervention Services (OSE/EIS) has implemented the Continuous Improvement Monitoring System (CIMS) that rates local districts on the percentage of SWDs who drop out of school. Standards-based reforms that identify what students should know and what students should be able to do, as well as high-stakes accountability testing such as the Michigan Educational Assessment Program (MEAP), Michigan Merit Exam (MME), and MI-Access, Michigan's Alternate Assessment Program, require that all students with disabilities be assessed. These high-stakes tests have significant consequences not only for schools but also for individual

students. New performance data are reported publicly and hold all students to consistent, high standards.

Statement of the Problem

Mounting evidence that nearly one third of all high school students fail to graduate with a diploma gives credence to a dropout epidemic in America. Social, economic, and political consequences of this phenomenon impact individual students, communities, and the nation as a whole. Characteristics such as unemployment rates, average family income, and crime rates impact on the quality of life within communities. The economy demands a highly educated work force. The attainment of a high school diploma is considered essential for accessing further training, education, or the labor force (National Center for Education Statistics, 2001).

Demographics drawn from United States Bureau of the Census (2004) statistics revealed some trends that contribute to the dropout issue:

1. Immigration patterns are leading to a more culturally and ethnically diverse population. The U.S. Bureau of the Census (2004) indicated that 17% of foreign-born residents live in poverty, compared to 11.8% of residents born in the United States.
2. The U.S. Bureau of the Census (2004) indicated that 13 million children (17.8%) were considered living in poverty. Adair (2001) indicated that dropouts are substantially more likely to rely on public assistance than those with a high school diploma.
3. The U.S. Bureau of the Census (2004) reported that poverty rates are highest for families headed by single women. More than 28% of households headed by single women were poor. Dropouts today are more likely to be single parents, live in poverty, be

on welfare, commit crimes, and go to prison. According to the Juvenile Justice Bulletin (1998), 82% of prisoners in the United States are high school drop outs.

Although there is an abundance of research to enlighten educators about causes and solutions to the problem of dropout rates among the general population of students, studies focused on dropouts among students with disabilities are limited. Federal special education law promises to provide an individualized education tailored to the unique needs of SWDs. Despite the increased investment in individualized instruction, many students are dropping out from their *special* education (Wagner, 1991). Research from the Center for Adult Learning and Educational Credentials (1999) suggests that SWDs seldom enroll in adult programs or obtain a General Education Development (GED) certificate, in contrast to the nearly half of all general education dropouts who do so.

Taken together, research suggested that schools share the responsibility for the growing dropout rate, and, thus, should take measures to help address the problem. Legislative response to address educational needs includes requirements to improve school quality and close the achievement gap, so that all students are academically proficient by the year 2014. Michigan now has the most comprehensive set of high school graduation requirements in the nation with the passage of MMC. The goal of this reform is to "better prepare students for greater success and to secure the economic future of our state" (Flanagan, 2006).

Purpose of the Study and Null Hypotheses

The purpose of this study was to investigate the relationship between six prominent risk factors and SWDs who drop out of high school: (a) number of grade level retentions, (b) age overage compared to peer group, (c) limited English speaking ability, (d) the type of

disability (learning disabled [LD]/emotionally impaired [EI] or other), (e) the number of educational settings (school districts) attended, and (f) time of year when transitions occur (in the summer or during the school year). This research tested several null hypotheses that presume there are no correlations between the six identified risk factors and the expectation of SWDs dropping out of school.

1. There is no significant relationship between SWDs who have been retained one or more grade levels and whether they drop out of school or graduate with a diploma.
2. There is no significant relationship between SWDs who are at least one year older than their grade level peers and whether they drop out of school or graduate with a diploma.
3. There is no significant relationship between SWDs who are categorized as “English as a second language” (ESL) students and whether they drop out of school or graduate with a diploma.
4. There is no significant relationship between the categories of LD and EI compared to other special education disabilities (visual impairment, autism, mildly cognitively impaired) and whether they drop out of school or graduate with a diploma.
5. There is no significant relationship between the number of educational settings (school districts attended) and whether SWDs drop out of school or graduate with a diploma.

6. There is no significant relationship between the time when the SWD changed educational settings (summer or during the school year) and whether they drop out of school or graduate with a diploma.

Significance of the Study

This study was conducted to better understand the lives and circumstances of students with disabilities (SWDs) who drop out of school. Data identified factors that induce this population to drop out of school and provide clues for improving their graduation rates.

The focus of this study upon SWDs is sufficiently unique, and research on factors related to their dropout rates is limited. Thus, findings are likely to advance knowledge in the field of education and will be especially meaningful and of value to educators working directly with these students as well as politicians, parents, and the public.

According to the Center for the Future of Children (1996), society invests approximately 2.3 times more money per year in services to SWDs, than their non-disabled peers. Given the decline in funding for education nationwide, this has significant political implications. Gathering information that may enhance the effectiveness of educational programs for SWDs is a worthy goal.

Overview of Methodology

A logistic regression was used to examine whether SWDs with any combination of the six identified factors were at higher risk for dropping out of school. Logistic regression is a model used for prediction of the probability of occurrence of an event by fitting data to a logistic curve. This statistical model includes a process that contains an exponential factor and determines the best fit from the data. In this study, logistic regression estimated the odds of dropping out of school occurring. Specifically, the six risk factors or design variables were

(a) the number of school retentions, (b) students' ages in comparison with their peers, (c) whether English is a second language (ESL), (d) type of student disability, (e) the number of educational settings (school districts) attended, and (f) the time of year the student moved to a new educational setting. The advantage of using a logistic regression statistic is that it provides a better understanding of the relationship between several independent or predictor variables (the six factors) and the dependent or criterion variable (dropping out of school).

Data for this research, termed a non-experimental, quantitative, retrospective (ex post facto) study, were collected in June of 2008. Secondary data from students' cumulative files (CA-60s), transcripts, special education files, and IEP paperwork were analyzed for SWDs from the Class of 2007 from each high school in one county. In this researcher's role as special education monitor, these information sources and research activities were conducted in established and commonly accepted educational settings. The issue of methodology will be fully discussed in Chapter Three.

Limitations and Delimitations of the Study

This study used a sample of approximately 70 SWDs in four high schools located in three school districts in one rural county in south central Michigan. Results cannot be generalized to the entire state, urban areas within the state, or to an entire population of graduates. The research focused only on SWDs and not the general education population. Data were only collected from students from the Class of 2007 cohort of four high schools in one county, excluding the one public school academy and the county center-based programs in the cohort of the class of 2007.

If student data were missing, the student was not included in the study. Student CA-60 files may have been incomplete, and information found from other sources may have been

inaccurate. Additionally, only six factors were analyzed. Finally, there was no demographic breakdown of the results. Student identification was protected and anonymity respected.

Definition of Terms

The definition of dropout and the data sources currently used by the Office of Special Education Programs (OSEP) differs from the definition used by the National Center for Education Statistics (NCES). This exacerbates efforts to chart the necessary and highly important progress of SWDs in relation to all students.

For this study, the term *dropout* referred to those students who did not receive a high school diploma because they discontinued attending any type of school setting. Simple attrition will track a student from the beginning of their freshman year to graduation day. *Graduates* were defined as students who have successfully completed their general education requirements and received a regular high school diploma.

For the purpose of this study, the term *mobility* will be used in the context of the individual student moving from one school district to another district or educational setting. A student with a *disability* was one who was receiving special education services and had an Individualized Education Program (IEP).

Summary

Background of the study, statement of the problem, purpose and null hypotheses, significance of the study, an overview of the methodology, limitations and delimitations, and definitions of special terminology were included in Chapter One. A review of related literature will be presented in Chapter Two, followed by methodology, research findings and analysis, conclusions, implications, and recommendations in subsequent chapters.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

Defining the characteristics of students who drop out of school and identifying those who are at-risk for dropping out have been popular research topics in the past. Barton (2006) reported that the U.S. General Accounting Office (GAO) summarized research based on *all* students who drop out of school. According to this research, students are at greater risk of dropping out if

- they come from a low-income family,
- come from a single-parent family,
- get low grades in school,
- are frequently absent, and
- frequently change schools.

According to research conducted by Dynarski and Gleason (1999), Wells, (1990), and Williams-Bost (2004), *students with disabilities* (SWDs) are at greater risk of dropping out if

- they have been held back a grade,
- are older than other students in their grade,
- have limited English proficiency,
- have family or economic problems, and
- are categorized as learning disabled (LD) or emotionally impaired (EI).

Using past research as a starting point and knowing what information and data were accessible, four factors that related to SWDs (retention, age overage, English proficiency, and type of disability [LD/EI]) were first chosen as independent variables for this study. The researcher also had a personal interest in the risk factor of frequently changing schools

(identified as a risk factor for *all* students). To explore this factor further, specific data about the time of the year that the student changed schools (during the school year or the summer months) was gathered. Thus, six factors were analyzed to determine whether a significant relationship existed between the predictor variables and dropping out of school.

Theoretical Framework

Dropping out of school is not an isolated event. A student's decision to drop out happens long before the actual event, even as early as the elementary school years. It is a complex process and different for every individual who makes the decision to finally leave school. To provide a framework and an understanding of all of the factors that influence a SWD's decision to drop out of school, the following topics provided a structure whereby factors were examined for their relationship to the outcome of dropping out of high school: (a) national, state, and local issues, (b) school programs and policies, (c) household influences, and (d) student characteristics. The framework shown in Figure 1 of the Special Education Elementary Longitudinal Study (SEELS) was chosen to capture the expectations and relationships between these concepts (National Longitudinal Transition Study-2, 2000). The study referenced holds that a SWD's historical information, disability, household characteristics, and their family's level and type of involvement in school-related activities influence student outcomes. In the context of the present study, the outcome is dropping out of school or graduating with a diploma.

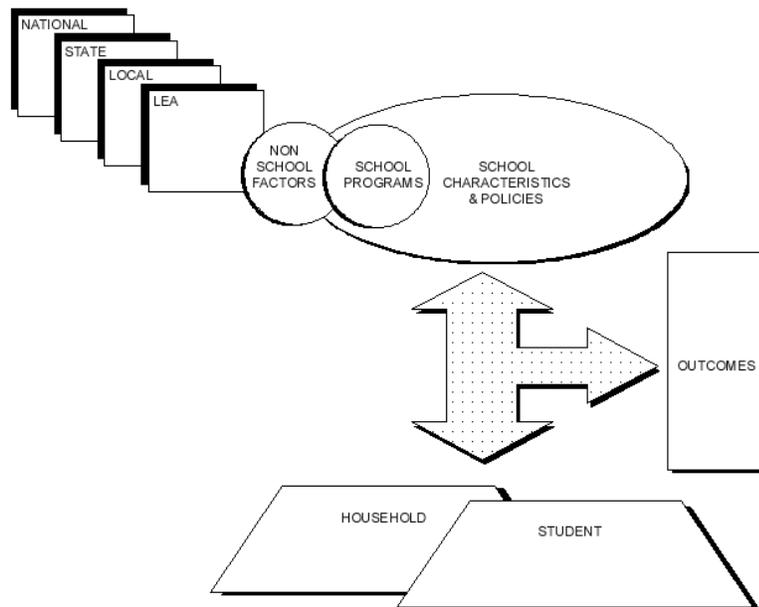


Figure 1. SEELS Conceptual Framework

National, State, and Local Issues

Since the 1997 passage of the Individual with Disabilities in Education Act (IDEA) and its 2004 reauthorization, educators have been challenged to provide an appropriate education to SWDs, so that they will attain educational content expectations: graduate from high school, support the economy through continued education or employment, and be productive citizens (IDEIA, 2004). This legal mandate has been in place for more than thirty years, formerly under the Education for all Handicapped Children Act of 1975. The contents of the law have become more complex and controversial, as the requirements of No Child Left Behind (NCLB) (U.S. Department of Education, 2001) are aligned in the reauthorization of IDEA. NCLB holds *all* students accountable for academic success in the general education curriculum.

Figure 2 illustrates the trends of dropout and graduation rates in the State of Michigan from 1996-2006. The trend lines indicate that more SWDs are graduating with a diploma

and fewer are dropping out. However, still almost one in four SWDs in Michigan will not earn a high school diploma and will drop out of school.

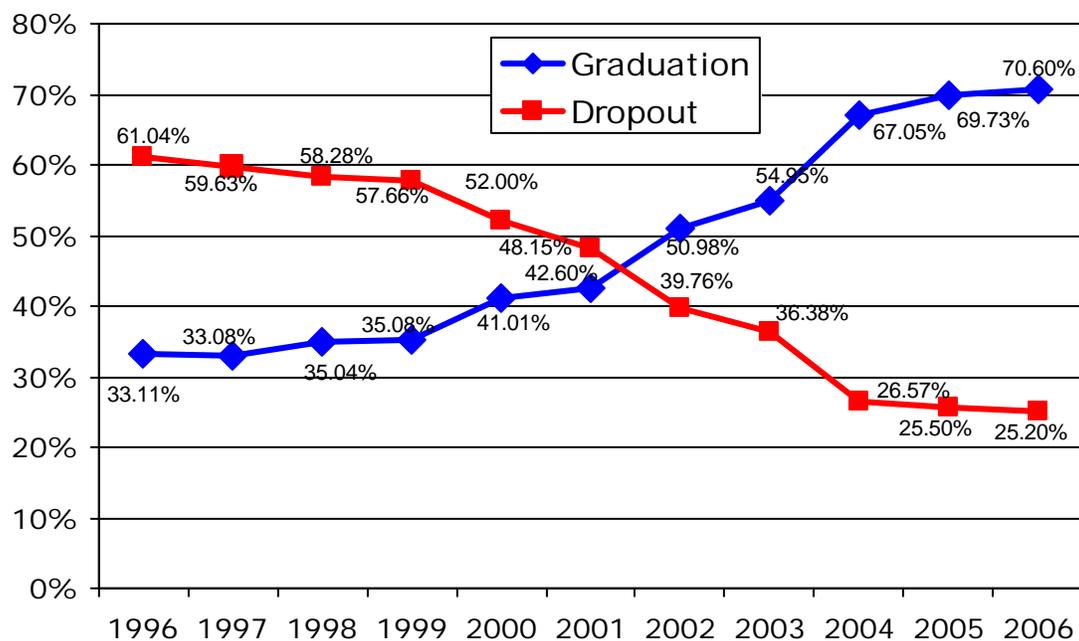


Figure 2. Graduation/Dropout Rates of Students with Disabilities in Michigan 1996-2006

Under the most recent reauthorizations of IDEA, states are now required to submit an annual state performance plan (SPP) to the United States Department of Education Office of Special Education Programs (OSEP) to describe the state's plans to improve outcomes for children and youth with disabilities based upon 20 key performance indicators. More specifically, the SPP is intended to allow the state to evaluate its implementation of IDEA and to detail how it will improve implementation in the future. One indicator, upon which states must report data, progress, and improvement activities, is the percentage of youth with Individualized Education Programs (IEPs) who drop out of school. The Michigan target for 2006-2007 was that no more than 11.5% of SWDs drop out of school. As the chart in Figure 2 demonstrates, this statewide goal was not met. The SPP also tracks the percentage of youth

with IEPs who graduate with a regular diploma. The state target for 2006-2007 was that 80% of SWDs would graduate with a diploma. This target was also not met on a statewide level.

The results of educational assessments must be reported to the state by local school districts, and these scores determine if districts and individual school buildings have met adequate yearly progress (AYP). AYP is the state's measure of progress toward the goal of 100% of students achieving state academic standards in at least reading/language arts and math and sets the minimum level of proficiency that the state, its school districts, and schools must achieve each year on annual tests and related academic indicators. Parents whose children are attending Title I (low-income) schools that do not make AYP over a period of years, are given options to transfer their child to another school or obtain free tutoring (supplemental educational services). These assessments hold all students to consistent, high standards with the goal of preparing them for life and a global economy.

In April 2006, the Michigan Legislature enacted PA 123 of 2006 and PA 124 of 2006, commonly called the Michigan Merit Curriculum (MMC). Beginning with the students of the Class of 2011, students must meet rigorous academic standards to receive a regular high school diploma upon graduation. The MMC requires students to earn four credits each of English and Mathematics (including Algebra I, II and Geometry); three credits in Science (including Biology, Chemistry or Physics); three credits in Social Studies; one credit in Health and Physical Education; one credit in Visual, Performing, Applied Arts; and, beginning with the class of 2016, two credits in World Languages and an online learning experience. Parents of students with an IEP may request a Personal Curriculum (PC), which modifies certain requirements of the MMC. Because a PC leads to a high school diploma, it cannot modify the MMC to the degree that it creates an alternative curriculum. The State of

Michigan offers only one diploma, with no alternative diploma offered for those unable to meet the requirements of the MMC. The impact of the MMC on student dropout rates will continue to be an area for educational researchers to monitor.

Michigan's special education monitoring system, The Continuous Improvement Monitoring System (CIMS), includes a process whereby local districts must analyze data to rate themselves on 13 key performance indicators. Two of the indicators are based on dropout and graduation rates. As a result of all of these legislative efforts, the educational community has focused on increasing resources to retain students and decrease student dropout rates.

The state and local economy is impacted by student dropouts. High school dropouts earn \$581 less per month (\$6972 less per year) than high school graduates (U.S. Bureau of the Census, 2004). The Census Bureau in 2000 reported that the median income for college graduates has increased 13% over the last 25 years, whereas the median income for high school dropouts decreased by 30%. The median income of high school dropouts (age 18 and older) was \$12,184 in 2003, which is another negative consequence of dropping out (NCES, 2001).

Societal factors impact the economy, as students drop out of school. Americans are getting older and the proportion of children is declining, according to Bureau of the Census (1995). As the population ages, adults will be more dependent on fewer younger workers. According to Ackoff (2004), the United States has more people in prisons than any other country. The U.S. also has more people in the prison system than the university system, and it costs more per year to incarcerate people than to educate people. The America's Promise Alliance (2008) indicated that dropouts are more than eight times as likely to be in jail or

prison as are high school graduates. A summary of findings concluded that dropouts are more likely than high school graduates to be unemployed, in poor health, living in poverty, on public assistance, and single parents with children who drop out of high school.

School Programs and Policies

Several studies focused on student intervention programs and their effectiveness. Phelan (1992) and Reglin (1990) determined that intervention programs should emphasize the development of a caring relationship between teacher and student. Check & Connect (Sinclair, Christenson, & Thurlow, 2005) is a dropout intervention program that promotes student engagement via a monitor/mentor, who maintains regular contact with the student, family, and teachers. Students receive basic or intensive interventions based on monitoring risk factors. Check & Connect considers students' level of personal investment in learning and each student's degree of social connectedness. Sinclair et al. (2005) examined the effectiveness of the Check & Connect program. The researchers determined that students who participated in Check & Connect were significantly less likely to drop out of school than the control group who did not participate. Check & Connect participants attended school with greater consistency and demonstrated persistence by being five times more likely to take a fifth year to complete high school. There was also evidence that students in the treatment group were more involved in the planning of and participation in their Individual Education Program (IEP) meetings.

Huling (1980) found relationships between student alienation and student participation in extracurricular activities and school size. School size and other organizational characteristics are also associated with high dropout rates. Alspaugh (1998) determined that school organizational characteristics, such as small, rural high schools with grade spans of

7th through 12th had the lowest dropout rates. Gardner, Ritblatt, and Beatty (2000) found that large high schools had higher dropout rates than small high schools.

Wehlage and Rutter (1986) and Lee and Burkam (1992) asserted that student mobility is related, at least in part, to what happens (or does not happen) in schools. Kirkpatrick and Lash (1990) studied teachers' views about student mobility. They found that teachers associate high mobility with extra work, as it takes more effort to acclimate new students into a classroom. Sanderson (2003) interviewed a teacher who commented, "Sometimes the behavior is affected by transiency. Children that have been in and out of a number of different schools for whatever reason, this is how they make their presence felt in the classroom. They feel unstable. Their behavior is not good and they are transient children" (p. 602).

Bowditch (1993) and Fine (1991) documented how school officials overtly encourage troublemakers to leave their schools. Rhodes (2005) stated, "Negative interactions with or impressions of teachers and administrators, as well as unresolved discipline and special education issues, are often at the root of parents' decisions to change schools" (p. 4).

Household Influences

Rumberger (1987) concluded that socioeconomic status (SES) was the most important factor in regard to students dropping out. He commented, "Dropping out itself might better be viewed as a process of disengagement from school, perhaps for either social or academic reasons" (p. 111).

In the United States, students change schools frequently. A study of the U.S. General Accounting Office (1994) confirmed that 17% of all third graders had changed schools at least three times since the first grade. Parents of highly mobile students have reported that

their children consistently have social problems because of the frequent school changes (Filippelli & Jason, 1992). Despite this, highly mobile families tend to move their children from one unsuccessful school placement to another, with the hope that things will be dramatically different in a new environment.

Student Characteristics

Kortering and Braziel (1999) focused their research on students' perceptions of key factors that would influence their decision to drop out of school. Wagner (1991) noted that dropout research, policy, and programming have largely overlooked SWDs, "Perhaps because their special education programs are assumed to provide individualized services that should ameliorate whatever risk of dropping out these students might experience" (p. 2).

Blackorby and Wagner (1996) and MacMillan (1991) found SWDs, particularly those with learning disabilities and behavior disorders, tended to have higher dropout rates than those with more severe disabilities. Wagner also found that students who were older than their grade-level peers were more than two times as likely to drop out.

Educators know that engaged students tend to earn better grades, perform better on tests, report a sense of belonging, set and respond to personal goals, and persist on tasks. Finn (1993) determined that dropping out is the outcome of a long process of disengagement and alienation. Figure 3 shows Finn's Participation-Identification Model: Withdrawal Cycle, a diagram of the process of disengagement. Students first physically withdraw by not participating in activities. That leads to unsuccessful outcomes (academic, behavioral, etc.). Finally, students withdraw emotionally; they do not identify with their peers, the school, and/or school activities.

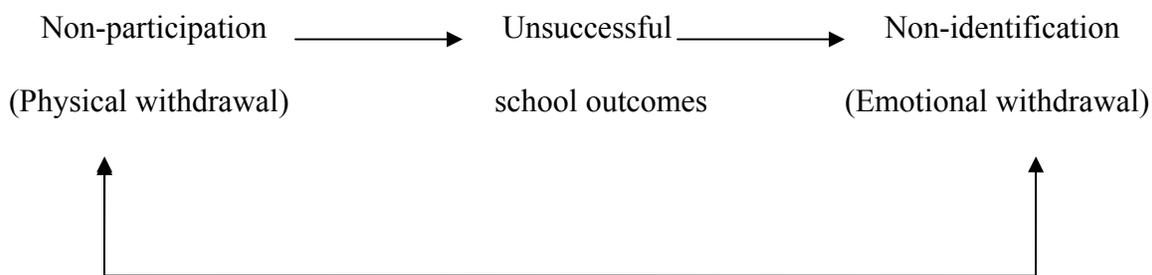


Figure 3. Participation-Identification Model: Withdrawal Cycle

Lichtenstein's (1993) ethnographic investigation of four dropouts with learning disabilities (LD) found that three of them experienced two precursors for alienation, consistent frustration and failure in school. According to the National Longitudinal Transition Study-2 (NLTS-2, 2000), students in grades 8 to 10 summarized key reasons they dropped out. Reasons given were school related (did not like school, could not get along with teachers, were failing school); job related (couldn't work and go to school at the same time, had to get a job, found a job); and family related (pregnancy, marriage). The National Governors Association reported that 36% of students reported they dropped out because they were "not learning anything." Almost one-fourth of the participants said "I hate my school"; 20% claimed they had "personal problems;" 17% reported "teachers don't care." "Not getting enough help" was the claim of 15% of the students; 14% said that "job does not require degree;" 13% said that "school work was too hard"; and 11% reported they dropped out because they were "not planning on college."

In the next section, five factors examined in the present study are discussed as they relate to areas identified in the conceptual framework.

Retention and Age Overage

National, State, and Local Issues

The publication of *A Nation at Risk* (National Commission on Excellence in Education, 1983) pointed to declines in student achievement test scores as evidence that lenient policies, such as social promotion, had caused a dilution of standards and a decline in the quality of American education. In response to this report, school systems drafted strict promotion policies. In the 1990s, school districts began to review their retention policies, due to the increase in drop out rates (New York City Board of Education, 1988).

According to the former Secretary of Education, Rod Paige, NCLB aims to correct the “separate and unequal educational systems that taught only some students well while the rest—mostly poor and mostly minority—floundered or flunked out.” (U.S. Department of Education, March 12, 2003). Gaffney and Zaimi (2003) claimed that “the cloak of concealment that is draped over the issue of retention and special education is indicative of what Secretary Paige termed *soft bigotry*” (p. 3).

Increased accountability forces, such as high stakes testing, increased graduation requirements, high school reform initiatives, and exit exams have long term consequences for schools and individuals (Linn, 2003). High standards have created an environment where students who are unsuccessful in passing the high stakes tests or who see little chance of passing may make the seminal decision of leaving high school.

Grissom and Sheppard (1989) maintained that minority students are overrepresented in the population of students who experience grade retention and mild disabilities. Developmental kindergarten and transitional first grade classrooms are de facto grade retentions. With the acceptance of grade retentions, SWDs may be getting older but not

better in terms of their educational improvements. Alexander, Entwisle, and Dauber (1994) claimed that grade retention should be the last recourse, as it costs a child a year of his or her life and separates children from their age-mates. Mantzicopoulous and Morrison (1992) reported that there is an academic advantage during the second time in kindergarten, but this advantage is short term and not maintained past kindergarten.

School Programs and Policies

According to Balfanz and Herzog (2006), a student retained in grades kindergarten through fourth grade is five times more likely to drop out than a student who was not retained. There is a 90% likelihood that students who are retained twice will drop out. Retention in the 9th grade is a very strong predictor of dropout.

Grade retention, remediation, and special education are alternatives used by schools for students who are not achieving at the same level as their peers. The use of retention as a pre-referral intervention before special education services are implemented is the primary reason given for the large percentage of SWDs having been retained at least once (Gaffney & Zaimi, 2003). Barnett, Clarizio, and Payette (1998) found that approximately 72% of students with LD were retained at least once before being referred for special education evaluation.

Research on grade retention concluded that repeating a grade provides few benefits of remediation and may, in the long run, place students at a higher risk of dropping out of school (Roderick, 1995). Many teachers believe that retention, particularly in the early grades, is an effective strategy to remediate poor school performance. Teachers at these early grades may influence parents to hold their child back based on these unsupported beliefs. Roderick (1995) reported the proportion of youths promoted from one year to the next is

largely based on school systems' promotion policies and by teachers' and principals' attitudes regarding the *benefits* of retention. Wagner (1996) also found that students who were older than their grade-level peers were more than two times as likely to drop out. Grade retention, regardless of when it occurs, may increase the chances of leaving school, because it makes a student overage for grade during adolescence, and, for those who are already having difficulty in school, it may increase the likelihood that they will feel frustrated and become disengaged (Roderick, 1995). Another year of schooling is also expensive in terms of the extra dollars spent educating students for an additional year, and districts need to pay attention to the financial costs of retaining students as well.

Household Influences

Increased academic accountability at upper grades has resulted in an escalation of the curriculum in many kindergarten programs (Cosden, Zimmer, & Tuss, 1993). Mergendoller, Bellissimo, and Horan (1990) suggested that, as a result of this policy, many parents believe that holding a child out of school an extra year will ensure that children will be more successful in kindergarten. According to research, there is little evidence to support the practice of holding children out of school until they are more academically ready.

Student Characteristics

Research suggested that retention is ineffective as an intervention for immaturity (Alexander et al., 1994). Roderick (1995) reported, "The permanency of retention and the message it sends students may have long-term effects on self-esteem and school attachment that may override even short-term academic benefits" (p. 2).

Category of Disability

National, State, and Local Issues

Federal law has long been concerned with providing equity and academic parity for the nation's children. In special education, the Individuals with Disabilities Education Act (IDEA) of 2004, Public Law 105-17 specifically addresses the overrepresentation of African American students in certain special education classes. The findings that the Office of Special Education (OSEP) presented in 2000 in the *Annual Report to Congress on the Implementation of IDEA* (U.S. Department of Education, 2000) showed that African American students were 1.9 times as likely to be labeled emotionally disturbed. African American youth, ages 6 through 21, account for 14.8% of the general population yet account for 20.2% of the special education population. Figure 4 shows that students in Michigan with the disability label of *emotionally impaired* (EI) have the highest percentage rate of dropping out of school, whereas students with Autism Spectrum Disorder (ASD) have the highest percentage rate of graduating with a diploma (see acronyms defined in Appendix A).

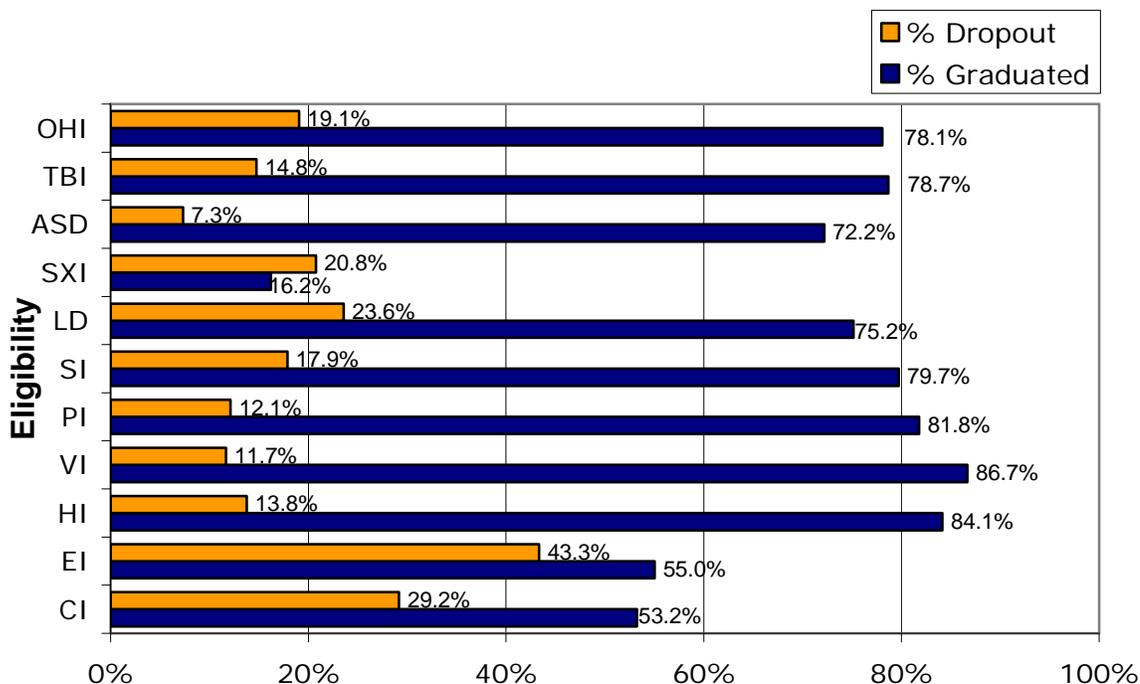


Figure 4. Graduation/Dropout Rates of SWDs in Michigan (December 2005)

School Programs and Policies

Dunn and Rabren (2004) analyzed predictive factors related to dropping out of high school for students with learning disabilities (LD) and mental retardation (MR). Specifically, four factors were identified as predictive for drop outs: (a) disability status (LD or MR), (b) perception of general preparation received during school for life after high school, (c) identification of a helpful person in school, and (d) identification of a helpful class while in school. The findings demonstrated that students with LD are more likely to drop out than are students with MR. These findings supported the findings of MacMillan (1991), who found that students with mild disabilities, particularly those with LD or behavior disorders, tend to have higher dropout rates than do those with more severe disabilities. According to Wagner (1989), The National Longitudinal Transition Study demonstrated that parents of

students with emotional impairments reported that most of their children had dropped out of school because of their dislike of school or because of behavior problems.

Student Characteristics

Blackorby and Wagner (1996) and MacMillan (1991) also found that SWDs, particularly those with learning disabilities and behavior disorders, tended to have higher dropout rates than those with more severe disabilities. Kortering and Braziel (1999) interviewed 44 students with disabilities (learning disabilities, behavior disorders, or mild mental retardation) for their opinions on what could have prevented them from dropping out of school. Key themes from the interviews were that teachers and administrators needed to have a positive attitude toward SWDs, and that SWDs needed to change their attitudes and behaviors as well. Specific suggestions from the student interviews included more support from teachers, changes in discipline and attendance policies, better textbooks, and improved teaching pedagogy. These ideas were supported by the research of Lee and Burkham (2003), who reported that less engaged students reported feeling unconnected with their teacher, even after having made efforts to gain assistance from school personnel. Guterman (1995) interviewed nine SWDs who had *not* dropped out and found that most were not satisfied with academic services. This finding showed that even students who are graduating with a diploma believe that improvements can be made in curriculum and textbooks.

Number of Educational Settings/School Districts Attended (Mobility)

National, State, and Local Issues

In the United States, students change schools frequently. A study of the U.S. General Accounting Office (1994) confirmed that 17% of all third graders had changed schools at least three times since the first grade. Despite the high incidence of student mobility,

educational researchers have only begun examining the impact on both schools and individuals.

School Programs and Policies

Rumberger and Larson (1998) found that students who made even one school change between eighth and twelfth grades were twice as likely to drop out of high school as were students who did not change schools. Kortering, Haring, and Klockars (1992) and Alspaugh (1998) conducted research related to the number of school-to-school transitions in grades K-12 as being a factor in students dropping out. A study in the Journal of American Medical Association (JAMA) reported that frequent relocation was associated with higher rates of all measures of childhood dysfunction. Increased risk of behavioral problems and grade retention were reported for students who frequently change schools (Wood, Halfon, Scarlata, Newacheck, and Nessim, 1993). Astone and McLanahan (1994), Smith (1995), Rumberger (1995) and Rumberger and Larsen (1998) all found that students who were highly mobile during their K-12 experience were more likely to drop out of school.

Kerbow (1996) determined that student mobility in urban schools negatively impacts student achievement. Kortering et al. (1992) found that the factors that contributed most to the discriminant function for LD students who had been released from school were the number of school-initiated interruptions, school transfers, and family intactness.

Bruner (1960), a leading researcher on constructivist theory, maintained that continuity facilitates learning. Learners construct new ideas or concepts based upon their current and past knowledge. If a student's learning is regularly being disrupted by changes to new school environments, it could be surmised that it would be difficult for a student to build upon his or her previous knowledge. Students who frequently change educational settings may be

exposed to curriculums that vary greatly across districts; therefore, if students move from one school to another in the middle of the school year, they may have difficulty catching up in all subjects by the end of the school year and fall further behind their peers. Bruner suggested that curriculum should be organized in a spiral manner so that the student continually builds upon what he or she has already learned. With a fragmented educational career, it may be difficult for students to benefit fully from their education. Frequent school changes affect the continuity of education. Bruner stated, “Perhaps the most basic thing that can be said about human memory, after a century of intensive research, is that unless detail is placed into a structured pattern, it is rapidly forgotten” (p. 24).

Household Influences

Research indicates that mobility is detrimental to both individual students and the schools they attend. According to data collected by the California Student Information System (1992) in the State Department of Education, student records often take two to six weeks to arrive in a new school. For SWDs, this delay in transferring student records can have devastating effects. If the student is entitled to special education services and is unknowingly placed in classrooms where his or her needs are unknown, much damage can be done, both academically and psychologically, until the student receives the correct special education programming.

Student Characteristics

The medical field has also reported mobility issue concerns. A study in the Journal of American Medical Association (JAMA) reported that frequent relocation was associated with higher rates of all measures of childhood dysfunction. Increased risk of behavioral problems

and grade retention were reported for students who frequently change schools (Wood et al., 1993).

A number of studies linked mobility and achievement. Research correlating student mobility and student dropout is limited. Although the studies of Astone and McLanahan (1994), Smith (1995), McMillen et al. (1997), Rumberger (1995), and Rumberger and Larsen (1998) concurred that highly mobile students were more likely to drop out, their findings were not focused on highly mobile SWDs. Further, no research was found that looked at the relationship between *when* the student moved and the outcomes associated with moving during the school year versus moving in the summer months.

Christenson, Sinclair, and Hurley (2000) identified two sets of variables related to the tendency for a student to drop out of school: status variables (cannot be altered) and alterable variables (can be changed). Status variables included student disability, family structure, intelligence, SES, and geographic features. Alterable variables included student attendance, supervision of free time, identification with school, monitoring of student progress, and support services. Past research on student dropouts can be categorized in these two major areas: Table 1 describes those factors that schools can control (alterable) and those factors that schools cannot control (status).

Table 1
Summary Chart of Student Drop Out Research

Factors that schools can control (Alterable Variables)	Factors that schools cannot control (Status Variables)
Intervention programs (Sinclair, M., Christenson, & Thurlow 2005).	Family SES status (Rumberger, 1987).
Caring relationships (Phelan, 1992) (Reglin, 1990)	Family structure (Christenson, Sinclair, & Hurley, 2000)
Extracurricular offerings (Huling, 1980)	Personal problems (Lichtenstein, 1993)
School size (Alspaugh, 1998) (Gardner et al., 2000)	Demographics (Alspaugh, 1998)
Curriculum (Guterman, 1995)	Gender, ethnicity, disability (Blackorby & Wagner, 1996) (MacMillan, 1991)
Discipline policies (Kortering & Braziel, 1999)	Discipline problems (Blackorby & Wagner, 1996) (MacMillan, 1991)
Connecting school relevance to future (Kortering & Braziel, 1999)	Course failures (Lichtenstein, 1993) (Wagner, 1991)
Teaching strategies (DeBettencourt & Sabornie, 1998)	Student mobility (Rumberger & Larson, 1998)

Table 1 (*continued*)
Summary Chart of Student Drop Out Research

Factors that schools can control (Alterable Variables)	Factors that schools cannot control (Status Variables)
Student attendance (Christenson, Sinclair, & Hurley, 2000)	Student age compared to peers (Wagner, 1996), Dynarski & Gleason (1999); Wells, (1990); and Williams Bost, (2004)
Supervision of free time (Christenson, Sinclair, & Hurley, 2000)	Intelligence (Christenson, Sinclair, & Hurley, 2000)
Identification with school (Huling, 1980) (Christenson, Sinclair, & Hurley, 2000)	Geographic features (Christenson, Sinclair, & Hurley, 2000)
Monitoring student progress (Christenson, Sinclair & Hurley, 2000)	Alienation (Huling, 1980) (Finn, 1993)
Eliminating retention practices Rumberger & Larson (1998)	Limited English proficiency Dynarski & Gleason (1999); Wells, (1990); and Williams Bost, (2004)

Summary

The literature related to all students who drop out of school, as well as specific literature related to SWDs who drop out of school, was examined in this chapter. The methodology used for the study will be reviewed in Chapter Three, and results will be reported and discussed in Chapters Four and Five.

CHAPTER THREE: METHODOLOGY

An abundance of research has defined the characteristics of general education students who drop out of school, but only a few studies have explored reasons for dropouts among students with disabilities (SWDs). The National Transition Longitudinal Study-2 (NLTS2), commissioned by the U.S. Department of Education in 2001, is the most comprehensive study to date that provides a national picture of the characteristics, experiences, and outcomes of high school-aged SWDs as they transition to adulthood.

According to the NLTS2 (2001) report concerning post-secondary students, the most common reasons given for dropping out were dislike of school, reported by 36% of respondents, and poor relationships with teachers and other students (17%). The NLTS2 report also discussed the negative results associated with dropping out of school. Based on a review of students' activities shortly after high school, the report found that only 69% of SWDs who dropped out of school were engaged in further education, work, or preparation for work compared to 86% of SWDs who graduated with a diploma.

The purpose of this study was to investigate the relationship between six prominent risk factors and SWDs who drop out of high school; (a) retention at grade level, (b) age overage of the peer group, (c) English as a second language (ESL), (d) identified Learning Disabled (LD) or Emotionally Impaired (EI), (e) number of educational settings (school districts) attended, and (f) time of year when transitions occur. By identifying and focusing attention on these risk factors, it may be possible for educators to understand the reasons for drop outs among SWDs and to improve their long-term outcomes. Research methods used in the conduct of this study, with special emphasis on the analysis of data, are discussed in this chapter.

Design

This non-experimental, quantitative, retrospective (ex post facto), research study examined six major risk factors related to the outcome of dropping out of school for SWDs. Ultimately, five factors were analyzed in the research, as only one student in the sample of 69 was labeled an ESL student, and that factor was eliminated.

A simple logistic regression analysis and multiple logistic regression analysis were used. Regression analyses can be used when a researcher wants to show if and/or how one variable can predict or cause changes in another variable. Logistic Regression is a regression method used when the dependent variable is divided into two parts (dropping out or graduating with a diploma). Logistic regression is used to predict the likelihood (the odds ratio) of the outcome based on the predictor variables. The logistic regression statistic provided a better understanding of the relationship between several independent or predictor variables (the five factors) and a dependent or criterion variable (dropping out of school). The simple logistic regression analysis was performed on each independent variable to determine if the variable was a statistically significant predictor of students' dropping out of school. If the variable was found to be statistically significant, the researcher interpreted the impact of the independent variable on the rate of student dropouts with respect to the odds and the odds ratio. The Wald statistic (a chi-square statistic) was used to assess the relationship between two variables. Additionally, a stepwise logistic regression method was performed to find a best predictive logistic regression model with multiple independent variables. When the presence of empty cells was found, Fisher's Exact Test was chosen for the significance. Cross Tabulation Tables were used to illustrate percentages and raw numbers from the data collection.

A multiple logistic regression analysis was used to analyze the factors concerning what time of year a student moved to a new educational setting (never moved, moved mostly during the summer months, moved mostly during the school year.) A chi-square test of goodness of fit confirmed that the model adequately fit the data.

Research Context

In May of 2007, this researcher sent an email to each high school special education teacher in one county in south central Michigan. The teachers were asked to submit the names of any student on their caseload who would be graduating with the class of 2007. Additionally, teachers were asked to send the names they could recall of any student from this particular cohort of students who had dropped out of high school. These lists were then matched against the electronic special education caseloads records in the central registry special education files to verify for accuracy. Those students listed as *dropouts* were still in the computer system in the inactive files.

On April 10, 2008, the researcher obtained permission from the Eastern Michigan University Institutional Review Board to conduct the study (see Appendix B). Letters seeking permission to conduct the study were sent to the superintendent in each district that included one of the four county high schools (see Appendix C). The researcher asked to meet in person with each superintendent to answer questions or verify information. For the purposes of confidentiality, the name of the county, specific school districts, and high schools were given fictitious names. The first meeting with the school district superintendent for high schools C and D was held on April 21, 2008. The meeting with the district superintendent for high school B was held on April 20, 2008, and the meeting with the district superintendent

for high school A was held on April 30, 2008. All superintendents agreed that key personnel in the district would cooperate to provide CA-60 cumulative files and needed information.

Central County is a rural community of approximately 46,400 residents. Standards and Poors (2006) reported total student enrollment in school district A was 1,521, with 35% of students considered economically disadvantaged. (This is based on the number of students who receive free and reduced lunch.) School District A has a high school and middle school in one building and one elementary building. Total student enrollment in School district B was 1,363, with 55.5% of students considered economically disadvantaged. School district B includes one junior/senior high school and three grade level elementary buildings. Schools C and D are in the same school district; School C is the public high school, and School D is the public alternative high school, open to students from all of Central County. The district also includes one middle school and four elementary schools. Total student enrollment was 3,302 students, with 39% considered economically disadvantaged.

Research Participants

The sample size comprised 69 students with disabilities; all had active IEPs; 13 did not receive a diploma and were considered dropouts. Thurlow, Sinclair, and Johnson (2002) described three kinds of dropout rate statistics. The first are event rates (or incidence rates), which are used to measure the proportion of students who drop out in a single year. In regard to relative value, event rates show the smallest numbers. Status rates (or prevalence rates) are used to measure the proportion of students who have not completed high school and are not enrolled at one point in time, regardless of when they dropped out. For the purposes of this study, the third type, cohort rates (or longitudinal rates) were used to measure what happens to a single group (Class of 2007 cohort) of students over a period of time (four years of high

school). Cohort rates were chosen because in terms of relative value, they provide the most accurate information related to tracking dropouts. Further, the choice of cohort rates made it easier to collect accurate data from 2007 high school records that were updated, maintained, and readily accessible in the files of the four high schools.

Limitations

The findings of this study were limited by the following factors:

1. The study only focused on SWDs, and no general education student data were used.
2. The school districts of these students would be considered rural. There are no data from urban districts in the study.
3. Results cannot be generalized to the entire state, areas within the state, or to an entire population of graduates.
4. Only six factors were analyzed.
5. There was no demographic breakdown of the results.

Delimitations

The following were the delimitations relative to this study:

1. Only 69 SWDs were in the cohort of the Class of 2007.
2. The study used only students from four high schools in one county.
3. The public school academy and the county center-based program were excluded.
4. If student data were missing, the student information was not included in the study.

5. Student CA-60 files may have been incomplete, and information found from other sources may have been inaccurate.

Instruments Used in Data Collection

Document analysis was the primary method used to collect data. On June 18, 2008, the researcher worked with an office assistant from high school A to retrieve students' information. Student files from high schools B, C, and D were retrieved on June 26 and 27, 2008. Student IEP paperwork was used to gather student disability and English as a Second Language status. Dates of birth were used to determine if the students were the same age (within one year) of their peers. The cumulative paperwork was further examined to determine if students had been retained at any point in their K-12 experience. It was noted that some of the students were not retained but were enrolled in either a developmental kindergarten classroom or a transitional first grade classroom. If students were retained, it was noted at what grade or grades the retentions occurred. The front page of the CA-60 file was the primary resource used to determine if students had moved to other school districts or educational settings. This information was also noted as part of students' cumulative high school transcripts. The dates the student entered or left the district were also noted, so it could be determined if the moves were primarily during the summer months (June, July or August) or during the school year (September – May).

Data Analysis

In this research, the researcher wanted to determine whether or not a student's propensity to drop out of school can be predicted from analysis of risk factors, such as the number of retentions, age overage compared to peers, whether English is a second language (ESL), the type of disability, the number of educational settings, and the time of year of

transitions. All raw data collected were entered into an Excel spreadsheet. Data were analyzed using a statistical software package (SPSS version 14) with the logistic and logistic multiple regression analysis. Logistic regression is a model used for prediction of the probability of occurrence of an event by fitting data to a logistic curve. The simple logistic regression analysis was performed to determine whether or not a change from a reference category to another in an independent variable is predictive of the outcome variable (graduate or dropout). The reference category was designated to be 0 for each variable. The variable X was an independent variable. The logistic model can be found in Appendix D.

A multiple logistic regression analysis was performed to determine whether or not a change from a reference category to another in an independent variable is predictive of the outcome variable of dropping out. A Hosmer and Lemeshow chi-square test of goodness of fit confirmed that the model adequately fits the data when the variable of time of year for the student changing educational settings is analyzed. The raw data were reduced by coding the variables as shown in Table 2. The dependent variable, coded 0, will be the outcome of earning a regular high school diploma and graduating. Not graduating and dropping out of school is coded 1, except in the variable that describes the time of year when transitions occur. Cases where the student moved mostly during the school year are coded 2.

Table 2
Coding of Five Risk Factors

Variables coded 0	Variables coded 1 except *
No retentions	One or more retentions
DOB within one year of peers	DOB greater than one year compared to peers
Labeled LD or EI	Labeled other
Uninterrupted attendance in same school district	Attended two or more school districts
	<u>Time of year of transitions</u>
If not moved or n/a	If mostly moved in summer
	*If mostly moved in school year = 2

Data in Table 3 indicate the number and percentage of students from the total sample who dropped out of school.

Table 3

Variables by Number and Percentage of Student Dropout/ Graduate

Variables - Total

Graduated with a diploma	56 (81.2%)
Dropped out of school	13 (18.8%)
<hr/>	
Total	69 (100%)

Data in Table 4 indicate show that all students in the total sample were retained in one or more grades.

Table 4

Variables by Number and Percentage of Students Retained

Variable - Retention

Graduated with a diploma	56 (81.2%)
Dropped out of school	13 (18.8%)
<hr/>	
Total	69 (100%)

Data in Table 5 indicate that a higher number and percentage of students in the total sample who were one or more years older than their peers graduated from school.

Table 5

Variables by Number and Percentage of Students Older than Peers

Variable - Age Overage

Graduated with a diploma	49 (71 %)
Dropped out of school	20 (29 %)

Total	69 (100%)
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Data in Table 6 shows that a higher number and percentage of students in the total sample who were labeled as either LD/EI or another disability graduated from school.

Table 6

Variables by Number and Percentage of Students by Disability Status

Variable - Disability

Graduated with a diploma	59 (85.5%)
Dropped out of school	10 (14.5%)

Total	69 (100%)
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Data in Table 7 show a higher drop out number and percentage of students in the total sample who moved to one or more educational settings or school districts in their school career.

Table 7

Variables by Number and Percentage of Students in More Than One Educational Setting.

Variable - Mobility

Graduated with a diploma	32 (46.4%)
Dropped out of school	37 (53.6%)

Total	69 (100%)
-------	-----------

Data in Table 8 indicate a higher number and percentage of graduates among students in the total sample who moved during the summer months and during the school year.

Table 8

Variables by Number and Percentage of Students Moving in the Summer Months and During the School Year

Variable - Time of Transitions

Graduated with a diploma	31 (44.9 %)
Dropped out of school	16 (23.2 %)
Transitions mostly during the school year	22 (31.9%)

Total	69 (100%)
-------	-----------

Data in Table 9 indicate the number and percentage of students in each category of risk factor by variable (0 = graduating with diploma, 1 = dropped out without diploma, 2 = transitions mostly during the school year).

Table 9

Variables by Number and Percentage of Students for Each Risk Factor

Variable	Drop out	Retentions	Age	Disability	# of Edu. Settings	Time of Transitions
0	56 (81.2%)	56 (81.2%)	49 (71%)	59 (85.5%)	32(46.4%)	31 (44.9%)
1	13 (18.8%)	13 (18.8%)	20 (29%)	10 (14.5%)	37 (53.6%)	16 (23.2%)
2	-	-	-	-	-	22(31.9%)
Total	69 (100%)	69 (100%)	69 (100%)	69 (100%)	69 (100%)	69 (100%)

Importance of the Findings

In 1975, Public Law 94-142 mandated that SWDs be afforded an individualized, appropriate, free public education in the least restrictive environment possible. In the 1970s and 1980s, most of the emphasis was given to procedural compliance with the requirements of the law. In the researcher's role as the special education monitor, compliance with these laws is a major job responsibility. However, the limitations of focusing on procedures were revealed from outcomes studies in the 1990s and beyond. These more recent studies reported that SWDs were receiving special education and related services, but many were not finishing high school and were achieving only limited success as young adults (McGrew, Thurlow, Shriner, & Spiegel, 1992). The dropout problem begins long before the actual event

of leaving school. The five most common risk factors examined in this study give only a glimpse into the complexity and full extent of the problem. However, knowledge of the importance of these factors may facilitate early interventions for SWDs before they drop out.

Summary

The methods used in this quantitative study to examine five major risk factors related to the rate of dropout for SWDs were discussed in this chapter. Topics included the research design; the context of the research; research participants; limitations and delimitations of the study; instruments used; data analysis, including results from a test of significance of each independent variable and interpretations of the odds ratio; and the importance of the findings. Findings and potential implications of the study are discussed in Chapter Four.

CHAPTER FOUR: RESULTS AND DISCUSSION

This study examined risk factors associated with students with disabilities (SWDs) and whether they dropped out of school. Presented in this chapter are the results of the data analysis conducted to address the research questions of the study. Documents including IEP Paperwork, CA-60 (cumulative) files, and student transcripts of 69 SWDs in the cohort of the class of 2007 from four high schools in one county were examined in this study. Of the 69 students in the sample, 13 were considered dropouts and they did not receive a high school diploma. Only one student was considered an "English as a Second Language" (ESL) learner in the study.

Research Questions

A total of six research questions were developed for this study. The purpose of the research questions is to identify the phenomena to be studied and to focus individually on each hypothesis.

1. What is the relationship between SWDs who have been retained one or more grade levels and whether they dropped out of school or graduated with a diploma?
2. What is the relationship between SWDs who are at least one year older than their grade level peers and whether they dropped out of school or graduated with a diploma?
3. What is the relationship between SWDs who are labeled as English as a Second Language (ESL) learner and whether they dropped out of school or graduated with a diploma?

4. What is the relationship between the categories of LD and EI compared to other special education disabilities (visual impairment, autism, mildly cognitively impaired) and whether SWDs dropped out of school or graduated with a diploma?
5. What is the relationship between the number of educational settings (school districts attended) and whether SWDs dropped out of school or graduated with a diploma?
6. What is the relationship between the time when the SWDs changed educational settings (summer or during the school year) and whether they dropped out of school or graduated with a diploma?

Null Hypothesis 1.

There is no significant relationship between SWDs who have been retained one or more grade levels and whether they dropped out of school or graduated with a diploma.

Results

The data from this study found that retention in one or more grade levels alone is not a significant predictor of dropping out of high school.

Table 10 shows the independent variable, number and percentage of SWDs who were not retained in grade level and those with one or more retentions.

Table 10

Retention and Dropout Cross Tabulation

Number of Retentions		Received Diploma	Dropped Out	Total
None	n	47	9	56
	%	83.9%	16.1%	100%
1 or more	n	9	4	13
	%	69.2%	30.8%	100%
Total	n	56	13	69
	%	81.2%	18.8 %	100%

A simple logistic regression analysis was performed to determine if each independent variable was statistically a significant predictor of the students' dropping out of school. If so, we would interpret the impact of the independent variable on the students' dropouts with respect to the odds and the odds ratio. The odds are defined to be the probability of dropout versus the probability of graduating with a diploma. If the odds are greater than 1, a student would more likely drop out of school. If the odds are less than 1, a student would more likely graduate with a diploma. The odds ratio would be used to assess the impact of an independent variable on the students' dropping out. The odds ratio is defined as the change of the odds as a student's status changes from one category to another. If the odds ratio is close to 1, one may say that the independent variable has no impact on the dependent variable.

Further, a stepwise logistic regression method was performed to find a best predictive logistic regression model with multiple independent variables.

Table 11 shows that the odds that students with one or more retentions drop out of high school are higher than those who were not retained, but the odds ratio was not statistically significant. A maximum of 5% (.05) level of significance is acceptable and used throughout the research. (This indicates there is at least a 95% certainty that the result is not due to chance.) The smaller the significance level p , the more stringent the test and the greater the likelihood that the conclusion is correct. The Wald statistic of 1.437 with the associated p -value of 0.231 indicates that retention alone is not a significant predictor of the outcome variable. The Wald statistic is a Chi-square statistic that is used to assess the relationship between the two nominal variables. The researcher did not reject the null hypothesis.

Table 11

Logistic Regression Analysis for Retention (N=69)

Variable	B	S.E.	Wald	df	Sig.	Exp(B)
Retention	.842	.702	1.437	1	.231	2.321
Constant	-1.653	.364	20.638	1	.000	.191

Null Hypothesis 2.

There is no significant relationship between SWDs who are at least one year older than their grade level peers and whether they dropped out of school or graduated with a diploma.

Results

The data from this study found that being older by one year or more than grade level peers is a significant predictor (.007 level of significance) of dropping out of school.

Table 12 shows the number and percentage of SWDs who received diplomas or dropped out on the basis of the independent variable of age compared to peers (ACP).

Table 12

Age Compared to Peers and Dropout Cross Tabulation

Age Compared	Received		Dropped	Total
To Peers (ACP)	Diploma		Out	
Same age	n	44	5	49
	%	89.8%	10.2%	100%
Older	n	12	8	20
	%	60%	40%	100%
Total	n	56	13	69
	%	81.2%	18.8 %	100%

Table 13 shows that the odds are higher that students who are at least one year older than their peers are more likely to drop out of high school, than those who are the same age (within one year) of their peers. The odds ratio is statistically significant. A Wald statistic of 7.262 with the associated p-value of 0.007 indicates that age alone is a significant predictor of the outcome variable. Further, older students were as much as 5.867 times more likely to drop out, than younger students. The researcher rejected the null hypothesis.

Table 13

Logistic Regression Analysis for Age Overage (N=69)

Variable	B	S.E.	Wald	df	Sig.	Exp(B)
Age	1.769	.657	7.262	1	.007	5.867
Constant	-2.175	.472	21.235	1	.000	.114

Null Hypothesis 3.

The third hypothesis was that there was no significant relationship between SWDs who are categorized as “English as a second language” (ESL) students and whether they drop out of school or graduate with a diploma. However, as the raw data were collected and examined, there was only one student in the sample who was labeled as ESL. Therefore, it was not possible to statistically analyze the data, and they were omitted from the study.

Null Hypothesis 4.

There is no significant relationship between the disability categories of LD and EI compared to other special education disabilities (visual impairment, autism, mildly cognitively impaired) and whether they dropped out of school or graduated with a diploma.

Results

The data from this study found that being labeled either LD or EI was not a significant predictor of dropping out of high school.

Table 14 shows the number and percentage of SWDs who received diplomas or dropped out on the basis of the independent variable of disability label of emotionally impaired or learning disabled (EI/LD) compared to other disability labels.

Table 14

Disability Category and Dropout Cross Tabulation

Disability Label EI/LD Compared to Other	Received		Dropped	
		Diploma	Out	Total
EI/LD	n	46	13	59
	%	78%	22%	100%
Other	n	10	0	10
	%	100%	0%	100%
Total	n	56	13	69
	%	81.2%	18.8 %	100%

Table 15 shows results of Chi-Square tests of goodness of fit with data in the contingency table (Table 14). Because of the presence of empty cells in Table 14, Fisher's Exact Test was chosen for the significance. The p-value of 0.189 indicates that disability alone is not a significant predictor of the outcome variable. The odds that students who are labeled LD or EI drop out of high school are not significantly higher than those students categorized under another disability label. The researcher did not reject the null hypothesis.

Table 15

Chi-Square Tests for Goodness of Fit (N = 69)

Measure	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.715	1	.099	---	---
Likelihood Ratio	4.553	1	.033	---	---
Fisher's Exact Test				.189	.105

Null Hypothesis 5.

There is no significant relationship between the number of educational settings (school districts attended) and whether SWDs dropped out of school or graduated with a diploma.

Results

The data from this study found (.023 level of significance) that attending more than one school district is a significant predictor of dropping out of school.

Table 16 shows the number and percentage of SWDs who received diplomas or dropped out on the basis of the independent variable of the number of educational settings (school districts) attended.

Table 16

Number of Educational Settings and Dropout Cross Tabulation

Educational Settings (ES)	Received Diploma		Dropped Out	Total
	No moves	n	30	2
	%	93.8%	6.3%	100%
1 or more moves	n	26	11	37
	%	70.3%	29.7%	100%
Total	n	56	13	69
	%	81.2%	18.8 %	100%

Table 17 shows that the odds of dropping out of school for students who attended one or more educational settings (school districts) in their school career were higher than for those students who had no moves. The odds ratio is statistically significant. Wald statistic of 5.152 with the associated p-value of 0.023 indicates that educational settings alone are a significant predictor of the outcome variable. Further, students who moved one time or more in their school careers were as much as 6.346 times more likely to drop out than those who did not move. The researcher rejected the null hypothesis.

Table 17

Logistic Regression Analysis for Number of Educational Settings (ES) (N=69)

Variable	B	S.E.	Wald	df	Sig.	Exp(B)
# of ES	1.848	.814	5.152	1	.023	6.346
Constant	-2.708	.730	13.750	1	.000	.067

Null Hypothesis 6.

There is no significant relationship between the time when the SWD changed educational settings (summer or during the school year) and whether they dropped out of school or graduated with a diploma.

Results

The data from this study found that students who moved during the summer months had a 2.071 greater likelihood of dropping out of school. A student who moved during the school year had an even greater likelihood of dropping out, with the odds increased to 10.038 times greater likelihood of dropping out.

Table 18 shows the number and percentage of SWDs who received diplomas or dropped out on the basis of the independent variable time of year moved and whether SWDs dropped out of school or graduated with a diploma.

Table 18

Time of Year Moved and Dropout Cross Tabulation

Time of Year Moved (TY)	Received		Dropped	Total
		Diploma	Out	
Never moved	n	29	2	31
or n/a	%	93.5%	6.5%	100%
Moved during	n	14	2	16
Summer	%	87.5%	12.5%	100%
Moved during	n	13	9	22
School Year	%	59.1%	40.9%	100%
Total	n	56	13	69
	%	81.2%	18.8 %	100%

Table 19 shows that students who moved during summer and those who moved during the school year were more likely to drop out than those who did not move; the odds were as much as 2.071 times greater for students who moved during the summer, and as much as 10.038 times greater for students who moved during school year. The researcher rejected the null hypothesis.

Table 19

Logistic Regression Analysis for Time of Year Student Moved

Variable	B	S.E.	Wald	df	Sig.	Exp(B)
Time			8.709	2	.013	
Time (1)	.728	1.052	.480	1	.489	2.071
Time (2)	2.306	.850	7.363	1	.007	10.038
Constant	-2.674	.731	13.379	1	.000	.069

In Table 20, a stepwise logistic regression analysis using the backward method was performed to find the best multiple logistic regression model. Every variable was included in the model in the first step and then insignificant variables were removed one at a time. Table 20 shows the fitted final model with two significant independent variables, age compared to peers and time of year moved. Other independent variables were not significant when these two variables were present. This model suggests that age is predictive of the outcome variable (graduation or dropout), while time of the year moved is controlled and vice versa.

Table 20

A Best Multiple Logistic Regression Model Fitted with the Backward Stepwise Method

Step	B	S.E.	Wald	df	Sig.	Exp(B)
Age	1.815	.733	6.129	1	.013	6.140
Time			7.875	2	.019	
Time (1)	.587	1.094	.288	1	.592	1.798
Time (2)	2.310	.900	6.596	1	.010	10.078
Constant	-3.380	.860	15.453	1	.000	.034

Summary

The results of the data from this study indicated specific factors that may be predictors of school drop outs for SWDs. Age of student, number of educational settings (school districts), and time of the year of a move are individually significant predictors of the outcome of dropping out of school. Older students are more likely to drop out. Students who attended more than one school district are more likely to drop out. Students who moved during the school year are more likely to drop out. However, the number of educational settings (school districts) attended is no longer significant when information about student age and time of the year of the move are provided.

CHAPTER FIVE: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

This study investigated the relationship between six prominent risk factors and students with disabilities (SWDs) who drop out of high school. The risk factors included (a) number of grade level retentions, (b) age overage compared to peer group, (c) limited English speaking ability, (d) the type of disability (learning disabled [LD]/emotionally impaired [EI] or other), (e) the number of educational settings (school districts) attended, and (f) time of year when transitions occur (in the summer or during the school year).

In this non-experimental, quantitative, retrospective (ex post facto) research study, student records, including cumulative files, individualized education programs (IEPs), and student transcripts were examined to collect the raw data. Sixty-nine students with IEPs were identified from the cohort of the Class of 2007 from four high schools in one county in south central Michigan. A logistic regression analysis and multiple regression analysis were used to show how each of the variables related to the outcome of dropping out of school. The analysis predicted the likelihood (the odds ratio) of dropping out for each of the factors. If the factor was found to be significant, the researcher interpreted the impact. The Wald chi-square statistic was used to assess the relationship between two variables, and a stepwise logistic regression method was performed to find the best predictive logistic regression model.

Interpretation of the Findings

The first hypothesis was that there was no significant relationship between SWDs who were retained one or more grade levels and whether they dropped out of school. The null hypothesis was not rejected, as the results indicated (.231 level of significance) that

retention of one or more grade levels alone is not a significant predictor of dropping out of school.

The second hypothesis was that there was no significant relationship between SWDs who were at least one year older than their peers and whether they dropped out of school. The null hypothesis was rejected, as the results indicated (.007 level of significance) that being older by one year or more than grade level peers is a significant predictor of dropping out of school.

The third hypothesis looked at the relationship between students categorized as "English as a second language" (ESL) learners and whether they are more likely to drop out of school. Unfortunately, there was only one student in the sample who met this criterion; therefore, this factor was omitted from consideration in this study.

The fourth hypothesis was that there was no significant relationship between the students' category of special education eligibility and whether they dropped out of school. The study compared students labeled as learning disabled (LD) or emotionally impaired (EI) to other special education disability categories. The null hypothesis was not rejected, as the results indicated (.189 level of significance) that being labeled either LD or EI was not a significant predictor of dropping out of school.

The fifth hypothesis was that there was no significant relationship between SWDs who attended more than one educational setting or school district in their school experience and whether they were more likely to drop out of school. The null hypothesis was rejected as the results indicated (.023 level of significance) that attending more than one school district is a significant predictor of dropping out of school.

The sixth hypothesis was that there was no significant relationship between the time of year the student moved (in the summer months or during the school year) and whether SWDs were more likely to drop out of school. The null hypothesis was rejected, because the odds for a student who moved in the summer indicated a 2.071 greater likelihood of dropping out. For students who moved during the school year, the odds increased to 10.038 times greater likelihood of dropping out.

Additionally, a stepwise logistic regression analysis determined that the other independent variables (retention, category of disability, number of educational settings) were not significant when age greater than peers and time of the year moved were present. This model suggested that being one or more years older than the peer group is predictive of dropping out of school when the time of the year that the student moved is controlled and vice versa. The time of the year the student moved is predictive of dropping out of school when age overage is controlled. Together, those two factors become much more powerful and work together to strongly impact the likelihood of dropping out.

The results from this study supported prior research related to age overage and mobility that indicated these factors were predictors of dropping out. However, in the area of grade retention and category of disability, the results contradicted prior research related to SWDs dropping out. It should be noted that a number of the students in this study attended a developmental kindergarten class or transitional first grade class. Although these settings were not considered retentions, it could be argued that these types of classrooms are de facto retentions. Other researchers may have considered those types of classrooms as retentions, but this study did not. Prior research indicated that being retained and being labeled LD or EI were all predictors of dropping out of school. New information was discovered when looking

at the time of the year a student moved, as results of this study indicated that students who moved during the school year, in the months from September to June, were much more likely to drop out of school.

Recommendations

Dropout research focused on SWDs is somewhat limited. This study investigated the relationship of risk factors associated with SWDs dropping out of school and identified specific factors that influence SWDs decision to drop out. The implications of the findings of this study for educators and families are numerous. Governmental policies, schools, school administrators, teachers, families, and the student him- or herself share the responsibility for ensuring that SWDs graduate with a diploma.

The dropout rate for SWDs nationwide is alarming, as it does impact the economy. The National Center for Education Statistics (2004) indicated that male students who are now aged 25-34 who dropped out of school and work full time made an average annual salary of \$22,903 in 2002. Their female counterparts made even less, earning an average annual salary of \$17,114. Students without a high school diploma find it much more difficult to earn a living. Even when working full time, the average earnings were not far above the poverty line for those with children. If stakeholders are attentive to these factors, interventions can be implemented to help keep potential dropouts in school. Based upon the results and conclusions drawn from this study, the following are implications for practice:

1. Programs such as *Developmental Kindergarten* or *Transitional First Grade* may not be supported by this research. These are de facto grade level retentions and automatically make students overage compared to their peers.

Educational research overwhelmingly indicates that retention is not effective for students with academic, behavioral, or immaturity problems (Gaffney & Zaimi, 2003).

2. Grade retention should not be used as a pre-referral intervention before special education services are implemented. Gaffney (1998) concluded that grade retention, remediation, and special education services are implementation strategies often used by schools when students are not making progress. The belief that students can benefit from another year to *mature* is not based on research. Mantzicopoulos (1997) determined that retention prior to referral to special education for students with mild disabilities exacerbated student difficulties. He determined that this practice increased the achievement gap between the lowest achievers and their age/grade-level peers and this in turn led to an increase in behavior problems.
3. School officials need to consider their retention and promotion policies, so that they are based on research. Owings and Kaplan (2001) demonstrated that for more than 75 years, research has shown that grade-level retention offers no academic advantages for students. It might be argued that there is probably no widespread practice in education today that has been as thoroughly discredited by research than grade level retention.
4. School districts would benefit from implementation of Response to Intervention (RtI) programs at the elementary level. According to Batsche, Elliott, Graden, Kovaleski, and Prasse et al. (2005), RtI provides high quality instruction and intervention and uses learning rate over time and level of

performance to make important educational decisions. It is systematic, data-driven decision making that is used to decide not only what interventions to try but also whether the interventions are working. This process will require regular progress monitoring of student achievement levels in language arts and math. RtI uses a multi-tier model of educational delivery. Tiered interventions, increasing in intensity of services matched to the level of student need, should be implemented. If students fail to respond to the three to four tiers of intervention, testing for special education can then be implemented.

5. This research suggests that in the child's best interest, parents should not hold their children out of kindergarten for a year with the hope that giving them another year to mature physically, emotionally, and intellectually. Schools have a responsibility to educate parents about the pitfalls and related research on age overage and retention. Tomchin and Impara (1992) found that teachers are most often responsible for communicating with parents on the topic of retention.
6. Families should avoid moving their children to new school districts unless absolutely necessary. Mansour (2002) wrote that parents reported resistance and sometimes defiance by children who were told that they would be changing schools again. Schools and agencies need to promote parental awareness of the potential consequences of high mobility. If families must move to new school districts, they should try to do it during the summer months, as opposed to during the school year. Patrick and Herschman (2002)

indicated that mobility seems to undercut programmatic efforts to solve school problems and to transform schools into effective organizations.

7. Schools need to implement programs for new students (buddy systems, mentors, and so on). Chaika (1990) suggested that schools need welcoming processes, such as committees to greet and acclimate new students and their parents. The purpose of the committees would be to establish contact and communicate interest, warmth, and a sense of community. School personnel need to take the time to catch new students up to the level and context of lesson plans in progress. The staff must help to ensure that the new student makes friends and becomes part of a group. If a student bonds with another student, adult, or the school environment in general, he or she is more likely to stay in school. It is critical that adults working in school environments are caring people who are willing to offer both academic and emotional support to SWDs.
8. Schools should consider drop out intervention programs, such as Check & Connect. At its most fundamental level, Check & Connect emphasizes relationship building; personal contact and the opportunity to build relationships are part of the program. Sizer (2002) commented that teaching and learning should be personalized to the maximum feasible extent. His organization, *Coalition of Essential Schools*, has documented and developed the concept of community building in schools. This research may suggest that dropout retrieval programs should be implemented in school districts so that

stop outs (students who drop out but may come back to school if given the opportunity) can continue with their education.

9. SWDs will need alternative routes and timelines for high school completion. This is particularly relevant in the era of Michigan's *high school reform* initiatives that mandate a number of core subjects necessary to receive a diploma. Schools should not be penalized for allowing students more time to complete credits as part of their adequate yearly progress (AYP) ratings by the state.
10. Schools need to assure that students have a voice in planning their educational future. For example, students should be actively involved in the development of their Educational Development Plans (EDPs) in the seventh grade. If students perceive school as meaningful to their future goals, they are more likely to stay in school. According to Payne (1996), students in poverty (which constitute 60-70% of the special education population), do not have "future stories." There is great power in interviewing students to get their perceptions of the dropout issue, so that educators better understand the themes surrounding drop out. The transition process in special education emphasizes the need for students to make the connection between school and future employment. This is a critical piece of a secondary student's Individualized Education Program (IEP) and needs to be the focus of IEP meetings, especially at the high school level.
11. For students who ultimately decide to drop out, school districts, community agencies, nonprofit child advocacy organizations, workforce development

agencies, and higher education need to collaborate to offer supports for continued education so students can earn regular or alternative diplomas.

Suggestions for Additional Research

The findings of this study offer possibilities for future researchers who may be interested in studying factors that influence SWDs to drop out of school. The following are recommendations for further investigations.

1. Much of the previous research on students who drop out of high school has been based on fixed attributes. There is potential for school administrators and researchers to focus on factors that are administratively mutable or alterable to improve the rate at which students stay in school. For example, action research related to mentor programs, class and school size adjustments, reduced school-initiated interruptions, parent training, and so on could be implemented at any time in high schools.
2. Researchers might investigate the link of age overage compared to peers and mobility or a move to more than one educational setting or school district. Age compared to peers and time of year of move work together to impact dropping out. Together, these factors become much more dominant. *Why* they become so influential when combined would be an interesting area to further explore.
3. Researchers could replicate this study in more urban and suburban areas with a more diverse population of students, replicate this study with a larger sample of students or, with a larger sample of students, further investigate the impact of students moving to a different school district during the school year, as opposed to moving during the summer months.

4. Researchers could identify and study other variables that may affect a student's decision to drop out of school, such as socio-economic status, education level of the mother, school size, curriculum, attendance policies, student-teacher relationships, and school policies related to retention and promotion.
5. Research in the area of student dropout would be well-served to focus on the factors that keep SWDs in school, as opposed to the factors that contribute to SWDs dropping out.

Summary

The findings of this study examining the relationship of risk factors associated with dropping out of high school for students with disabilities were summarized in this chapter. Each of the factors was reviewed with the interpretation of results clarified. Recommendations based on the findings of the study were included in this final chapter, as well as suggestions for additional research topics that might further be explored based on these results.

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APPENDICIES

Appendix A: Special Education Acronyms Defined

OHI:	Other Health Impairment
TBI:	Traumatic Brain Injury
ASD:	Autism Spectrum Disorder
SXI:	Severe Multiple Impairment
LD:	Learning Disabled
SI:	Speech Impairment
PI:	Physical Impairment
VI:	Visual Impairment
HI:	Hearing Impairment
EI:	Emotional Impairment
CI:	Cognitive Impairment

Appendix B: E.M.U. Approval to Conduct Study Involving Human Subjects

EASTERN MICHIGAN UNIVERSITY*Education First*

April 10, 2008

Dawn Gallup
750 E. Chicago St.
Bronson, MI 49028

Dear Dawn Gallup:

The Human Subjects Institutional Review Board (IRB) of Eastern Michigan University has reviewed and approved as exempt research your proposal titled, "An Examination of the Relationship of Six Risk Factors Associated with Dropping Out of High School for Students with Disabilities in South Central Michigan." The IRB determined that the rights and welfare of the individual subjects involved in this research are carefully guarded. Additionally, the methods used to obtain informed consent are appropriate, and the individuals participating in your study are not at risk.

Exempt research does not require reporting of continuation one year after approval if the project continues. However, should the sample or procedures change as to have an impact on human subjects, then UHSRC should be notified by using the *Minor Modification to Research Protocol* or the *Request for Human Subjects Approval* form depending upon the scope of the changes (see the forms online).

On behalf of the Human Subjects Committee, I wish you success in conducting your research.

Sincerely,

Deb de Laski-Smith, Ph.D.
Interim Dean
Graduate School
Administrative Co-Chair
University Human Subjects Review Committee

Reference #: 071014

Appendix C: Sample of Letter to School Superintendents

To: Branch County Superintendents
 From: Dawn Gallup
 Special Education Monitor
 Branch Intermediate School District
 Eastern Michigan University Doctoral Candidate
 Re: Permission to Conduct Research
 Date: April 4, 2008

 I am a doctoral student at Eastern Michigan University and currently completing my dissertation by conducting a research project that will examine the factors that influence students with disabilities to drop out of school. I am requesting your permission to obtain secondary data from key contacts from within your district to complete this work.

Data obtained will include information on students with disabilities (SWD) from the co-hort of the Class of 2007. Data collected will include student ages, disability, number of retentions (one, two or more), the grade(s) in which they were retained, the number of school districts attended (mobility), if new district attended, what time of year did the move occurred (summer break or during the school year), and whether students are classified as "English as a Second Language" students. This information will be requested between April 2007 and December of 2008 from the three county high schools.

Student anonymity will be respected in all cases and no personally identifiable information will be shared. There are no risks from the research to the district or to the student. The information derived from this research may give insight into the major factors that influence SWD to drop out of school.

With your permission, I will be requesting information that is already available (secondary data) from key contacts in your district from resources such as Zangle, Data Director, CA-60's and special education files. Key Contacts will include: Curriculum Directors, Special Education Supervisors, Administrative Assistants, and/or Building Administrators. If you have any questions or concerns, please contact me and I would be happy to discuss in more detail.

Signing the statement below indicates your consent for me to access this information for educational purposes. I've included the name of my EMU advisor if he can be of assistance.

This research protocol and informed consent document has been reviewed and approved by the Eastern Michigan University Human Subjects Review Committee for use from April 4, 2008 to December 15, 2008. If you have questions about the approval process, please contact Dr. Deb de Laski-Smith (734.487.0042, Interim Dean of the Graduate School and Administrative Co-chair of UHSRC, human.subjects@emich.edu).

Sincerely,

Dawn Gallup, Ed.S

517-617-4402

dgallup@branch-isd.org

Dr. Ron Williamson

Eastern Michigan University

734-487-7120

I give permission for Dawn Gallup to access student data from the _____ School District in order to complete educational research for Eastern Michigan University.

Name: _____ Date: _____

Appendix D: Logistic Model Formula

The odds = probability (dropout)/probability(graduate) = $\text{EXP}(\beta_0 + \beta_1 * X)$.

The odds ratio = odds for $X=1$ over odds for $X=0$ (reference category) = $\text{EXP}(\beta_1)$.