THE PARTICIPATION OF DROPOUT PREVENTION STUDENTS IN CAREER AND
TECHNICAL EDUCATION PROGRAMS

By

PATRICK A. CAPRIOLA

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To Stefanie and Nina. I will be forever grateful for your sacrifice. Our foundation is set.

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DEFINITION OF TERMS

Career and Technical Education	Programs or services that provide formal preparation for semi-skilled, skilled, technical, or professional occupations.
Career and Technical High Schools	Schools that provide formal preparation for semi-skilled, skilled, technical, or professional occupations.
Dropout Prevention Services or Programs	Programs that are intended to increase the rate at which students are staying in school, progressing toward graduation, or earning a high school credential.
Dropout Prevention Student	A student who is at-risk of dropping out of school because they meet specified risk factors.
National Center for Education Statistics	Department of U.S. Government responsible for overseeing the implementation of the survey
Poverty Concentration	Indicates the percentage of children in the district between the ages of 5-17 living below the poverty line defined by three categories: Less than 10% 10%-19% 20% or more

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Patrick Capriola

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This study investigated the availability of career and technical education (CTE) programs in the United States and the participation in them by dropout prevention (DOP) students, based on poverty concentration in the community. The researcher sought to examine the impact that poverty in the community has on the availability of CTE programs and the degree to which DOP students in those communities participate in these programs.

Four different circumstances were analyzed to ensure that the researchers' exploration of the issue possessed breadth and depth. They were (a) the availability of CTE high schools in the U.S., and whether a statistically-significant relationship with poverty concentration existed, (b) the level of participation in CTE high schools by DOP students, and whether a statistically-significant relationship between them existed based on poverty concentration, (c) the availability of CTE courses at regular high schools; and whether a statistically-significant relationship with poverty concentration existed, (d) and the level of participation in CTE courses at regular high schools by DOP students, and whether a statistically-significant relationship between them exited based on poverty concentration.

Data was used from the NCES survey *Dropout Prevention Services and Programs*. It was comprised of responses from 1,200 public schools across the United States. Of specific interest to this study were questions 3A1, 3A2, 3B1, and 3B2. Descriptive statistics were used to analyze the data. Binomial and ordinal regressions were used to determine relationships.

Results indicated that there is a statistically significant relationship between the availability of and participation in CTE high schools by DOP students based on poverty concentration in the community; as well as the availability of and participation in CTE programs at regular high schools by DOP students based on poverty concentration in the community.

It is recommended that policymakers understand the levels of participation in CTE programs by DOP students. Most districts reported that some students do participate in CTE programs; however, this is an ambiguous measure. Policymakers and researchers should seek to further quantify these levels and set out to develop initiatives that increase the level of access to and participation in CTE programs by DOP students.

CHAPTER 1
INTRODUCTION

Statement of the Problem

A student drops out of school every nine seconds. Policymakers have sought to remedy this problem through laws, and educators have sought remedy through changes in professional practice. Yet, the dropout issue remains (Christie & Yell, 2008). Before a student drops out of school, indicators reveal their at-risk status through both characteristics and behaviors. One of the most telling indicators of their likelihood to dropout is their socioeconomic status (SES). Students from families in the low SES category drop out at much higher rates than students in other socioeconomic groups. In 2000, 10% of low income students dropped out of high school. That is double the amount of middle income students, and six times as many high income students (Englund, et al., 2008).

There is no panacea to alleviate the dropout issue. However, access to and participation in enrichment programs can contribute to schools' efforts to prevent these students from dropping out of school (Perry & Wallace, 2012). This study seeks to examine the availability of one of those enrichment programs, career and technical education (CTE) programs, and the participation in them by dropout prevention (DOP) students.

Purpose of the Study

The purpose of this study is to examine the availability of CTE programs in the United States and the participation in them by dropout prevention (DOP) students, based on poverty concentration within their communities. The national discussion of the dropout epidemic has been heavily publicized, especially through the discussion of graduation rates (Thornburgh, 2006). On average, about 3/4 of students will graduate from high school (Bracey, 2006; Tyler & Lofstrom, 2009).

Today about 500,000 students drop out of school annually (Dynarski, et al., 2008). Most of these students come from rural and urban areas (Stanley & Plucker, 2008). Concerns about education have been expressed by citizens with the belief that the world is rapidly changing, and America's students need to be well educated to keep up. The U.S. is presently in a social and technological revolution that will drastically change what it means to teach and learn. The critical point of change is knowledge, which is quickly becoming America's true capital base as a wealth producing source. Without the knowledge that education produces students will be left behind, putting DOP students even more at risk (Cassel, 2003)

National figures support these measurements in Figure 1-1 (National Center for Education Statistics. 2007; as cited in Tyler & Lofstrom, 2009):

Source: National Center for Education Statistics, "Digest of Education Statistics: 2006" (Washington: U.S. Department of Education, 2007).
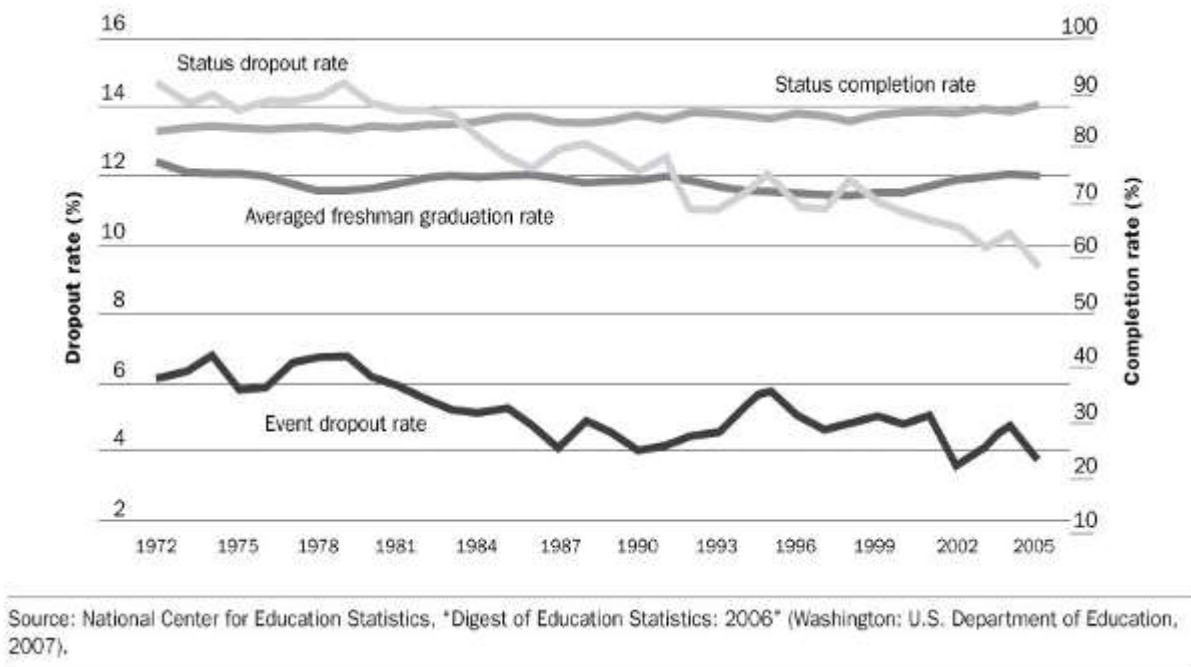
Figure 1-1. National Dropout Rate

Many programs have been implemented to address the clear need to improve these statistics. Some of these programs have produced positive results and have improved graduation rates among the groups which they served. Dodd & Bowen (2011) found that after-school

programs can improve family involvement at home. Franklin (2007) found students who receive their alternative schooling in an environment that emphasizes academics earn significantly more credits, enter college at higher rates, and have better attendance. Southwick et al., (2005) stated that resilience is enhanced through learning when a mentee imitates his or her more resilient mentor. Fairbanks et al., (2007) found that tiered instruction programs in the second grade were more effective when targeted efficiently, more individualized, and function based. The National High School Center (2010) states that progress monitoring yields data to assess students' learning and academic performance and to determine whether a specific intervention is effective for a particular student. Reynolds et al., (2011) found that participation in an early childhood program such as the Child-Parent Center Education Program serves as a preventative resource for pre-school age children with multiple risk factors. As seen here, educational policy and professional practice have attempted an all of the above approach, with some success. Unfortunately, there is no panacea, and a graduation rate gap still exists (Perry & Wallace, 2012).

Evidence Justifying the Research Problem

Policymakers and practitioners identify and target the needs of DOP students using their exhibited behaviors and characteristics as indicators. They include attendance patterns, achievement scores, intelligence scores, attitude towards school, and teacher input (Coleman, 1993). Retention and suspension are also indicators of a student's likelihood of dropping out (Carpenter & Ramirez, 2007). Whether or not a student has been arrested (Brownstein, 2010) is also a dropout indicator. Students most often attribute their attitude toward dropout to parent involvement and a feeling of connectedness to their school (Haley, 2006; Myint-U, A., et al., 2008), illustrating the impact of expectations and motivation on student perception and behavior (Montmarquette, et al., 2007). Interestingly, dropouts will admit that they had plans for how they

would have used their diploma (Lachman-Fitzgerald, 1999). Research indicates that students with a higher number of risk factors are more likely to attend a non-traditional school, such as an alternative school (Hemmer, 2009).

Dropout rates differ across demographic areas. The dropout rate for Latino, African American, and White students are 27.8%, 13.1%, and 6.9%, respectively (Brewster & Bowen, 2004). Approximately 11% of students with disabilities drop out of school. Between 50%-59% of students with emotional/behavioral disorders drop out of school, and 32%-36% of students with learning disabilities drop out of school (Kemp, 2006). Students with emotional/behavioral disorders are known to have the lowest grade point average for any group of students with disabilities (Riccomini, et al., 2005).

Indicators are not limited to student characteristics. In fact, schools can assess whether operational characteristics may be negatively impacting their dropout rate. Some factors include overcrowding, high student-teacher ratios, lack of trained staff, limited opportunities in school activities, and infrequent interaction between adults and students (Christie & Yell, 2008).

In March of 2006 the Gates Foundation released *The Silent Epidemic,* a study that examined the reasons why students drop out as indicators for research. The foundation conducted surveys soliciting responses directly from dropout students. The population of the study consisted of four focus groups. They totaled 467 ethnically and racially diverse 16 to 24 year olds who did not complete high school. Participants lived in 25 different locations - including large cities, small towns, and suburbs. Researchers found that the primary reasons for dropping out did not emphasize a belief that the work was too hard. The top five reasons participants revealed for dropping out of school were (Bridgeland, et al., p. 3):

- Classes were not interesting
- Missed too many days and could not catch up

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- Spent time with people who were not interested in school
- Had too much freedom and not enough rules in my life
- Was failing school

Other reasons included lack of motivation, low expectations held by adults, the student had to get a job, and the student became a parent. Overall, the students who participated in the study accepted responsibility for not graduating, with 51% of students responding that they were responsible, 26% responding that both the school and the student were responsible, and 22% responding that the school was responsible (Bridgeland, et al., 2006). It is important for the education system to prioritize these outcomes to improve this population's well-being as individuals and for the nation as a whole in an increasingly competitive global economy. (Tyler & Lofstrom, 2009). School factors known to positively impact the dropout rate include the availability of a freshman academy, team teaching, interdisciplinary planning, teacher discussion, student mentoring, individualized instruction, and counseling (Zvoch, 2006). Further, academic performance and school engagement are strong indicators of a student's likelihood of school success (Hupfield, 2011).

Deficiencies in Evidence

CTE programs facilitate positive outcomes for students, including DOP students (Advisory Committee, 2004). Participation in CTE programs can increase school attendance and improve labor market outcomes after graduation, whether or not the student attends post-secondary education. Further, these programs deliver a better financial return than second chance programs aimed at high school dropouts – adding value to the notion of prevention (Bishop & Mane, 2003). When targeted specifically to decrease the risk of dropout, CTE programs can also be successful and can decrease the risk of dropout (Bishop & Mane, 2003; Plank, DeLuca, & Estacion, 2008). However, the effectiveness of a program can vary depending on its design, level

of continual monitoring, available technical assistance, and the school's ability to discontinue ineffective programs. These factors can greatly impact the students who participate in the programs (Stern, et al., 1989).

The way in which CTE programs connect to students varies based on individual circumstances, many of which have been evaluated to better understand their impact. Some of these factors include the role of CTE programs in transitioning students to postsecondary education (Dare, 2006), the experiences of African American students in CTE programs (Fletcher, & Cox, 2012), the impact disability awareness can have on CTE instruction (Hall, 2007), and an examination of an oral reading fluency on CTE students (Mellard, Woods, & Desa, 2012).

Although the significance of these studies should not be understated, a problem remains. "CTE reform efforts are seriously under-researched. School and district personnel are forced to make major programmatic decisions in the absence of replicating studies or, often, any process or outcome studies to inform their thinking" (Castellano, Stringfield & Stone, 2003). This study seeks to take a broader approach to the themes that impact DOP students in CTE programs by examining the topic of access to and participation in CTE programs by DOP students in the United States based on poverty concentration. This study seeks to examine those variables in a way that helps to create increased awareness.

Research Questions

The research in this study focused on understanding the issue of access to and participation in enriching education programs by DOP students in the United States based on poverty concentration The following four questions were designed to explore DOP students' ability to access and participate in CTE programs in communities according to SES:

- Is there a statistically-significant relationship between the availability of career and technical high schools in the United States and poverty concentration?

- Is there a statistically-significant relationship between the participation in career and technical high schools in the United States by DOP students and poverty concentration?

- Is there a statistically-significant relationship between the availability of career and technical education courses at regular high schools in the United States and poverty concentration?

- I*s* there a statistically-significant relationship between the level of participation in career and technical education courses at regular high schools in the United States based on poverty concentration?

Significance of the Study

In order to promote a better understanding of the factors impacting the successes and failures of DOP students, the author examined the access to and participation in CTE programs by DOP students based on poverty concentration using a quantitative approach. Results of examining this research can contribute to a larger body of research on the contributions of enriching educational programs for DOP students, using the lessons learned here for the benefit of students across socio-economic levels to improve access and participation. Researchers can use the results of this study to stimulate their own research, using the NCES survey *Dropout Prevention Services and Programs* to explore issues impact DOP students by isolating different variables to understand the impact that other sources can have on the issue. Federal, State, and Local school administrators can use this research to shape policies and programs that address these issues. Further discussion of these implications will be conducted in chapter five.

CHAPTER 2:
REVIEW OF THE LITERATURE

The purpose of this study is to examine the availability of CTE programs in the United States based on poverty concentration in the community, and the participation in them by DOP students. This literature review will provide an overview of the issues and topics pertinent to the purpose of this study.

The review of the literature will provide information surrounding the factors that impact this study; DOP students, CTE Programs, and poverty. First, the literature on DOP students will be presented. This overview will frame the nature of the issues that impact DOP students. It will begin with the definition of the term at-risk, to provide perspective for how the use of the concept has developed over time. Then, characteristics and circumstances of DOP students will be presented to contextualize their life experiences. Finally, an analysis of the poverty literature will be conducted, viewed through the lens of the impact SES has on DOP students.

Then, the policies and programs that have been attempted to alleviate the dropout problem will be presented. Each attempt produced some level of success. They positively impacted the lives of students to some extent and helped some DOP students to complete school, but none surfaced as a panacea to resolve the DOP problem. Productive elements of each program materialized as strategies which can be used in other settings to improve instruction and student retention. Their contribution to the success of DOP students will be reviewed to ensure a balanced review of available programs.

Last, this chapter will examine CTE programs to understand the context through which they can contribute to DOP efforts. A history of CTE programs will explain how they have developed over time. An analysis of these programs and their impact on DOP students will be conducted. The concept of CTE programs will be explored. Benefits of enriching educational

programs will be examined. The reported experiences of both teacher and students will be evaluated to determine the factors that influence success by analyzing the impact of each study's variables. Student performance in the CTE setting will be analyzed to determine the factors that may influence academic growth. The potential for CTE programs as an enriching educational program to combat the dropout problem will be explored through an analysis of the CTE strategies that improve at-risk student performance. The chapter will end by providing the conceptual framework of the study, then with a summary of the content.

Dropout Prevention Students

Students who are at-risk of dropping out of school are referred to as dropout prevention students. The term "at-risk" was first used by The National Commission on Excellence in Education to describe an economically and socially endangered society in the United States. Its continued use in subsequent reports from the Council of Chief State School Officers, Education Commission of the States, and the National Coalition for Advocates of Students used the term to describe students by their high probability of school failure (Placier, 1993).

The National Impact of Dropping Out. Those students who drop out of school have financial and social impact on society. The United States would benefit from $45 billion more in tax revenues and reduced spending in healthcare, crime, and welfare if the number of high school dropouts among 20year-olds were cut in half (Broom, 2010). Overall, dropouts cost the U.S. $240 billion in lost wages and taxes. Dropouts face a higher risk for substance addiction, low socioeconomic status, welfare, and imprisonment (Doran, 2005). In some states high school dropouts make up 60% of the prison population (Young, 2008).

Chapman, Laird, & Kewal-Ramani (2010) contend that the decision to drop out of high school is related to a multitude of negative outcomes, including; an average annual salary of $23,000 - a figure $19,000 below the average salary of a high school graduate. Further, a lower

percentage of adults who dropped out are in the labor force and dropouts are more likely to suffer from poor health. On average, the individual dropout costs an additional \$240,000 to taxpayers over their lifetimes as a result of higher reliance on Medicare/Medicaid, higher rates of criminal activity, higher reliance on welfare, and lower overall tax contributions.

Profile of Dropout Prevention Students. Dropout prevention students are characterized by their backgrounds and circumstances, the conditions they experience, and the risk indicators they demonstrate that increase the likelihood they will drop out of school. These factors include; course failure, grade retention, low test scores, school location, spending per pupil, student body composition, race, socioeconomic status, student mobility, resiliency, motivation, family characteristics, early adult responsibilities (Tyler & Lofstrom, 2009), aggressive behavior, and maternal education level (Ensminger, M. & Slusarcick, A., 1992) . Students who become victims of these variables become handicapped as adults without high school diplomas. The act of dropping out of school may be just another event in a chain of events that are driven by these variables. Some research views the decision to drop out of school as a long-term process that encapsulates these issues and culminates with the act of dropping out (Finn, 1989).

In a study of students surveyed on their participation of high risk behaviors about fifteen percent of students self-identify as very high-risk, 15 percent as high-risk, 35 percent as medium-risk, 20 percent as low-risk, and 15 percent as no-risk. Some of their characteristics of the very high-risk category include having been arrested at least once, having access to guns, using alcohol, using illegal drugs, being sexually active, being depressed, and attempting suicide. Students in the high-risk category share characteristics such as alcohol use, marijuana use, behind in school, truant, and depressed. Students in the medium risk category, the largest risk category, are involved in at least two among these risk behaviors: being behind in school,

truancy, alcohol use, marijuana use, and sexual activity. Low-risk and no-risk youth are less likely to drop out because of their behaviors which could include cutting a class or taking a drink of alcohol. Although these students are categorized as low-risk and no-risk, they are surrounded by the students who are taking part in negative behaviors and face the possibility of being victimized by them (Dryfoos, 1996).

Low Socioeconomic Status. This element of a DOP student's experience, a primary factor in the current study and one of the strongest indicators of DOP status will be analyzed first. While neighborhood characteristics influence educational attainment among young people, institutional factors also play a role. School quality is often higher in wealthier neighborhoods. The higher the quality of the neighborhood, as measured by wealth or socioeconomic status, the less likely young people are to drop out of high school and the more likely they are to attain a college degree (Santiago, et al., 2011). According to Vartarian & Gleason (2002), students in these neighborhoods benefit from more positive adult role models, peers with whom goals and experiences can be shared, and high quality local institutions. Likewise, as neighborhood conditions improve, they have a primary impact on high school dropout rates Living in socially-isolated neighborhoods has a negative impact on educational attainment, due to the lack of influence by positive adult role models. Specifically, young people are likely to model what those around them are doing. Socially-isolated neighborhoods suffer from the lack of positive adult role models to impede the process of educational attainment. The most negative effects of living in socially-isolated neighborhoods are the most severe among young people who do not have the family support, or positive adult presence, to support them as they attempt to overcome the challenges of such a setting (Vartanian & Gleason, 2002).

Urban area students are impacted by the challenges of their communities where there are high concentrations of poverty. Concentrations of depression are linked to these communities. Reasons for this link vary, and can range from higher level of stressors in the community, experiencing traumatic events to having low-levels of social support and cohesion. Regardless of covariates, SES of the community remained a statistically significant indicator. Rural areas also suffer from many of these challenges (Galea, et al., 2007).

There is a statistically significant relationship between a student's decision to drop out of school and contact with the legal system. Students who are arrested in ninth or tenth grade are six times as likely to make the decision to drop out of school as their counterparts (Hirschfield, 2009). Students who come from a background of low socioeconomic status (SES) feel the after effects of a community that does not have a good relationship with school systems or job markets (Ensminger & Slusarcick, 1992). They are more likely than other students to drop out of school (Bloom, 2010). The challenges that low SES students face may stem from events that occurred early in their lives. Black, et al. (2000) examined the Bayley Scales of Infant Development scores of infants from low-incomes families to find that these infants developed at a lower rate than children from the normative sample. The study found that these students are less likely to explore objects in their environment, engage in tasks or with others, and have lower levels of enthusiasm, initiation, persistence, and emotional/dispositional quality.

Students who progress through their early lives in a state of low SES are impacted by the risks of their circumstances and negatively affected in the area of mental health. These circumstances include neighborhood disadvantage and poverty-related stressors. They can result in delinquency, attention problems, aggression, somatic complaints, and anxiety/depression (Santiago, et al., 2011). They deal with daily challenges from their families, neighborhood, and

school -- all of whom are impacted and interconnected by the same challenges. As a result, the SES students experience emotional, cognitive, behavioral, spiritual, and physiological reactions that occur during and after traumatic events. The level of risk for students of low SES to develop mental health disorders and impairment are higher than the risk levels for the general population (Kiser, L., 2006).

Further, students in these circumstances are more likely to experience traumatic events that cause stress-related issues. In a meta-analysis of 25 potential risk factors for PTSD (post-traumatic stress disorder) Trickey, et al. (2011) found that both the traumatic and post- events factors experienced by the child play a major role in whether a child develops PTSD after the event. The criteria for the study considered children from 6 to18 years of age from 64 studies between 1980 and 2009. Variables examined included age, race, gender, IQ, SES, pre and post-trauma life events, bereavement, and severity. The results illustrated that children who experience low social support, social withdrawal, poor family functioning, and distractions have a higher likelihood for PTSD. It should be noted that a strong factor in the successful treatment of PTSD is early screening and prompt treatment.

Improving the quality of education provided to students living in poverty would help to counter some of the adverse circumstances they experience on a daily basis. However, it appears that the opposite occurs in the United States. Students from high poverty districts are more likely to go to schools that have inadequate resources and poorly trained teachers. As a result these students leave school without the skills needed to earn a living that would pull them out of the circumstances in which they grew up, thereby feeding the pattern of inequality of education, inequality of educational attainment, and inequality of labor marker earnings (Murnane, 2007).

Family Characteristics. The family structure can play a significant role in a student's behavior and attitude towards both school and life. The level of stress experienced by a family can have a significant impact on students in their academic and social lives. Stress impacts a family's interactions and processes in a way that has a negative effect on its members. Both stressful life events and the impact of parenting stress can create this result. Further, students lacking a stimulating home environment lack parental sensitivity. Students of low SES face the most intense challenges in this context, as they are most likely to face more than one, or all, of these factors (Oxford & Lee, 2011).

Family processes such as structure, coping, and relations differ from family to family and vary based on the structure of each member's daily life, shared experiences, and the manner in which they deal with problems (Kiser & Black, 2005). Positive family engagement can have a significant positive effect on student achievement (Smink & Reimer, 2005). The relationship between economic status and health is one that should also be noted. Generally, people outside of the low SES category tend to be healthier overall (Tipper, 2010).

Some students who are in foster care face a significantly higher likelihood of participating in high risk behaviors. Particularly, students in this category who have low levels of caretaker support in their foster care setting are much less likely to experience positive outcomes. Researchers in this study controlled for several factors, including; self-competence, placement changes, poor self-regulation, and caregiver support. Interestingly, girls who had high levels of caretaker support had consistently positive outcomes both academically and behaviorally. This illustrates that the students who were removed from negative circumstances and placed in positive ones benefitted from the change. Without facing so many of the risk factors they had

experienced in their previous setting, the female foster students were able to thrive (Pears, et al., 2011).

The manner in which children interact with their parents, specifically the manner in which parents respond to a youth's emotional behavior, has a significant impact on their development of depression. Parents who react positively to a student's sadness and attempt to support them are more likely to reduce the risk the child will become depressed. In contrast, parents who react negatively towards a student's sadness or anger increase the likelihood for depression. Parents who react positively towards a child's positivity reduce likelihood for depression. Parents who react with anger and dysphoria increase the likelihood for depression. Parents who wish to reduce the likelihood of depression as an outcome for their child face challenges in systematically changing their behaviors over time, so they may increase the chances of a positive outcome for their children (Schwartz, et al. 2012). The significance of family characteristics and interaction was further highlighted by Kim-Spoon, et al. (2011) who found that positive parenting is a significant indicator of a child's ability to self-regulate.

In a study that examined the behavior of parents with their toddlers, Whittaker (2010) found that maternal sensitivity is an indicator of socio-emotional functioning among toddlers. Participants were mother-child groups with the children aged 3 to 23 months. Of the 130 mothers aged 15 to 51 selected to participate, 114 participated in the first visit of the study, and 95 participated in the follow-up visit scheduled six months later. Participants were mostly minority women who had never been married. Measures of risk for a negative outcome in this study included parenting stress, parental depression, maternal sensitivity, and inadequacy of family resources. These factors were contributors to a mother's level of sensitivity to her child.

Students benefit from high expectation in their families. High expectations from family members are related to a student's high hopes for themselves. Students who have high hopes for themselves are five times as likely to have mothers that have high expectations of them. Female students who benefit from high expectations along with stricter rules regarding school from their mothers perceive that their teachers are satisfied with their performance. Female students setting high expectations for themselves are more likely to graduate than their counterparts (Ensminger & Slusarcick, 1992).

Drug Use. The use of drugs and the choice to drop out of school may share the same precursors, which could explain their relationship. Students who make these decisions typically demonstrate less of a commitment to school and family, and are characterized by lower psychological well-being. They experience poorer relationships with parents, stronger ties to their peers, worse grades, low self-esteem, and more negative attitudes about school (Mensch & Kandel, 1988).

Looking at this notion from an event history analysis may allow researchers to understand the characteristics that precede dropout and help them to control them in the future. Dropouts report a higher rate of drug use than their peers who choose to stay in school. Specifically, the use of cigarettes, marijuana, or other drugs at any age increases the likelihood that a student will drop out of school. As students become more frequent drug users and develop networks of friends who are also drug users, they become more likely to develop a lack of interest in academic issues. When they continue to associate with the same peers, they reinforce this belief system and lack of conformity to traditional institutional values. During this process their drug use may be further impairing their cognitive functioning and motivation, having a further negative impact on their commitment to school (Mensch & Kandel, 1988).

Race. Race is a strong determinant of a student's likelihood to drop out of school. Minority students are more likely to leave school early than other students (Bloom, 2010). They are also more likely to experience contact with the legal system (Hirschfield, 2009). Further, minority students are more likely to be exposed to high-rates of crime and violence, compounding their circumstances, increasing the chances that they will become victims themselves (Black, et al., 1998).

Student Mobility. High levels of student mobility vary among students and schools, with the highest degrees of prevalence being from large predominantly minority districts and students of low SES. It is related to student misbehavior, youth violence, and can negatively impact student academic performance. Overall, transient students achieve on a lower level than their counterparts (Rumberger, 2003). There are many events that can be classified under the school mobility concept. These events include student being placed in special services then returning to his home school, expulsion, or involuntary transfer to another school then returning to the home school or another school attended in the past. (Osher, Morrison, & Bailey, 2003).

Exceptional Student Education Students. Exceptional Student Education (ESE) students complete high school at a lower rate than their counter parts. After school, they also are exposed to a higher possibility of negative adult outcomes (Kortering & Braziel, 2002). Learning Disabled (LD) students are especially susceptible because their intelligence and achievement levels suggest that academic success is not easy for them. Data supports the notion that there is an interrelationship between antisocial behavior, academic failure, and school climate (Kortering & Braziel, p. 187). EBD Emotional & Behavioral Disabilities (EBD) students fit into this category with their data demonstrating a similar trend. Seventy-three percent of EBD students

who choose to drop out of school are arrested within three to five years (U.S. Department of Education, 1994; as cited in Osher, Morrison, & Bailey, 2003).

School and teacher influence plays a role in this process. Students who experience social supports that develop incentive and meaning, nurture personal skills, and provide adequate access to resources increase the likelihood that the student reacts positively to events in their lives. When those ties are weak, the student is more vulnerable and more likely to react negatively to chance events. Specifically, these actions include student placement, method of special education delivery, teacher bias, the degree and access to opportunities and resources, student involvement, academic rigor, and vocational options (Rojewski, 1999).

Poor Academic Performance. Student performance on competency exams indicates a relationship between their performance and the decision to drop out of school. These exams tend to have adverse effects on disadvantaged, at-risk students. Further, there is an inter-relationship between a student's Grade Point Average (GPA), performance on competency exams, and a student's decision to drop out of school (Griffin & Heidorn, 1996).

Relationship to School and its Culture. At-risk students can feel alienated by the culture at their school. When teachers provide support to DOP students in a friendly way and can offer a cooperative and academically engaging classroom environment, they can positively impact the affective and cognitive outcomes of DOP students, including their feeling of connectedness to the school (DelliCarpini, 2010). Even so, sadly, DOP students are more likely to demonstrate misbehavior in classrooms that would lead the development of negative relationships with teachers (Ladd & Burgess, 1999; as cited in Osher, Morrison, & Bailey, 2003).

Some of the school-related challenges that DOP students face are represented through the research of Barker (2005), who linked student experience to the likelihood of school success

using a flow chart that indicates the student's probable path. A student who places a high value on education, is connected to their school, and who uses school resources effectively benefits from a high probability that they will stay in school and graduate. Their counterparts who have a low value of education, are not connected to their school, and demonstrate a problematic use of school resources suffers from a low probability that they will stay in school and graduate. Compounding the likely success or failure of the student is the nature of their family support system, prior academic experience, and personal student characteristics.

Adult Involvement. Interactions with parents and teachers are a significant determinant of school success. The relationships that the adults establish with children help them build the skills they need to develop positive interpersonal relationships with other students (Englund, Egeland, & Collins, 2008).

A recent study of individuals who follow expected vs. unexpected educational pathways tracked participants from birth through age 23 (Englund, et al., 2008). Researchers identified behavior and academic standards as following the expected or unexpected educational pathways to reach graduation for those between the ages of 12 and 16. The study found that expected graduates had higher levels of parent involvement in middle childhood, more supportive parent child relationships in early adolescence, and higher levels of social competence with adults than dropouts. Low levels of parent involvement as an indicator of poor child behavior and academic performance also had a statistically significant relationship in a study by Morris et al. (2003).

Attempted Policies

Over time various policies have been attempted to increase accountability standards on both teachers and students to alleviate the dropout epidemic. Examples include Title I of the 1965 Elementary and Secondary Education Act which encourages schools to improve student skills in reading writing and math (Karsten, 2006) and No Child Left Behind (NCLB) which

stated that all students must pass standardized tests at grade level by 2014 (U.S. Department of Education, 2001).

Mandates implemented to ensure students benefit from more rigorous content, greater learning time, and higher levels of achievement have resulted in tougher standards for DOP students (McDill & Natriello, 1986). Mandates impose unintended consequences on students who already suffer from negative risk factors such as neglect, physical abuse, sexual abuse, low socioeconomic status, low parent education levels, no biological parents, and single family household (Leiter & Johnson, 1994). Adding to these pressures are high student mobility rates, which can impact a student socially, psychologically, and academically. Ninth grade has been identified as a critical year for most students who are pondering dropping out (McCallumore & Sparapani, 2010). As students enter high school, they react differently to the competitive and impersonal environment (Schiller, 1999). The challenges of making new friends, learning new norms, and fitting in, negatively impact DOP students and are linked to both misbehavior and violence (Rumberger, 2003).

Although there are many factors that could help school personnel identify at-risk students, no single factor will identify them because they are not homogenous. The process that leads a student to at-risk or dropout status is unique and can begin before they enter public school (Jones, 2009). Policy makers and practitioners have given consideration to the dynamic risk factors impacting DOP students when attempting to implement programs and strategies to alleviate the dropout epidemic. Some of those attempts will be discussed here.

Early Childhood. Early childhood education programs have been identified as one method to combat the dropout problem. They produce positive educational outcomes for students that last into adulthood. Evidence indicates that early childhood programs create lasting gains for

children and society as a whole (Rand, 2005). A study of the Chicago based Child Parent Center Education Program (CPC) revealed positive results for program participants. The study reported on the well being of participants at age twenty-eight, in an attempt to measure the long term effects of early childhood education programs. In their evaluation researchers analyzed responses to three questions: 1) Is CPC participation beginning in preschool and continuing into school age associated with multiple domains of well being?, 2) Do estimated effects vary by child and family characteristics as well as dosage levels?, and 3) Are effects consistent across models for reducing bias in estimates? Results revealed that students who participated in preschool and school age programs benefitted with improved social skills, social adjustment, motivation, and family and school support behaviors (Reynolds, et al., 2011).

Another significant head start program started twenty years ago when the Hidalgo Independent School District implemented a full day and free pre-kindergarten program. The students in this district are 98% economically disadvantaged with over half of the students demonstrating limited English proficiency. Since its implementation the District's graduation rate has improved to 88.7%, 10% above the state of Texas' average (Texas House of Representatives, 2010).

Virtual Schools. Since its initial implementation in the mid-1990s, virtual schooling has developed into the most common method of distance education. The most accepted definition of virtual school is an entity approved by the state or governing body that offers courses through distance delivery - most commonly through the internet (Barbour & Reeves, 2009).

During the 2000-2001 school year virtual schools offered courses to about 4,000 students in 350 schools in 30 states (Vrasidas, et al., 2003 as cited in Reid et al., 2009). By 2008 students attending the Dalat International School in Penang, Malaysia were participating in courses

offered through Florida Virtual School (FLVS) (Wood & Baseman, 2005 as cited in Reid et al., 2009), and 28 states had established statewide virtual high schools (Christie, 2008 as cited in Reid et al., 2009). During the 2008-2009 school year FLVS had 84,000 students enrolled in 168,000 half-credit courses. These figures represented a tenfold increase since the 2002-2003 school year (Tucker, 2009). Over the past decade virtual schools became one of the most significant trends in education (Reid, et al., 2009). Liu & Cavanaugh (2012) offer the data highlighting the growth:

Table 2-1. Virtual School Enrollment Growth

Academic Year	2000/01	2001/02	2002/03	2004/05	2005/06	2007/08
Enrollment	40,000	180,000	300,000	500,000	700,000	1,000,000

Growth in the field has led to the customization of programs to meet the needs of specific demographics, such as dropout prevention students. The needs of the students in this group are as dynamic as the members of the group themselves. Programs that are successful in meeting the needs of these students share some qualities that contribute to their success. They include (Roblyer, p. 33):

- Basic assumptions - Example: It is a basic assumption that teachers are Web-trained and that there is equitable access to necessary resources

- Curriculum and instruction - Example: The content of high quality programs is systematically designed and clearly communicated, and activities are highly interactive and offer opportunities for critical thinking related to course objectives

- Management - Example: high quality programs provide technical assistance and ensure that student work is secure

- Evaluation and assessment - High quality programs include assessment and have procedures in place for monitoring students during testing

As delivery models evolve over time practitioners add components to online programs to meet the needs of their students. In the Virtual Education Academy, that includes a citizenship component to the program. It is made up of five levels (White, et al., p. 14):

- Level 1 - Respecting the rights and feelings of others (self-control)

- Level 2 - Participation and effort (self-motivation)

- Level 3 - Self - Direction (developing on-task independence and setting realistic goals)

- Level 4 - Caring (interacting positively with other and understanding diverse perspectives)

- Level 5 - Community (Service to others and acting as a positive role model)

Response to Intervention (RtI). RtI is a three-tiered system that uses assessment data to promote data-driven instruction and intervention. The tiered system helps teachers to examine the context of learning, sample skills and curriculum, and uses periodic assessment tools that are sensitive to change (Ysseldyke & Scholin, 2010). RtI provides increasing levels of support to students who demonstrate a need as reflected in their data. Tier 1 seeks to prevent harm from occurring, Tier 2 seeks to reverse harm to students who did not respond to Tier 1 interventions by offering students additional support, and Tier Three seeks to reduce harm by supporting students exposed to multiple risk factors that were unresponsive to the interventions of Tiers 1 and 2 (Lane, et al., 2011). According to MacIver & MacIver (2010), Tier 1 can be described as a comprehensive approach to school reform, Tier 2 as the targeted interventions that are designed to help struggling students, and Tier 3 as intensive interventions that seek to remediate problem behaviors or negative academic outcomes on an individualized level.

RtI is guided progress monitoring, a process that allows schools to evaluate students more frequently depending on their tier. The higher the tier the more intensive the intervention and monitoring (Zirkel & Thomas, 2010). Targeting outcomes permits educators to collect formative

and summative data to drive their decision making (Nunn & McMahan, 2001). According to Ysseldyke & Scholin (2010), Tier 1 consists of general outcome measures analyzed 3-5 times per year based on group achievement data. An example would be the Florida Comprehensive Achievement Test (FCAT). Tier 2 consists of general outcome data and categorical sub-skill mastery measures analyzed at least once every other week. An example would be curriculum-based assessments supported in classroom instruction. Tier 3 consists of general outcome measures and sub-skill mastery measures analyzed at least once per week. An example would be curriculum-based measurements for fluency.

Districts that adopt RtI desire to increase the likelihood that the academic competence of students will develop adequately (Fuchs et al., 2007), address disproportionality, promote overall student achievement, better integrate general and special education, and determine special education eligibility for students with disabilities (Sawyer et al., 2008).

Freshman Academies. Ninth grade is a make or break year for completing high school. For many, 9th grade is the first year that students begin earning credits. Completion of these courses are required for graduation, and they are the most rigorous the students have ever taken. The increased influence of standardized testing also plays a great role in the pressure placed on young people during high school (McCallumore & Sparapani, 2010).

These transitional difficulties are only a few of the problems that incoming students face as they enter high school. Further challenges are presented by the very act of transferring to a new school, which is often marked by poorer academic performance, higher absences, and increased disciplinary issues. Students do not understand the importance of their freshman year of high school. In fact, a survey of upper classmen reveals that they wish they better understood

the impact that ninth grade has on graduation when they got to high school (McCallumore & Sparapani, 2010).

Schools are beginning to recognize the importance of the 9th grade and are implementing innovative programs, like freshman academies. These programs function as separate wings of the school exclusively for 9th graders, so they can become familiar with the challenges and rigor of high school before being integrated into the general population in the 10th grade (McCallumore *& Sparapani, 2010).*

Alternative Schools. Gagnon & Bottge (2006) define an alternative school as a public elementary/secondary school that addresses needs of students that cannot typically be addressed in regular school, provides nontraditional education, serves as an adjunct to a regular school, or falls outside the categories of regular, special education, or vocational education.

Previous research documents the success of alternative schools in reducing dropout rates among students. At alternative schools, students benefit from smaller class sizes & increased differentiation. Students at these schools can catch up if they are behind and improve their GPA. Students who attend alternative schools that are academically oriented benefit from a DOP program that challenges them academically, and gives them the individual attention they need to be successful socially and academically (Franklin et al., 2007).

An example of an academically centered alternative school is The Twilight Academy. An evaluation of the program identified the following components as key factors to its success (D'Angelo & Zemanick, 2009):

- Small teacher student ratio
- Several different sources of input to determine referral to the program
- Experienced teachers in all content areas who are creative

- All classes should be held in close proximity to limit movement and reduce opportunities for misbehavior

- Counseling services

- Link work experiences to success in the program

- Professional development specific to alternative education

- Developed broad based curriculum

- Set clear expectations and consequences for violations of the rules

- Eliminate unstructured time to minimize opportunity for misbehavior

It should be noted that there are some indications that programs that share some of the qualities of alternative schools, such as shared environment of children who are participating in negative activities, may contribute to the further degradation of their behavior. Their increase in and continued exposure to fellow students who conduct themselves in a different manner can create a greater risk by further choosing to participate in those activities. Iatrogenic effects can have a strong impact on peer to peer contagion and contribute to further negative behavior and activities (Cecile & Born, 2009).

Middle College Alternative. The middle college alternative is being adopted in many areas as a bridge to college for students who would have otherwise failed or dropped out of high school. Many students who do not succeed in high school note classes that are not stimulating and a negative social environment. As a result, middle colleges work to familiarize students with the idea of higher education, its surroundings, and procedures. Middle colleges are often located on the campus of a community college. They are usually funded by a local school district or a charter school. Students complete their high school coursework and begin their college coursework on campus at the same time. Students often find that being in a more mature

environment is more conducive to their learning needs. Due to its recent development, research on middle college is limited, but available results are encouraging (Olsen, 2010).

Counseling and Peer Tutoring. Counselors can instill motivation in students to help them become successful. When a student knows someone in their school cares about him or her, s/he can use that as inspiration to be successful, forming an attachment to the school (Scheel et al., 2009). White & Kelly (2010) offer strategies that can assist counselors in serving DOP students. These strategies include; social supports such as a peer mentoring/buddy system, monitoring and mentoring via school personnel, developing personal and social skills, facilitating parental involvement, and providing academic support.

Peer tutoring offers another avenue through which similar goals can be accomplished. Students who work together allow teachers a reduced workload during the intervention process, thereby providing individualized instruction to more students in the class. The benefits of peer tutoring include increased time on task, increased opportunities to respond, enhanced student to student relationships, and improved classroom behavior (Menesses & Gresham, 2009).

Mentoring. When teachers step into students' lives as an adult to support them, the adult influence they offer can improve the students' academic performance (Lessard, et al., 2009). Teachers can reframe for the student what it means to be in school and the benefits of student involvement in school. The teacher can also help to clarify the problems that are bothering the student (Center for Mental Health at Schools at UCLA, 2008). Mentors can enhance resilience in at-risk students while providing a level of social support that is possibly life-saving. Resilience is enhanced through learning, when the mentee imitates the mentor. If the imitation goes on long enough, the imitations can form habits within the mentee (Southwick, et al., 2005).

Reliance and Self-Determination. There are some individuals who face the challenges of DOP students yet turn out to be resilient through the process and into adulthood. During this period in their lives, they acquire adaptive levels of functioning that contribute to their success (Dumont, et al., 2005). Six resiliency skills are linked to academic success include building confidence, making connections, setting goals, managing stress, improving well-being, and understanding motivation (Hupfiled, 2011). Students who make decisions for the benefit of their own future self-determination demonstrate skills in problem solving, goal setting, decision making, choice making, goal attainment, self-management, self-efficacy, self-awareness, and self-knowledge (Zhang & Law, 2005).

Schools can help students develop these skills by providing opportunities for success to build student confidence, communicate the relevance of education, help students build intrinsic motivators and problem solving skills, help students manage stress, and create a caring and supportive environment that emphasizes meaningful teacher-student relationships (Hupfield, 2011). Methods for schools to accomplish these goals are defined by Jones (2009). They include; increase pro-social bonding, set clear and consistent boundaries, teach life skills, provide care and support, set and communicate high expectations, and provide opportunities for meaningful participation.

Schools should be careful not to inappropriately use the resilience construct. The research on resilience was initiated in the 1970s to document individuals who grew up to be functioning, contributing members of society although they came from adverse circumstances. Resilience is a result. It should not be used specifically as a strategy, but instead be targeted as a skill to be developed in students (Bonanno, 2012).

Career and Technical Education

The notion of CTE programs in schools began in the early 1900s as the need for line workers grew. The Smith-Hughes Act of 1917 funded the effort to create the first compliant and reliable workers in the United States to serve the needs of American business. Over the next several decades, a debate emerged over whether CTE courses reinforce class boundaries by creating a college preparation track and a vocational track (Perry & Wallace, 2012).

In the 1970s CTE programs were refined to provide a more relevant education to students about to join an economy that was beginning to be impacted by globalization. In the early 1980s, after *A Nation at Risk* was published, education shifted again to academics and emphasized language, math, and science over CTE programs. In the early 1990s *America's Choice: High Skills or Low Wages* was published. It concluded that the U.S. was arriving at a point where it was going to have to choose between offering its workers low wages and little opportunity for advancement or give them an opportunity to develop high-level skills as young people. At this point, the transition began to the modern expectation that local school districts, community colleges, and universities will begin to create school-based learning and work-based learning initiatives (Perry & Wallace, 2012).

Legislation promoting career and technical education has been presented in several states. Washington SB 6377 requires districts that implement CTE programs to meet specific performance goals. Florida's SB 1332 requires a coherent sequence of CTE courses to be offered to students leading to industry certification. California, Nevada, and Virginia implemented measures that require specific reporting of CTE performance data (Bush, 2009)

Vocational programs are perceived to be an aid to districts seeking to enhance student skills and keep them from dropping out of school. Harvey (2001) notes the abundance of legislative initiatives which have been passed for this purpose. They include the Vocational

Education Act of 1963, which established vocational education opportunities for students with academic, socioeconomic, or other challenges. The Carl D. Perkins Vocational Education Act of 1984 provided equal access to high quality vocational programs to students with disabilities. This act was updated in 1998 to include a provision that ensured equal access for students with disabilities. As a result, efforts to recruit and enroll students with disabilities were improved. It was again reauthorized in 2006 (DelliCarpini, 2010).

A more academic approach to CTE is the career academy. Career academies typically serve students in grades nine through twelve, range in participation of 150 to 200 students, and consist of the following three features: (1) small learning communities to function as a personalized supportive learning environment, (2)combine academic, career, and technical curriculum in a way that integrates these concepts into a specific course, and (3) partner with local employers to ensure students have work-based opportunities (Kemple, 2008; as cited in Kuo, 2010).

Vocational education differs in its delivery method from traditional academic subjects. Classes are typically offered in separate buildings or separate sections of a campus, segregated from the rest of the school community. It demands resources and infrastructure different from that of other classrooms and requires that most of the instruction take place away from the traditional student desk. CTE programs also benefit from additional funding initiatives at the state and federal levels which make districts responsible for the built-in accountability measures that are associated with those funds (Cobb & Preskill, 1983).

Career academies design vocational programs through a structure that provides real world skills and offers industry certifications. They operate within schools and offer career-related curriculum based on both academic coursework and work experience. Such programs are found

to help keep students in school, progress in school, and complete school (Kemple & Snipes, 2000).

Academic Contribution. Whole school reform models that include some elements of career academies contribute to improving graduation rates (Kuo, 2010); CTE programs can also contribute to the academic development of DOP students (Smink & Reimer, 2005). Schools that have a specialized focus can help DOP students by playing to their interests and helping them overcome information and network deficits. Career academies have the potential to improve the outcomes for low-achieving students when they help students develop skills that are valued in the market or make enough academic gains that surpass the threshold of poor academic performance (Cullen, et al., 2013).

Schools that implement career academies with an academic focus on science, technology, engineering, and math (STEM) are among the programs that can contribute positively to the learning community within a school. STEM programs help schools achieve their desired outcomes of school improvement. These programs create personalized learning environments often with small enrollments, address academic content and pedagogy, and increase relevance to other content areas. Students in career academies outperform non-academy students on measures of academic success in high school. Further, young DOP males can increase the likelihood that they will have post-high school labor market success by up to 18% by participating in a career academy (Fleischman, S. & Heppen, J., 2009).

In a study of how career academies can impact students in urban districts the authors analyzed data on how these programs contribute to academic performance. They found that career academies offer qualities that may help improve a student's commitment to school by helping them focus. When CTE schools are selective, they may create and foster a peer to peer

effect that imposes a positive influence to achieve academically. When attendance at a CTE school is viewed as a privilege students are less likely to misbehave because they know they can be sent back to their home school (Neild, et al. 2013)

In a study of oral reading fluency among DOP students in CTE programs Mellard, Woods, & Desa (2012) found that a two-minute oral reading fluency assessment could be used by teachers to quickly measure student reading skills. Teachers in the study placed students in groups of four based on their median splits by total words read per minute and their error rates. The structure allowed teachers to establish groups with a diverse range of reading skills so that they could quickly address the needs of students in class.

In a study of math skills, Stone et al., (2008) found that teachers who are trained to promote math skills in their CTE classroom can improve student performance on standardized tests. The model used to promote the professional development (PD) programs was called "Seven Elements of a Math-Enhanced Lesson." Step 1 required the teacher to introduce the CTE lesson, explain it, and identify, discuss, point out, or pull out the math embedded in the lesson. Step 2 involved assessing the students' math awareness as it related to the CTE lesson. While assessing, math vocabulary was introduced through the math example embedded in the CTE. The evaluation employed a variety of methods and techniques for assessing awareness of all students. In step 3 teachers worked through the math example embedded in the CTE class. The process included working through the steps of the embedded math example, and bridging the CTE and math language. Step 4 promoted work through related, contextual math-in-CTE examples. This process included working through similar problems or examples in the same occupational context, using examples with varying difficulty, and continuing to bridge the math and CTE vocabulary. Step 5 facilitated the work through traditional math examples. This process

included working through traditional math examples in the way they could appear on a test, moving from basic to advanced examples, and checking for comprehension. Step 6 gave students an opportunity to demonstrate their understanding. This progression included providing students with opportunities to demonstrate their understanding and tying the examples back into the CTE context. Step 7 was a formal assessment that incorporated math in traditional CTE questions. By following this process teachers were able to develop more explicit instructional processes that contributed significantly to the improved math performance of their students.

CTE programs have increased the rigor of their curriculum to adapt to the accountability movement, creating a demographic shift in the students who participate in the programs. Now more White and Asian students participate in career academies and fewer African American and Hispanic students participate (Fletcher & Cox, 2012).

In a study that covered the experiences of 15 African American students in high school, the authors sought to identify the themes that emerged through their experiences in participation in CTE programs and outside the specialized setting. Four themes emerged: (a) preparation for the next level, (b) less time for school activities, (c) not just going through the motions, and (d) unrealized connection with core academic subjects. Overall, students felt like they were gaining skills that could help them in the future. However, they recognized the limitations of the program offered at their school (Fletcher & Cox, 2012).

Academic Quality. The quality of the academic program and the level of reform the program has experienced have an impact on student outcomes. For example, female students who participate in traditionally female dominated CTE courses such as family and consumer sciences are actually less likely to enroll in two and four year colleges (Cashen, 2012). Further, Stern (2009) states that some research indicates that students who take more CTE courses in high

school are less likely to obtain high paying jobs that require a bachelor's degree. He goes on to indicate that the research which indicates successful labor market outcomes for CTE students may suffer from selection bias as a result of students self-selecting into CTE programs and then pursuing careers in their intended field after school. This correlational data, he states, does not disaggregate between these students and others who did not self-select in high school. These students don't always experience the same positive results.

Conceptual Framework

The conceptual framework for this study is based on Bordieu's (p. 51) concepts of capital - being social, economic, and cultural. This study examines the impact that socioeconomic status can have on the academic participation of a student and their access to academic resources. This framework will help to communicate the significance of the socioeconomic factors that can impact DOP students so dramatically. These concepts illuminate the significance of each type of capital and their influence.

Social capital is defined by Bordieu (1986) as "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition, or in other words, to membership of a group." Further, Bordieu (1986) argues that the amount of social capital that a person possesses depends on the size of their network and how the individual can mobilize the capital within that network.

Economic capital conjures a more direct explanation. "Economic capital is a form of capital that is immediately and directly convertible into money and may be institutionalized in the form of property rights" (Bordieu, p. 47).

Cultural capital can exist in three forms: in the embodied state akin to the dispositions of the mind and body; in the objectified state as in the form of cultural goods (pictures, books,

dictionaries); and in the institutionalized state similar to educational qualifications. (Bordieu, 1986). Other traits, such as reading habits, can also be attributed to the existence of cultural capital (Johansson & Hojer, 2012).

The framework of this study is based on these three forms of capital and how socioeconomic status impacts students' access to them. Students whose families, or who themselves, possess low level of capital in some or all of the areas described by Bordieu (1986) are disadvantaged and face more complex challenges than their peers. This review of literature examined the factors that impact DOP students and the policies and programs that have sought to equalize their circumstances. As the factors were presented, a structure was put in place to convey the manner in which those factors impact DOP students through the lenses of social, economic, and cultural capital. Students who experience the challenges presented by mobility, poor academic performance, poor relationship to school and its culture, drug use, and poor levels of adult involvement (among other factors) are at a serious disadvantage in terms of likelihood of school success. Students who come from backgrounds of high poverty/low SES are more likely to face one or more of these challenges. The effects of these challenges are compounded by the effects that poverty has on people and communities impacted by these factors (Finn, 1989). By viewing the challenges that DOP students face in relation to the poverty in their communities, and examining the resources to which they have access, a better understanding of the challenges they face may be gained, allowing researchers and practitioners a stronger foundation to explore and propose solutions to the problem.

Summary

The benefits of CTE programs and their impact on DOP students are sound in the research base. Students who participate in these programs are more likely to be academically successful. DOP students who participate in these programs are more likely to attend class and

perform at a higher level academically. CTE programs address some of the specific drivers that fuel student dropout, namely a feeling of connectedness to the school (Kemple & Snipes, 2000). This background information provides a context for the present study in which the researcher seeks to examine the availability of CTE programs in the United States based on poverty concentration in the community and the participation in them by DOP students. The relationships between the segments of this literature review provide a schema through which research can be conducted that addresses the needs of DOP students. As the qualities and characteristics of DOP students, CTE programs, and other attempted policies to meet the needs of DOP students are understood, the current study is better equipped to add to the body of research on the availability of enriching educational programs and the participation in them by DOP students.

CHAPTER 3
METHODOLOGY

Purpose

The purpose of this study is to examine the availability of CTE programs in the United

States based on poverty concentration in the community, and the participation in them by DOP

students. Poverty concentration in the community is defined as the percentage of children

between the ages of 5-17 living below the poverty line. The information in the survey was sorted

into three categories so the respondents could indicate the extent of the prevalence of poverty in

the community; less than 10%, 10% - 19%, and 20% or more.

The methodological approach is driven by the following concept on the use of statistics

from the former President of the Royal Statistical Society. "The setting out of conclusions in a

way that is vivid, simple, accurate, and integrate with subject-matter considerations is a very

important part of statistical analysis" (Cox, 1981; as cited in Gore, 1981).

Sample

The survey was delivered by the National Center for Education Statistics (NCES) within

the Institute of Education Sciences (IES). Titled "Dropout Prevention Services and Programs."

The study consisted of 1,200 public schools districts in all 50 states and the District of Columbia.

Survey respondents were the Superintendent of the district, or their selected designee. The

nationally representative sample was selected from the 2008-2009 NCES Common Core of Data,

which was the most up to date version available at the time of the study. To identify the sample

the sampling frame was stratified by instructional level and enrollment size (NCES, 2011).

Research Questions

Research Question 1

- Is there a statistically significant relationship between the availability of career and
technical high schools in the United States and poverty concentration?

The purpose of this question is to determine the availability of career and technical education high schools in the United States based on poverty concentration and the extent to which a relationship between them exists, if any. The dependent variable is the dichotomous answer that each responding Superintendent provided regarding the availability of a career and technical high school in their district. Descriptive statistics were used to identify the frequency which each district reported the availability of career and technical high schools in their district, according to poverty concentration. Frequency distributions with percentages were completed to amalgamate this data. Then, a binomial logistic regression was performed to determine the relationship between the variables tested.

Research Question 2

- Is there a statistically significant relationship between the participation in career and technical high schools in the United States by DOP students and poverty concentration?

The purpose of this question is to determine the level of participation by DOP students in CTE high schools based on poverty concentration, and the extent to which a relationship between these variables exists, if any. The dependent variable is the categorical response issued by respondents explaining the extent to which DOP students in their district participate in CTE high schools. Frequency distributions were performed to determine the number of occurrences for each category, as well as the percentages. These figures are expressed in tables as well as bar charts. Then, an ordinal regression was performed to determine whether a relationship between the variables tested.

Research Questions 3

- Is there a statistically significant relationship between the availability of career and technical education courses at regular high schools in the United States and poverty concentration?

This question is posed to determine the availability of career and technical courses at regular high schools in the United States based on poverty concentration and the extent to which a relationship between them exists, if any. The dependent variable is the dichotomous answer that each responding Superintendent provided regarding the availability of career and technical courses at regular high schools in their school district. Descriptive statistics were used to identify the frequency which each district reported the availability of career and technical courses at regular high schools in their districts, according to poverty concentration. Frequency distributions with percentages were completed to compile the data. Then, a binomial regression was performed to understand the relationships between the variables.

Research Questions 4

- Is there a statistically significant relationship between the level of participation in career and technical education courses at regular high schools in the United States based on poverty concentration?

The purpose of this question is to determine the level of participation by DOP students in CTE courses offered at regular high schools, based on poverty concentration, and the extent to which a relationship between these variables exists, if any. The dependent variable is the categorical response issued by respondents explaining the extent to which DOP students in their district participate in CTE courses at regular high schools. Frequency distributions were performed to tabulate the responses for each category, as well as the percentages. Then, an ordinal regression was run to determine the relationship between the variables.

Hypotheses

- There will be no statistically-significant relationship between the availability of career and technical high schools in the United States and poverty concentration.

- There will be no statistically-significant relationship between the level of participation in career and technical high schools by DOP students in the United States and poverty concentration.

- There will be no statistically-significant relationship between the availability of career and technical education courses at regular high school in the United States and poverty concentration.

- There will be no statistically-significant relationship between the level of participation in career and technical education courses at regular high schools by DOP students in the United States based on poverty concentration.

Data Collection

Questionnaires were mailed to the Superintendent of each district in September of 2010. The accompanying cover letter requested that the information in the survey be completed by the person with the most knowledge about DOP services and programs with that district. Respondents were able to complete the survey online or by mail. Following the initial data collection period telephone follow-up calls were made for those who did not respond to the survey and to clarify data from October 2010 to January 2011 (NCES, 2011).

Of the 1,200 districts in the sample, five were deemed ineligible because it was determined that they were strictly administrative entities and did not actually participate in the operation of any schools. Of the remaining 1,195, 1,086 participated in the survey. This resulted in a 91 percent participation rate. Sixty-one percent of the participants completed the survey through the Internet, 27 % completed the survey by mail, 7 % completed the survey by fax or email, and 5% completed it by telephone.

Information regarding the validity of the survey was not available to the public, so the researcher contacted the IES to learn more. In an email communication the following information was learned (J. Ralph, personal communication, March 14th, 2014):

> The development work for this survey included a literature review on dropout prevention programs and services and four rounds of feasibility calls that informed the survey design. The first two rounds of feasibility calls were conducted to identify topics that could be addressed in a short questionnaire and they informed the initial draft of the survey. The third and fourth rounds were conducted to assess the clarity and relevance of the developed survey items, and to gauge whether respondents thought they could answer the questions without

too much burden. In the third and fourth rounds of feasibility calls, respondents reviewed the draft survey and provided feedback over the phone for survey items. The questionnaire was then revised and the resulting draft of the survey was reviewed by the NCES Quality Review Board (QRB). Feedback was also obtained during survey development from other U.S. Department of Education offices and from an external reviewer who was an expert on dropout prevention programs (J. Ralph, personal communication, March 14th, 2014).

Based on feedback from the QRB, the survey was revised and a pretest of the questionnaire was conducted to identify problems that respondents might have in providing the requested information. The purpose of the pretest was to verify that all questions and corresponding instructions were clear and unambiguous, to determine if the information would be readily available to respondents, and to determine whether the burden on respondents could be further reduced. Responses and comments on the pretest questionnaire were collected by fax and telephone. Changes to the questionnaire were made based on the feedback received from the pretest (J. Ralph, personal communication, March 14th, 2014).

The survey was then submitted to the federal Office of Management and Budget (OMB) for review. As part of this process, the survey has a 30-day Federal Register notice that provides an opportunity for public comment on the questionnaire. No public comments were received, and no changes were requested by OMB.

Information regarding the reliability of the study was available to the public. Non-item response to the survey was low and the survey was designed to account for sampling error and minimize non-sampling error. However, estimates produced from the data collected are subject to both types of error. Accordingly, missing data were imputed for items with a response rate of less than 100%. There was a non-response rate of less than 1% for each item (NCES, 2011).

Data Analysis

Quantitative research methods were used to describe the nature of the phenomena. Delivered surveys were cross-sectional in nature. They asked questions on a specific topic to a subset population, allowing the results to be generalized to the larger population. (Bennett, Khangura, Brehaut, Graham, Moher, & Potter, 2011). The results were analyzed using descriptive statistics, binomial regression, and ordinal regression.

The public data set was analyzed using the Statistical Package for the Social Sciences (SPSS). The public coding sheet is readily available and has been tested for inaccuracies. Data will be analyzed using descriptive statistics to mine the broad scope data relevant to the study and frame the narrative of further data interpretation. The use of descriptive statistics is useful in communicating the different aspects of a population. This is particularly helpful when framing the narrative that a data set is revealing. The story can be told through various measures including mean, median, mode, standard deviation, interquartile range, skewness, kurtosis, and correlation (Bickel & Lehmann, 1975). "The purpose of descriptive statistics is mainly to present the salient features of data in an intelligible form……There is not a sharp distinction between observation and experiment. For example, astronomy is usually regarded as observational, yet an astronomer can design an experiment in which he plans in detail where to point his telescope" (Good, p. 284).

> But descriptive statistics is not just concerned with presenting data to the eye, it is also concerned with the so-called reduction of data, such as when averages are computed. Perhaps the earliest example of data reduction in all civilizations and tribes was counting. Instead of describing all the animals on a farm separately, they could be described as say 17 swine and 43 kine. To put the matter somewhat paradoxically, one of the aims of descriptive statistics is to suppress data. The uninformative features are suppressed so as to make the important feature stand out more clearly. We need insufficient statistics so to speak. An example mentioned by a referee relates to classical statistical mechanics. Even if one knew the position and momentum of each molecule in a gas, it would be necessary to discard nearly all of this information to make useful statements about the gas as a whole. Otherwise, one would not be able to see the gas for the molecules. This feature of descriptive statistics is a feature of all communication. We must suppress some truth to communicate the truth. We must tell the truth if it is not misleading, the whole truth that is of sufficient importance, and nothing but the truth apart from some figures of speech (Good, pp. 284-285).

Binary regression tests will be run to determine the existence of a relationship between the poverty concentration in a community and the availability of CTE programs within them. By understanding the odds thresholds the researcher seeks to determine the likelihood of a student

having access to CTE programs, based on the poverty concentration in the community. Ordinal regression tests will be run to determine the existence of a relationship between the poverty concentration within a community and the participation in CTE programs by DOP students. SES will be viewed as a continuous variable so that the researcher may understand the likelihood that DOP students participate in either CTE high schools or CTE courses in regular high schools. By understanding the odds the researcher seeks to determine the likelihood that a DOP student would participate in CTE programs at their local schools, according to the poverty concentration in their community.

The demographic survey data relevant to this study is poverty concentration within the community. Survey items relevant to this study can be found under Question 3 of the survey, items 3a1, 3a2, 3b1, and 3b2. Items 3a1 and 3b1 are dichotomous questions where the respondent will indicate whether CTE programs are available in their district; items 3a2 and 3b2 are ordinal questions where the respondent will indicate to what extent DOP students participate in available CTE programs. Items 3a1 and 3b1 ask the respondent if CTE programs are available in their districts. For these questions, the dependent variable is the availability of CTE programs in the community, and the independent variable is the poverty concentration in those communities. Items 3a2 and 3b2 ask the respondents how many DOP students participate in CTE programs in their district, if they are available. For these questions the dependent variable is the participation of DOP student in CTE programs, and the independent variable is the poverty concentration in those communities.

The questions were chosen for the study because of their direct correlation to enrichment programs that serve at-risk students. CTE programs are one of the programs used to address the needs of at-risk students (Wonacott, 2002). By concentrating on these questions, it enabled the

researcher to explore the availability of CTE programs across the U.S. based on poverty concentration in the community and the participation in them by DOP students, allowing for a focused analysis of the variables in the questions as well as the relevant research literature.

Surveys are useful because they allow the researcher to understand the characteristics of a given population including their attitudes, opinions, beliefs, and practices (Bennett, et al., 2011). The survey approach allows the researcher to acquire responses from a diverse audience spanning the entire United States in an efficient and convenient manner. Using a cross sectional strategy the researcher will be able to examine present availability of CTE programs and the participation in them by DOP students using a public data set based on the survey *Dropout Prevention Services and Programs*. The cross sectional analysis of an existing data set will expedite the data gathering process and allow for prompt data analysis.

Surveys are a method of investigation used by researchers who seek to gather feedback from a small population and generalize the results to a larger population. Surveys are deemed particularly useful when attempting to collect data that address topics that are difficult to measure using alternative methods. Examples include studies that ask participants to report on their knowledge, beliefs, opinions, attitudes, or level of satisfaction about a given topic (Bennett et al., 2011).

Survey data are known to be subjective in nature, relying on participants to self- report requested information based on their thoughts and opinions as opposed to their actions. Potential pitfalls to the researcher typically include low response rates, which can impede the validity of the study and undermine its total value (Bennett et al., 2011). Quality of response also plays a role in determining the reliability of survey data. Datasets are likely to contain at least a few responses from respondents who were not completely attentive in their answer. Web-based

surveys pose a specific risk because respondents may be more focused on the content in other internet windows than the survey (Barge & Gehlbach, 2012).

The data collection was carried out by the Institute of Education Sciences (IES). The elements of the survey of interest to this study seek to gauge the perceptions of Superintendents and their assignees in regards to the availability of CTE programs in their community and the participation in them by DOP students. It should be noted that the researcher's childhood socioeconomic status impacts his perception of participation in DOP programs and what these programs can do to assist DOP students.

Survey data will be evaluated through positivist notions recognizing the data as a measurement of real world events. The researcher will evaluate the findings through a through an objective prism where knowledge is viewed in the form of data that can be measured, a view that lends insight into the impact of CTE programs on DOP students from a macro-policy perspective. The researcher's experience as a DOP student drives this study. Those experiences developed his insights into the challenges of being a DOP student in the U.S. The same experiences also promoted his interest in DOP students and the issues that impact them. Using these experiences as a springboard, the researcher hopes to develop an understanding of how CTE programs can play a role addressing the dropout problem.

<div align="center">**Summary**</div>

The purpose of this chapter was to outline the methodology for the study, as well as the central theoretical tenets that drive the methods. The process for collecting and analyzing data was presented to outline the framework of how the information will be analyzed. The questions in the study were presented along with their purposes, and the specific methods of analysis for each respective question. In the next chapter the data will be analyzed according to the methods outlined in this chapter.

CHAPTER 4
RESULTS

The purpose of this study was to explore the availability of CTE programs in the United States and the participation in them by DOP students, according to poverty concentration in their community. This chapter will present the findings of the study that resulted from the analysis of the public data set. It will answer four questions: 1) Is there a statistically significant relationship between the availability of career and technical high schools in the United States and poverty concentration? 2) Is there a statistically significant relationship between the participation in career and technical high schools by DOP students in the United States and poverty concentration? 3) Is there a statistically significant relationship between the availability of career and technical education courses at regular high schools in the United States and poverty concentration? 4) Is there a statistically significant relationship between the level of participation by DOP students in career and technical education courses at regular high schools in the United States based on poverty concentration?

Descriptive Data

Of the 1,195 surveys that were mailed, 1,086 surveys were returned, which results in a 91% response rate. The distributions of responses according to the categories relevant to this study will follow.

Table 4-1 summarizes the poverty concentration levels of the respondents. School districts that experience poverty rates below 10% comprised 30.8% ($n=335$) of the responses. School districts that experience poverty rates between 10%-19% comprised 40.7% ($n=442$) of the responses. School districts that experience poverty rates above 20% comprised 28.5% ($n=309$) of the responses.

Table 4-1. Poverty Concentration of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	LESS THAN 10%	335	30.8	30.8	30.8
	10%-19%	442	40.7	40.7	71.5
	20% AND MORE	309	28.5	28.5	100.0
	Total	1086	100.0	100.0	

Table 4-2 summarizes the availability of career and technical high schools of the respondents. School districts that offer career and technical high schools comprised 54.9% (*n*=596)of the respondents. School districts that do not offer career and technical high schools comprised 45.1% (*n*=490) of the respondents.

Table 4-2. Availability of Career and Technical High Schools

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	596	54.9	54.9	54.9
	NO	490	45.1	45.1	100.0
	Total	1086	100.0	100.0	

Table 4-3 summarizes the participation rates by at-risk students in career and technical high schools, where they are available. Schools districts where few or no at-risk students participate in CTE high schools comprised 4.7% (*n*=51) of the results. School districts where some students participate in CTE high schools comprised 42.1% (*n*=457) of the results. School districts where most at-risk students participate in CTE high school comprised 8.1% (*n*=88) of the results. School districts that did not offer career and technical high schools comprised 45.1% (*n*=490) of the results.

Table 4-4 summarizes the availability of career and technical courses at regular high schools among the respondents. School districts that offered career and technical courses in regular high schools comprised 76.2% (*n*=828) of the responses. School districts that did not offer career and technical courses at regular high schools comprised 23.8% (*n*=258) of the respondents.

Table 4-3. Participation in Career/Technical High School

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NOT APPLICABLE	490	45.1	45.1	45.1
	NO OR FEW AT-RISK STUDENTS PARTICIPATE	51	4.7	4.7	49.8
	SOME AT-RISK STUDENTS PARTICIPATE	457	42.1	42.1	91.9
	MOST AT-RISK STUDENTS PARTICIPATE	88	8.1	8.1	100.0
	Total	1086	100.0	100.0	

Table 4-4. Availability of Career/Technical Course at Regular High School

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	828	76.2	76.2	76.2
	NO	258	23.8	23.8	100.0
	Total	1086	100.0	100.0	

Table 4-5. Participation in Career/Technical Course at Regular High School

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NOT APPLICABLE	258	23.8	23.8	23.8
	NO OR FEW AT-RISK STUDENTS PARTICIPATE	52	4.8	4.8	28.5
	SOME AT-RISK STUDENTS PARTICIPATE	590	54.3	54.3	82.9
	MOST AT-RISK STUDENTS PARTICIPATE	186	17.1	17.1	100.0
	Total	1086	100.0	100.0	

Table 4-5 summarizes the participation among at-risk students in career and technical courses offered at regular high schools among respondents. School districts where few or no at-risk students participated in CTE courses at regular high schools comprised 4.8% (*n*=52) of the results. School districts where some at-risk students participate in CTE courses at regular high schools comprised 54.3% (*n*=590) of the results. School districts where most at-risk students

participate in CTE courses at regular high schools comprised 17.1% (*n*=186) of the results.

School districts that did not offer CTE courses at regular high schools comprised 23.8% (*n*=258)

of the results.

Research Question 1

- Is there a statistically significant relationship between the availability of career and
  technical high schools in the United States and poverty concentration?

For this question the availability of CTE high schools in the community served as the

dependent variable, and the concentration of poverty in the community served as the independent

variable. Frequencies and cross tabulations were calculated to determine the availability of CTE

programs based on poverty concentration. Frequencies communicate the numbers of responses

collected for the question. The tabulation counts the frequency of the combination that the

referenced variables occur. Table 4.6 summarizes the availability of career and technical high

schools according to poverty concentration. Response percentages will be reported as their

portion of the variable within the category. Among the districts that reported they offered career

and technical high schools, 34.2% (*n*=204) had a poverty concentration of less than 10%, 40.1%

(*n*=239) had a poverty concentration between 10%-19%, and 49.5% (*n*=156) had poverty a

concentration above 20%. Among the districts that did not offer career and technical high

schools, 26.7% (*n*=131) had a poverty concentration of less than 10%, 41.4% (*n*=203) had a

poverty concentration of 10%-19%, and 31.8% (*n*=156) had a poverty concentration of 20% or

more. Further, 60.9% of schools with a poverty concentration of less than 10% offered career

and technical high schools, whereas 39.1% did not. Yet 54.1% of schools with a poverty

concentration of 10%-19% offered career and technical high schools, whereas 45.9% did not.

Additionally, 49.5% of schools with poverty concentrations above 20% offered career and

technical high schools, whereas 50.5% did not. Table 4-6 illustrates this data.

Table 4-6. CTE High School Availability & Poverty Concentration

			Poverty concentration			
			LESS THAN 10%	10%-19%	20% AND MORE	Total
Availability of career/technical HS	YES	Count	204	239	153	596
		Expected Count	183.8	242.6	169.6	596.0
		% within Availability of career/technical HS	34.2%	40.1%	25.7%	100.0%
		% within Poverty concentration	60.9%	54.1%	49.5%	54.9%
		% of Total	18.8%	22.0%	14.1%	54.9%
	NO	Count	131	203	156	490
		Expected Count	151.2	199.4	139.4	490.0
		% within Availability of career/technical HS	26.7%	41.4%	31.8%	100.0%
		% within Poverty concentration	39.1%	45.9%	50.5%	45.1%
		% of Total	12.1%	18.7%	14.4%	45.1%
Total		Count	335	442	309	1086
		Expected Count	335.0	442.0	309.0	1086.0
		% within Availability of career/technical HS	30.8%	40.7%	28.5%	100.0%
		% within Poverty concentration	100.0%	100.0%	100.0%	100.0%
		% of Total	30.8%	40.7%	28.5%	100.0%

Table 4-7. Categorical Variable Codings – Poverty Concentration and the Availability of CTE High Schools

			Parameter coding	
		Frequency	(1)	(2)
Poverty concentration	LESS THAN 10%	335	1.000	.000
	10%-19%	442	.000	1.000
	20% AND MORE	309	.000	.000

Binomial regression was performed to determine the extent of the relationship between poverty concentration and the availability of CTE programs. Table 4-7 represents the categorical coding, confirming adequate frequency counts for the binomial regression. It indicates that n=335 for responses tallied from districts with less than 10% poverty concentration, n=442 for

responses that came from districts with 10%-19% poverty concentration, and *n*=309 for

responses that came from districts with a poverty concentration of 20% or more.

        Table 4-8 reports two degrees of freedom for each predictor in the model, and the chi-

square statistics that calculate to 8.638. The statistical significance of the model is outlined, with

the significance level being set at .05, and the results being reported as .013 in the model row.

The data reveal that the logistic regression model was statistically significant. Therefore, further

data regarding this variable can be evaluated knowing that the model is appropriate for exploring

whether there is a statistically-significant relationship between the availability of career and

technical high schools in the United States and poverty concentration.

Table 4-8. Omnibus Test of Model Coefficients

		Chi-square	Df	Sig.
Step 1	Step	8.638	2	.013
	Block	8.638	2	.013
	Model	8.638	2	.013

Table 4-9. Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	POVST	.232	.080	8.431	1	.004	1.261	1.078	1.474
	Constant	-.655	.170	14.837	1	.001	.520		
a. Variable(s) entered on step 1: POVST.									

        Table 4-9 presents that statistical significance of the categorical independent variable of

poverty concentration and the odds to predict the probability that career and technical high

schools are offered in the community. The statistical significance is $p < .05$; therefore the

researcher can conclude that there is a statistically significant relationship between poverty

concentration in the community and the availability of career and technical high schools. As a

result, the researcher must reject the first null hypothesis: There will be no statistically-

significant relationship between the availability of career and technical high schools in the

United States and poverty concentration. The figure .232 represents the increase in the predicted

log odds, holding other factors constant. The figure .080 represents the standard error, which are

associated with the coefficients, to determine whether the parameter is significantly different

from zero. The figure 8.431 represents the Wald Chi-Square, which is statistically significant as

$p < .05$. The figure 1.261 represents the odds that a CTE high school will not be offered as the

responding districts SES class changes from that of a lower poverty concentration to that of a

higher poverty concentration. Therefore, the data illustrate that districts with a higher poverty

concentration are less likely to have a career and technical high school in their district (UCLA,

2014).

Research Question 2

- Is there a statistically significant relationship between the participation in career and technical high schools in the United States by DOP students and poverty concentration?

For this question the participation in CTE high schools by DOP students served as the

dependent variable, and the poverty concentration in the community served as the independent

variable. Frequencies and cross tabulations were calculated to determine the participation in CTE

high schools by DOP students, where available, based on poverty concentration. Frequencies

communicate the numbers of responses collected for the question. The tabulation counts the

frequency that the combination that the referenced variables occur.

Table 4-10 summarizes the participation in CTE high schools by DOP students, where

available, based on poverty concentration. Among the districts that reported few or no at-risk

students participated in a career and technical high school in their district, 35.3% ($n=18$) had a

poverty concentration of less than 10%, 41.4% ($n=19$) had a poverty concentration of 10%-19%,

and 27.5% ($n=14$) had a poverty concentration of more than 20%. Among the districts that

reported some at-risk students participated, 35.2% ($n=161$) had a poverty concentration of less

Table 4-10. Participation in CTE High Schools by DOP Students

			Poverty concentration			
			LESS THAN 10%	10%-19%	20% AND MORE	Total
Participation in career/technical HS	NOT APPLICABLE	Count	131	203	156	490
		Expected Count	151.2	199.4	139.4	490.0
		% within Participation in career/technical HS	26.7%	41.4%	31.8%	100.0%
		% within Poverty concentration	39.1%	45.9%	50.5%	45.1%
		% of Total	12.1%	18.7%	14.4%	45.1%
Participation in career/technical HS	NO OR FEW AT-RISK STUDENTS PARTICIPATE	Count	18	19	14	51
		Expected Count	15.7	20.8	14.5	51.0
		% within Participation in career/technical HS	35.3%	37.3%	27.5%	100.0%
		% within Poverty concentration	5.4%	4.3%	4.5%	4.7%
		% of Total	1.7%	1.7%	1.3%	4.7%
	SOME AT-RISK STUDENTS PARTICIPATE	Count	161	183	113	457
		Expected Count	141.0	186.0	130.0	457.0
		% within Participation in career/technical HS	35.2%	40.0%	24.7%	100.0%
		% within Poverty concentration	48.1%	41.4%	36.6%	42.1%
		% of Total	14.8%	16.9%	10.4%	42.1%
	MOST AT-RISK STUDENTS PARTICIPATE	Count	25	37	26	88
		Expected Count	27.1	35.8	25.0	88.0
		% within Participation in career/technical HS	28.4%	42.0%	29.5%	100.0%
		% within Poverty concentration	7.5%	8.4%	8.4%	8.1%
		% of Total	2.3%	3.4%	2.4%	8.1%
Total		Count	335	442	309	1086
		Expected Count	335.0	442.0	309.0	1086.0
		% within Participation in career/technical HS	30.8%	40.7%	28.5%	100.0%
		% within Poverty concentration	100.0%	100.0%	100.0%	100.0%
		% of Total	30.8%	40.7%	28.5%	100.0%

than 10%, 40% (*n*=183) had a poverty concentration of 10%-19%, and 24.7% (*n*=113) had a

poverty concentration of over 20%. Among districts that reported most at-risk students

participated, 28.4% (*n*=25) had a poverty concentration of less than 10%, 42% (*n*=37) had a

poverty concentration of 10%-19%, and 29.5% (*n=26*) had a poverty concentration of more than 20%.

Ordinal regression was performed to determine the extent of the relationship between poverty concentration and the participation in CTE programs. Table 4-11 represents the categorical coding by tiers of both the independent and dependent variables, confirming adequate frequency counts for the ordinal regression. This indicates that 45.1% (*n=490*) of districts responded that career and technical high schools were not offered, 42.1% (*n=457*) of responses came from districts where some at-risk students participated in career and technical high schools, with, and 8.1% (*n=88*) of districts responded that most at-risk students participate in their career and technical high schools.

Table 4-11. Case Processing Summary

		N	Marginal Percentage
Participation in career/technical HS	NOT APPLICABLE	490	45.1%
	NO OR FEW AT-RISK STUDENTS PARTICIPATE	51	4.7%
	SOME AT-RISK STUDENTS PARTICIPATE	457	42.1%
	MOST AT-RISK STUDENTS PARTICIPATE	88	8.1%
Poverty concentration	LESS THAN 10%	335	30.8%
	10%-19%	442	40.7%
	20% AND MORE	309	28.5%
Valid		1086	100.0%
Missing		0	
Total		1086	

Table 4-12 offers model fitting information for the test. It indicates the -2 log likelihood values are 389.711 for the intercept only model and 301.800 for the final row, which includes the intercept and independent variables. The difference between the two models is represented by the

Chi-Square statistic, 5.946 distributed at 1 degree of freedom, as defined by the number of predictors in the model. In this case the $p < .05$, as such the data reveal that the logistic regression model was statistically significant. Therefore, further data regarding this variable can be evaluated knowing that the model is appropriate for exploring whether there is a statistically-significant relationship between the participation of DOP students in CTE high schools and poverty concentration

Table 4-12. Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	58.385			
Final	52.440	5.946	1	.015

Link function: Logit.

  Table 4-13 represents the parameter estimates, which serve as a measure of the variables in the question; the participation of DOP students in CTE high schools, and the poverty concentration in the community. The standard error is reported at .075, which are associated with the coefficients, to determine whether the parameter is significantly different from zero. The Wald Chi-Square statistic is 5.902 at one degree of freedom.

  The estimate column referenced by POVST expresses the likelihood of an event occurring. In this instance, the data shows that as the response of socioeconomic class increases by a factor of 1, the likelihood that DOP students will participate in CTE high schools falls by a factor of -.182. $p < .05$, with a statistical significance of .015. Therefore, the researcher rejects the null hypothesis: There will be no statistically-significant relationship between the level of participation in career and technical high schools by DOP students in the United States and poverty concentration (UCLA, 2014).

  Table 4-14 expresses the results from the test of parallel lines. It tests the null hypothesis that the odds for each variable are the same throughout tiers. There is not a statistically

significant result expressed in the test, which means the odds for each variable throughout the

tiers are consistent, with a statistically insignificant effect of .124.

Table 4-13. Parameter Estimates

| | | | | | | | 95% Confidence Interval | |
| | | | | | | | Lower | Upper |
		Estimate	Std. Error	Wald	df	Sig.	Bound	Bound
Threshold	[Q3B2 = -8]	-.555	.161	11.912	1	.001	-.870	-.240
	[Q3B2 = 1]	-.365	.160	5.191	1	.023	-.679	-.051
	[Q3B2 = 2]	2.078	.182	130.998	1	.001	1.722	2.434
Location	POVST	-.182	.075	5.902	1	.015	-.330	-.035

Link function: Logit.
a. This parameter is set to zero because it is redundant.

Table 4-14. Test of Parallel Lines

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	52.440			
General	48.263	4.177	2	.124

The null hypothesis states that the location parameters (slope coefficients) are the same across
response categories.
a. Link function: Logit.

Research Question 3

- Is there a statistically significant relationship between the availability of career and
  technical education courses at regular high schools in the United States and poverty
  concentration?

For this question the availability of CTE courses at regular high schools served as the

dependent variable, and the poverty concentration in the community served as the dependent

variable. Frequencies and cross tabulations were calculated to determine the availability of CTE

courses in regular high school based on poverty concentration. The availability of CTE course at

regular high schools served as the dependent variable, and the poverty concentration in the

community served as the dependent variable. Frequencies communicate the number of responses

collected for the question. The tabulation counts the frequency that the combination of the

referenced variable occurs. Response percentages will be reported as their portion of the variable

within the category. Frequencies communicate the number of responses collected for the question.

Table 4-15. Availability of CTE Courses at a Regular High School

			Poverty concentration			
			LESS THAN 10%	10%-19%	20% AND MORE	Total
Availability of career/technical courses at a regular HS	YES	Count	231	354	243	828
		Expected Count	255.4	337.0	235.6	828.0
		% within Availability of career/technical courses at a regular HS	27.9%	42.8%	29.3%	100.0%
		% within Poverty concentration	69.0%	80.1%	78.6%	76.2%
		% of Total	21.3%	32.6%	22.4%	76.2%
	NO	Count	104	88	66	258
		Expected Count	79.6	105.0	73.4	258.0
		% within Availability of career/technical courses at a regular HS	40.3%	34.1%	25.6%	100.0%
		% within Poverty concentration	31.0%	19.9%	21.4%	23.8%
		% of Total	9.6%	8.1%	6.1%	23.8%
Total		Count	335	442	309	1086
		Expected Count	335.0	442.0	309.0	1086.0
		% within Availability of career/technical courses at a regular HS	30.8%	40.7%	28.5%	100.0%
		% within Poverty concentration	100.0%	100.0%	100.0%	100.0%
		% of Total	30.8%	40.7%	28.5%	100.0%

Table 4-15 summarizes the availability of career and technical high schools according to poverty concentration. Response percentages are reported as their portion of the entire

responding population. Among the districts that reported they offered career and technical

courses at regular high schools 27.9% (*n*=231) had a poverty concentration of less than 10%,

42.8% (*n*=354) had a poverty concentration of 10%-19%, and 29.3% (*n*=243) had a poverty

concentration of 20% or more. Among the districts that did not offer career and technical

education courses at regular high schools 40.3% (*n*=104) had a poverty concentration of less than

10%, 34.1% (*n*=88) had a poverty concentration of 10%-19%, and 25.6% (*n*=66) had a poverty

concentration of 20% or more. Further, 69% of districts with a poverty concentration of less than

10% offered career and technical courses in regular high schools, while 39% did not.

Additionally, 80.1% of districts with a poverty concentration of 10%-19% offered career and

technical high schools, while 19.9% did not. Finally, 78.6% of districts with a poverty

concentration of 20% or more offered career and technical courses at regular high schools, while

21.4% did not.

     Binomial regression was performed to determine the extent of the relationship between

poverty concentration and the availability of CTE classes in regular high schools. Table 4-16

represents the categorical coding, confirming adequate frequency counts for the binomial

regression. It indicates that *n*=335 responses came from districts with less than 10% poverty

concentration, *n*=442 responses came from districts with 10%-19% poverty concentration, and

n=309 responses came from districts with a poverty concentration of 20% or more.

Table 4-16. Categorical Variables Codings

| | | Frequency | Parameter coding | |
			(1)	(2)
Poverty concentration	LESS THAN 10%	335	1.000	.000
	10%-19%	442	.000	1.000
	20% AND MORE	309	.000	.000

Table 4-17 reports two degrees of freedom for each predictor in the model, and a chi-square statistic that calculates to 14. The statistical significance of the model is outlined, with the significance level being set at .05, and the results being reported as .001 in the model row. The data reveal that the logistic regression model was statistically significant. Therefore, further data regarding this variable will be evaluated knowing that the model is appropriate for exploring whether there is a statistically significant relationship between the availability of career and technical courses in regular high schools in the United States and poverty concentration.

Table 4-17. Omnibus Tests of Model Coefficients

		Chi-square	Df	Sig.
Step 1	Step	14.000	2	.001
	Block	14.000	2	.001
	Model	14.000	2	.001

Table 4-18 presents the statistical significance of the categorical independent variable of poverty concentration and the odds to predict the probability that career and technical education courses are offered at regular high schools in the community. The statistical significance in $p <$ .05; therefore the researcher can conclude that there is a statistically significant relationship between poverty concentration in the community and the availability of CTE courses in regular high schools. As a result, the researcher must reject the third null hypothesis: There will be no statistically-significant relationship between the availability of career and technical education courses at regular high school in the United States and poverty concentration. The figure -.276 represents the decrease in the predicted log odds, holding other factors constant. The figure .094 represents the standard error, which is associated with the coefficients, to determine whether the parameter is significantly different from zero. The figure 8.627 represents the Wald Chi-Square, which is statistically significant as $p < .05$. The figure .753 represents the odds that CTE courses at regular high schools will not be offered as the responding districts SES class changes from

that of a lower poverty concentration to that of a higher poverty concentration This figure must

be inverted for ease of interpretation, $1/.753 = 1.32$. Since *B* is negative the interpretation is also

inverted. Therefore, the data illustrate that districts with a higher poverty concentration are less

likely to have career and technical education courses offered at regular high schools in their

district.

Table 4-18. Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Step 1[a]	POVST	-.276	.094	8.627	1	.003	.759	.632	.912
	Constant	-.633	.191	10.945	1	.001	.531		
a. Variable(s) entered on step 1: POVST.									

Research Question 4

- Is there a statistically significant relationship between the level of participation in career
  and technical education courses at regular high schools in the United States based on
  poverty concentration?

For this question the participation by DOP students in CTE courses offered at regular

high schools served as the dependent variable, and the poverty concentration in the community

served as the independent variable. Frequencies and cross tabulations were calculated to

determine the participation in CTE high schools by DOP students, where available, based on

poverty concentration. They are communicated in Table 4-19. Frequencies communicate the

number of responses collected for the question. The cross tabulation counts the frequency of the

combination that the cross-referenced variables occur.

Table 4-19 summarizes the participation in CTE courses at regular high schools by DOP

students, where available, based on poverty concentration. Among the districts that reported few

or no at-risk students participated in a career and technical courses in regular high schools in

their district, 34.6% (*n*=18) had a poverty concentration of less than 10%, 32.7% (*n*=17) had a

poverty concentration of 10%-19%, and 32.7% (*n*=17) had a poverty concentration of more than

Table 4-19. Participation in CTE Courses at a Regular High School

			Poverty concentration			
			LESS THAN 10%	10%-19%	20% AND MORE	Total
Participation in career/technical courses at a regular HS	NOT APPLICABLE	Count	104	88	66	258
		Expected Count	79.6	105.0	73.4	258.0
		% within Participation in career/technical courses at a regular HS	40.3%	34.1%	25.6%	100.0%
		% within Poverty concentration	31.0%	19.9%	21.4%	23.8%
		% of Total	9.6%	8.1%	6.1%	23.8%
	NO OR FEW AT-RISK STUDENTS PARTICIPATE	Count	18	17	17	52
		Expected Count	16.0	21.2	14.8	52.0
		% within Participation in career/technical courses at a regular HS	34.6%	32.7%	32.7%	100.0%
		% within Poverty concentration	5.4%	3.8%	5.5%	4.8%
		% of Total	1.7%	1.6%	1.6%	4.8%
	SOME AT-RISK STUDENTS PARTICIPATE	Count	177	251	162	590
		Expected Count	182.0	240.1	167.9	590.0
		% within Participation in career/technical courses at a regular HS	30.0%	42.5%	27.5%	100.0%
		% within Poverty concentration	52.8%	56.8%	52.4%	54.3%
		% of Total	16.3%	23.1%	14.9%	54.3%
	MOST AT-RISK STUDENTS PARTICIPATE	Count	36	86	64	186
		Expected Count	57.4	75.7	52.9	186.0
		% within Participation in career/technical courses at a regular HS	19.4%	46.2%	34.4%	100.0%
		% within Poverty concentration	10.7%	19.5%	20.7%	17.1%
		% of Total	3.3%	7.9%	5.9%	17.1%
Total		Count	335	442	309	1086
		Expected Count	335.0	442.0	309.0	1086.0
		% within Participation in career/technical courses at a regular HS	30.8%	40.7%	28.5%	100.0%
		% within Poverty concentration	100.0%	100.0%	100.0%	100.0%
		% of Total	30.8%	40.7%	28.5%	100.0%

20%. Among the districts that reported some at-risk students participated, 30% (*n*=177) had a

poverty concentration of less than 10%, 42.5% (*n*=251) had a poverty concentration of 10%-

19%, and 27.5% (*n*=162) had a poverty concentration of over 20%. Among districts that reported most at-risk students participated, 19.4% (*n*=36) had a poverty concentration of less than 10%, 46.2% (*n*=86) had a poverty concentration of 10%-19%, and 34.4% (*n*=64) had a poverty concentration of more than 20%.

Ordinal regression was performed to determine the extent of the relationship between poverty concentration and the participation of DOP students in CTE programs. Table 4-20 represents the categorical coding by tiers of both the independent and dependent variables, confirming adequate frequency counts for the ordinal regression. It indicates that 23.8% (*n*=258) of districts responded that career and technical high schools are not offered, 4.8% (*n*=52) of responses came from districts where no or few at-risk students participated in career and technical education classes at regular high schools, 54.3% (*n*=590) of districts reported that some at-risk students participated in career and technical courses at regular high schools, and 17.1% (*n*=186) of districts responded that most at-risk students participated in their career and technical high schools.

Table 4-20. Case Processing Summary

		N	Marginal Percentage
Participation in career/technical courses at a regular HS	NOT APPLICABLE	258	23.8%
	NO OR FEW AT-RISK STUDENTS PARTICIPATE	52	4.8%
	SOME AT-RISK STUDENTS PARTICIPATE	590	54.3%
	MOST AT-RISK STUDENTS PARTICIPATE	186	17.1%
Poverty concentration	LESS THAN 10%	335	30.8%
	10%-19%	442	40.7%
	20% AND MORE	309	28.5%
Valid		1086	100.0%
Missing		0	
Total		1086	

Table 4-21 offers the model fitting information for the test. It indicates the -2 log

likelihood values are 74.274 for the intercept only model and 59.431 for the final row, which

includes the intercept and independent variables. The difference between the two models is

represented by the Chi-Square statistics, 5.946 distributed at 1 degree of freedom, as defined by

the number of predictors in the model. In this case the $p < .05$; thus, the data reveal that the

ordinal regression model was statistically significant. Therefore, further data regarding this

variable can be evaluated as the model is shown to be appropriate for exploring whether there is

a statistically significant relationship between the participation of DOP students in career and

technical education classes at regular high schools in the United States and poverty

concentration.

Table 4-21. Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	74.274			
Final	59.431	14.843	1	.001

Link function: Logit.

Table 4-22 represents the parameter estimates, which serve as a measure of the variables

in the question; the participation of DOP students in CTE courses at regular high schools, and the

poverty concentration in the community. The standard error is reported at .075, which is

associated with the coefficients, to determine whether the parameter is significantly different

from zero. The Wald Chi-Square statistic is 14.758at one degree of freedom. The estimate

column referenced by POVST expresses the likelihood of an event occurring. In this instance,

the data shows that as the response of socioeconomic class increases by a factor of 1, the

likelihood that DOP students will participate in CTE courses at regular high schools increases by

a factor of .292. $p < .05$, with a statistical significance of .015. Therefore, the researcher rejects

the null hypothesis: There will be no statistically-significant relationship between the level of

participation in career and technical education courses at regular high schools by DOP students

in the United States based on poverty concentration (UCLA, 2014).

Table 4-22. Parameter Estimates

| | | Estimate | Std. Error | Wald | df | Sig. | 95% Confidence Interval | |
							Lower Bound	Upper Bound
Threshold	[Q3B2 = -8]	-.603	.162	13.920	1	.001	-.920	-.286
	[Q3B2 = 1]	-.353	.161	4.825	1	.028	-.667	-.038
	[Q3B2 = 2]	2.168	.176	151.1001	1	.001	1.822	2.514
Location	POVST	.292	.076	14.758	1	.001	.143	-.441

Link function: Logit.

a. This parameter is set to zero because it is redundant.

   Table 4-23 expresses the results from the test of parallel lines. It tests the null hypothesis

that the odds for each variable are the same throughout tiers. There is not a statistically

significant result expressed in the test, which means the odds for each variable throughout the

tiers are consistent, with a statistically insignificant effect of .460.

Table 4-23. Test of Parallel Lines

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	59.431			
General	57.876	1.555	2	.460

The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.

a. Link function: Logit.

CHAPTER 5
DISCUSSION AND CONCLUSIONS

Based on the literature the researcher explored the availability of CTE programs in districts across the U.S. and the participation in them by DOP students. Basic descriptive data were analyzed to gain an understanding of the dynamics of the districts that reported in the survey. Results from Table 4-1 showed districts with less than 10% poverty concentration comprised 30.8% (*n*=335) of respondents, districts with 10% - 19% poverty concentration comprised 40.7% (*n*=442) of respondents, and districts with 20% or greater poverty concentration comprised 28.5% (*n*=309) of respondents. These data offer the researcher insight into the number of schools from each category that responded. Further, the initial data reveal that the sample from each category will be significant to move forward with the study (Barlett, et al., 2001).

Results from Table 4-2 revealed that 54.9% (*n*=596) of responding districts offered career and technical high schools, while 45.1% (*n*=490) do not. With over 50% of the responding districts indicating that they offer career and technical high schools, an opportunity for discussion opened for districts who offer career and technical high schools as well as career and technical courses at regular high schools, which will happen later in this section.

The participation rates by DOP students in career and technical high schools were presented in Table 4-3. Districts where few or no at-risk students were served by career and technical high schools comprised 4.7% (*n*=51) of the responses. Districts where some at-risk students were served by career and technical high schools comprised 42.1% (*n*=457) of the responses. Districts where most at-risk students were served by career and technical high schools comprised 8.1% (*n*=88) of the responses. Data were unevenly distributed, which may be the result of the requirements of the career and technical high schools in the responding districts.

CTE high schools are as varied and diverse as any program in education. They serve students of all ability and behavior levels (Kemple & Snipes, 2000). For the districts that serve few at-risk students, it is possible that those CTE high schools are not being used to serve students who are facing behavioral or academic challenges. Whereas, the districts that reported most at-risk students participated in their CTE high schools may have programs that are being used to serve students who are facing behavioral or academic challenges. It is not reasonable to assume that the courses offered in these high schools are less academically rigorous because there is significant research which says that DOP students who participate in academically rigorous programs can be successful (Hammond, et al., 2007).

In Table 4-4 the frequency distributions for the availability of career and technical courses at regular high schools were presented. Data revealed that 76.2% (*n*=828) of districts offered CTE courses in regular high schools and 23.8% (*n*=258%) did not offer CTE courses in regular high schools. It is important to revisit the data regarding the availability of career and technical high schools at this point. Those data revealed that 54.9% (*n*=596) of districts offered CTE high schools. This indicates an overlap where multiple CTE programs could be offered in these districts to serve students of differing ability and need levels. The limitations and implications of this notion will be discussed later in this chapter.

Table 4-5 reveals that participation by DOP students in CTE courses offered at regular high schools. 23.8% (*n*=258) of districts did not offer programs and therefore answered not applicable. Additionally, 4.8% (*n*=52) of districts answered few or no at-risk students participate. Further, 54.3% (*n*=590) answered that some at-risk students participated. 17.1% (*n*=186) answered that most at-risks students participated. These data could help the districts who responded to better understand the extent to which they are helping DOP students. In learning

about the extent to which other districts were supporting DOP students, the data may assist them in further promoting the availability of CTE programs to DOP students. Further, of the districts that offer neither CTE high schools nor CTE courses in regular high schools, benefits could be realized from knowledge of the criteria and structures that allowed other districts to establish their programs.

Research Question 1

Research Question one examined the statistical significance of the availability of CTE high schools in the United States based on poverty concentration. The data revealed that of the 54.9% (*n*=596) that did offer CTE high schools, 18.8% (*n*=204) had a poverty concentration of less than 10%, 22% (*n*=239) had a poverty concentration of 10%-19%, and 14.1% (*n*=153) had a poverty concentration of 20% and more. 45.1% (*n*=490) of respondents did not offer CTE high schools to their students. 12.1% (*n*=131) had a poverty concentration of less than 10%, 18.7% (*n*=203) had a poverty concentration of 10%-19%, and 14.4% (*n*=156) had a poverty concentration of 20% or more. These data outline the distribution of availability of CTE high school in responding districts in a manner closely aligned with the purpose of the study, which helps the researcher to understand the distributions at a surface level. However, to understand if there was a statistical significance between the variables, further tests needed to be performed.

Results of the binomial regression indicated that there was a statistically significant relationship between the variables. Therefore, further results produced by SPSS were analyzed. The Omnibus Test of Model Coefficients revealed a significance of .013. In this situation significance levels were set at .05, meaning that there was a statistically significant relationship between the availability of CTE high schools in the United States and poverty concentration. The data reveal that as poverty concentration increased by a factor of 1, districts faced increased odds of .232 of not offering CTE high schools. The reasons for this could be many. CTE are

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schools are expensive endeavors that require a substantial commitment from districts to establish and operate. Districts with fewer resources may be less likely to devote a high sum of funds to what is commonly known as elective style courses, as opposed to the content area courses which are viewed to be directly impacted by standardized testing (Pazera, 2011). The results here support the notion of inequality of access to education according to SES. When the SES of a community falls, the likelihood that CTE high school will be available in the community decreases as well, creating another societal structure that places students from poor families at a disadvantage. As a student's access to enriching educational programs decreases, the likelihood that they will fill that time with productive activities falls, especially in a low SES community where they will face so many other challenges (Alexander, et. al., 1997). The disadvantage for students in this scenario is highlighted by Bordieu's (1986) concepts of capital. For each concept of capital; social, economic, and cultural, students face challenges that compound the effects of low SES. Students who don't have access to CTE high schools are less likely to build on any existing social capital base in their community that could enhance their interconnectedness to the community, which would also allow them to build on the cultural capital base of the residents of their neighborhoods. This reduces their opportunity to learn job related knowledge and skills from other members of their communities, also reducing the chances that they develop deepening interests in professional areas being taught at their local school. In communities of diverse backgrounds, a student's disadvantage is enhanced as a result of their lack of access to of these factors, because they are have less access to the diverse capital bases in their communities and the forms of capital they can offer, reducing the chances that they can build off of the capital and benefit from the many forms of diversity in their communities (Van Dorn, et. al, 2006).

Research Question 2

The second research question explored whether there was a statistically significant relationship between the participation of DOP students in CTE high schools based on poverty concentration. Data used to answer this question emphasized descriptive data to develop for the researcher a broad understanding of the participation in CTE high schools by DOP students. Data illustrated 45.1% (*n*=490) of responding districts did not offer CTE high schools. Of these districts 12.1% (*n*=131) had a poverty concentration of less than 10%, 18.7% (*n*=203) had a poverty concentration of 10%-19%, and 14.4% (*n*=156) had a poverty concentration of 10% or more. Further, 4.7 % (*n*=51) of districts reported that few or no at-risk students participated in their CTE high schools. Of these districts 1.7% (*n*=18) had a poverty concentration of less than 10%, 1.7% (*n*=19) had a poverty concentration of 10%-19%, and 1.3% (*n*=14) had a poverty concentration of 20% or more. Additionally, 42.1% (*n*=457) reported that some at-risk students participated in their CTE high schools. Of these districts 14.8% (*n*=161) had a poverty concentration of less than 10%, 16.9% (*n*=183) had a poverty concentration of 10%-19%, and 10.4% (*n*=113) had a poverty concentration of 20% or more. 8.1% (*n*=88) of districts reported that most at-risk students participate in CTE high schools. Of these districts 2.3% (*n*=25) had a poverty concentration of less than 10%, 3.4% (*n*=37) had a poverty concentration of 10%-19%, and 2.4% (*n*=26) had a poverty concentration of 20% or more. Overall, these data reveal to the researcher that most districts responded that some at-risk students participated. The words "few", "some", and "most" were not defined to the respondents in the study, nor were they quantified. This may have created a level of ambiguity in the question where different respondents understood those words in different ways.

The results of the ordinal regression revealed that there is a statistically significant relationship between the variables, as the significance of test under model fitting information was

at .015, and the significance level was set to .05. As socioeconomic class increases by a factor of 1, the likelihood DOP students participate in CTE high schools decreases by a factor of -.182, indicating that the wealth within a community impacts the likelihood that a DOP student will participate in CTE high schools when available. The reason for decreasing participation rates could be related to the resources available to actively seek to identify potential students and then enroll them in the CTE program. This topic was not within the scope of the intended research, but could be an element of a future study. The results here support the concept of school experiences, or a lack thereof, contributing to a student's decision to dropout, and its correlation to SES presented by this study. Alexander, et. al., (1997) point out that a student's engagement behaviors have a direct impact on their decision to drop out of school. It should be pointed out that a student's engagement is impacted by the resources being utilized to facilitate the engagement process. Students who have less access to resources, such a CTE courses in high schools, are further disadvantaged because they will not get the opportunity to become engaged by new topics presented in these schools.

Research Question 3

The third question explored whether there was a statistically significant relationship between the availability of CTE courses at regular high schools in the United States based on poverty concentration. The question's purpose was to explore the descriptive statistics that help to inform the analytical process, as well as the binomial regression. The data revealed that 76.2% (*n*=828) of districts offered CTE courses at regular high schools. Of those districts 21.3% (*n*=231) had a poverty concentration of less than 10%, 32.6% (*n*=354) had a poverty concentration of 10%-19%, and 22.4% (*n*=243) had a poverty concentration of 20% or more. These data outline the distribution of districts where CTE courses are offered at regular high schools by responding districts, data essential to the purpose of this study. These data help the

researcher to understand the data at a descriptive level. However, to better understand the

significance of the data it was necessary for further tests to be performed.

Results of the binomial regression indicated that there was a statistically significant

relationship between the variables. Therefore, further results produced by SPSS were analyzed.

The Omnibus Test of Model Coefficients revealed a significance of .001. In this scenario

significance levels were set at .05, meaning that there was a statistically significant relationship

between the availability of CTE courses at regular high schools in the United States and poverty

concentration. Further analysis revealed that as poverty concentration in the community

increased the likelihood that CTE courses in regular high schools would be available fell by a

factor of 1.32. Financial reasons drive the possibilities for this, as CTE programs are expensive

to operate at school sites (Pazera, 2011). For districts that must make difficult decisions about

where to allocate scarce resources, CTE programs may be less of a priority, further promoting

the concept of inequality in access to educational programs as a systemic challenge that

negatively impact students of low SES disproportionately. Raudenbush, et. al., (1998) point out

that students of socially advantaged backgrounds have greater access to educational resources

than students of socially disadvantaged backgrounds, which contribute to proficiency

deficiencies according to SES group. When compounded with the inequality produced as a result

of their home and neighborhood environments, students of low SES backgrounds are less likely

to experience educational success.

Research Question 4

Research Question four explored whether there was a statistically significant relationship

between the participation of DOP students in CTE courses offered at regular high schools based

on poverty concentration. Descriptive data were used to inform the narrative question of four.

This indicates that 23.8% (*n*= 258) of responding districts did not offer CTE courses at regular

high schools. Of these districts, 9.6% (*n*=104) had a poverty concentration of less than 10%, 8.1% (*n*=88) had a poverty concentration of 10%-19%, and 6.1% (*n*=66) had a poverty concentration of less 20% or more. Further, 4.8% of districts that offered CTE courses at regular high schools said that no or few at-risk students participated. Of these districts 1.7% (*n*=18) had a poverty concentration of less than 10%, 1.6% (*n*=17) had a poverty concentration of 10%-19%, and 1.6% (*n*=17) had a poverty concentration of 20% or more. Additionally, 54.3% (*n*=590) reported that some at-risk students participated in CTE courses offered at regular high schools. Of these districts 16.3% (*n*=177) were from districts with a poverty concentration of less than 10%, 23.1% (*n*=251) were from districts with a poverty concentration of 10%-19%, and 14.9% (*n*=162) were from districts with a poverty concentration of 20% or more. Further, 17.1% of districts reported that most at-risk students participate in CTE courses offered at regular high schools. Of these districts 3.3% (*n*=36) had a poverty concentration of less than 10%, 7.9% (*n*=86) had a poverty concentration of 10% - 19%, and 5.9% (*n*=64) had a poverty concentration of 20% or more. When compared with similar data on CTE high schools these data reveal that CTE courses are offered at regular high schools more frequently than CTE high schools. It is possible that the costs associated with CTE high schools make offering CTE courses at regular high schools the more financially prudent choice.

The results of the ordinal regression revealed that there is a statistically significant relationship between the variables, as the significance of test under model fitting information was below .000, and the significance level was set to .05. The parameter estimates reveal that there was a .292 ratio for the odds for lower to higher participation rates of responding districts based on poverty level. This indicates that students in districts where poverty concentrations are higher are more likely to participate in CTE classes in regular high schools. This could be the result of

former CTE models continuing to prevail in surveyed high schools, as many were established to create work skills for lower income students in the US (Perry & Wallace, 2012). Students with limited school experiences are less likely to express a feeling of school connectedness, a key contributor to school dropout school (Haley, 2006; Myint-U, A., et al., 2008). School experiences have a direct impact on a student's engagement in school (Shernoff, et. al., 2003). As students take part in less engaging experiences, their opportunities for success decrease, and along with them their likelihood for success. As shown through the results produced by this question of the study, students in communities of low SES are less likely to participate in CTE courses at regular high schools. These students, who are not taking part in the enriching academic experience that can improve their feelings of connectedness to their schools, are further disadvantaged as a result of this phenomenon. When this variable is compounded with the neighborhood and home related factors that are known to place students of low SES at a disadvantage, clear viable evidence is produced to demonstrate a problem in the educational system that needs to be addressed to create equity and fairness for all students.

Limitations

The limitations of this study are bound by the parameters of the questions examined in the survey, as well as the perceptions of the concepts in it, as determined by the respondents. The lack of a definition for the words "few", "some", and "most" in the questions serve as a prime example of this limitation. Further, the interpretation of the results may be limited by the crossover that could exist between the districts that offered CTE high schools as well as CTE courses in regular schools. Of those districts that offer both, questions could arise about what the purposes of those programs are, and to what extent they are designed to serve DOP students. These reasons could impact the availability and participation rates in the district. Thus, the reason the districts that reported low participation rates in their CTE high schools could be

because they have CTE courses offered in their regular high schools designed to serve DOP students.

This study examined important variables to better understand the relationship between the availability of and participation in CTE programs by DOP students based on poverty concentration. In examining those variables the impact of other relevant data became apparent. The dynamics of each individual district could have created circumstances which would reveal nuances that may explain the existence, or lack thereof, of CTE programs, with the preceding example illustrating this point. Therefore, opportunities for future research exist in examining the impact that other variables in the survey, such as region on community type, have on the variables examined in this study. For example, in some geographic regions, students from low SES backgrounds are more likely to be successful in school than students from other geographic regions (Lamb, 2011). Further research could study a student's participation in dual enrollment programs or work-based learning programs. By analyzing other enrichment programs, researchers could further strengthen the link between DOP students and their access to and participation in enrichment programs. Researchers could also seek to determine whether the use of strategies to identify DOP students, as explored in the survey used for this study, have a relationship with their access to and participation in enrichment programs. Examining other variables such as the one provided in the preceding examples could allow researchers to gain further insight into the nuances of the survey, and the factors that impact the access to and participation in CTE programs by DOP students.

Implications for Future Research

This study examined important variables to better understand CTE programs and their relevance to DOP students. The information in this study adds to the body of literature on DOP students and the factors that impact them, specifically the likelihood that they will have access to

and participate in CTE programs. Because relationships between the studied variables were already established, this study reinforces the notion that DOP students are disadvantaged at school, and the problem compounds according to the poverty concentration in the community. Researchers can use this information to inform future studies examining the survey that was used in this study, as well as other studies that examine the factors that impact DOP students and students from low SES backgrounds. This study can inform those studies through its analysis of DOP students' access to CTE programs according to poverty concentration, equity of participation in those programs by DOP students according to poverty concentration, and using those factors to construct a relationship to graduation rates. For example, as DOP students of low SES face the compounded challenges posed by not having access to enriching educational programs, like CTE programs, they are less likely to have the opportunity to participate in engaging programs that increase their connectedness to their schools. In turn, they are less likely to graduate from high school (Plank, et. al., 2005). So as researchers examine the factors that impact DOP students, future research could build on the results of this study to explore possible remedies to the phenomena, and their likely effects.

Implications for Practice

The conditions that impact DOP students are bound only by the dynamics of the individual situations of which they are a part. Practitioners who work with them on a daily basis face this reality in their work day. A multitude of factors could impact the daily success of a DOP student. As such, the more supports that are in place for these students, the more likely it would be that they are successful. CTE programs are just one tool designed to help this population of students. Practitioners, from teachers to superintendents, can use the research from this study as a springboard to examine the extent to which CTE and other programs are available in their district. With this knowledge they will be empowered to further develop relevant

programs that will promote the success of their DOP students. By using the data examined from

this study to inform their practice, they can have an improved understanding of the challenges

the students in their school face, with the data on the access to and participation in CTE

programs by DOP students based on poverty concentration serving as a reminder of the

disadvantages that DOP students face in terms of inequality and the likelihood that enriching

educational programs will be available to increase their feelings of connectedness to their school.

APPENDIX
SURVEY

This survey focuses on dropout prevention services and programs in your district. **By dropout prevention services and programs, we mean those that are intended to increase the rate at which students are staying in school, progressing toward graduation, or earning a high school credential.**

Please answer the survey about dropout prevention services or programs offered by your district or by any of the schools in your district in the current 2010–11 school year.

The survey is designed to be completed by the person or persons most knowledgeable about dropout prevention services and programs in your school district. Please consult with others who can help provide the requested information.

ID: _____

Please provide the following information:

Name of person completing this form: _____

Title/position: _____

Name of district: _____

Telephone number: _____   E-mail: _____

Best days and times to reach you (in case of questions): _____

THANK YOU.
PLEASE KEEP A COPY OF THE SURVEY FOR YOUR RECORDS.

Instructions and Definitions Page

Please answer the survey about dropout prevention services or programs offered by your district or by any of the schools in your district in the current 2010–11 school year.

Dropout prevention services or programs are those that are intended to increase the rate at which students are staying in school, progressing toward graduation, or earning a high school credential.

An **advisement class** is one that is held regularly (e.g., weekly) and may include lessons on organizational and study skills, information on courses needed for graduation, and information about careers and college preparation.

Alternative schools and programs are designed to address the needs of students that typically cannot be met in regular schools. The students who attend alternative schools and programs are typically at risk of educational failure (as indicated by poor grades, truancy, disruptive behavior, pregnancy, or similar factors associated with temporary or permanent withdrawal from school).

Career/technical high schools are those that provide formal preparation for semiskilled, skilled, technical, or professional occupations. For purposes of this survey, please include career/technical high schools that are available to students in your district and are administered either by your district or by a regional entity.

Credit recovery courses/programs are opportunities allowing students to recover course credits from classes they have missed or failed.

Decelerated curriculum refers to a curriculum that is spread over a longer period of time than a regular course. An example of a decelerated curriculum is an algebra 1 course that is spread over 2 years or two class periods for an entire year. This definition applies to any curriculum that is decelerated specifically to meet the needs of students who may be at risk of failing a course.

Electronic warning system is an electronic database used to identify students who may be at risk of dropping out. The system includes multiple pieces of student information, such as attendance, grades, and behavioral referrals, one or more of which may be used to identify at-risk students.

Formal program to reduce behavioral problems refers to a systematic program that is specifically designed to reduce behavioral problems and is implemented at the classroom or school level.

Guided study hall/academic support period is typically for students who are struggling academically; teachers assist students by helping them manage their time and their assignments, and either provide or get them the academic support/tutoring that they need to complete homework and be successful in their classes. Teachers may also provide academic support in specific academic areas such as math, reading, or social studies.

Students who are **highly likely to drop out of school** may include those with multiple risk factors, such as many unexcused absences, academic failure, or reoccurring behavior that warrants suspension or expulsion, or those who provide other strong indications that they are dropping out.

Job training and GED combination programs are programs that combine both job training and GED preparation courses. This includes programs such as Job Corps or the Army/National Guard GED program or other similar programs.

Job training programs are those that provide formal preparation for semiskilled, skilled, or technical occupations. These programs do not include GED preparation or result in a high school diploma.

Juvenile Assessment Center is a centralized receiving, processing, and intervention facility that brings together community services for youth and families who have, or are likely to have, contact with the legal system.

A **remediation class** is any class intended to bring students who are academically below grade level up to proficiency.

Self-paced courses/independent study are opportunities for students to work through a course at their own pace, for example, through a computer-based program or packets of work.

Summer bridge programs are programs designed to provide assistance to students before transitioning from one instructional level school to another (e.g., from middle school to high school). These programs may include, but are not limited to, providing academic support, remedial opportunities, study skills, and opportunities to connect to teachers or peers at the new school.

1. Are any of the following services or programs offered **specifically** to address the needs of students at risk of dropping out of school in **any** of the schools in your district? *(Circle one on each line for each instructional level.)*

Service/program	Instructional levels					
	Elementary school		Middle/junior high school		High school	
	Yes	No	Yes	No	Yes	No
a. Tutoring	1	2	1	2	1	2
b. Summer school to prevent grade retention	1	2	1	2	1	2
c. *Remediation classes	1	2	1	2	1	2
d. *Guided study hall/academic support period	1	2	1	2	1	2
e. *Alternative schools or programs	1	2	1	2	1	2
f. After-school programs specifically to address the needs of students at risk of dropping out............................	1	2	1	2	1	2

2. Are any of the following services or programs offered **specifically** to address the needs of students at risk of dropping out of school in **any** of the schools in your district? *(Circle one on each line.)*

	Yes	No
a. District-administered General Education Development (GED) preparation courses	1	2
b. Early graduation options for earning a regular diploma	1	2
c. *Decelerated curriculum for any course (e.g., algebra 1 extended over 2 years or 2 class periods) .	1	2
d. *Credit recovery courses/programs	1	2
e. *Self-paced courses (e.g., computer or packet based) for purposes **other than** credit recovery	1	2
f. Smaller class size	1	2
g. Flexible school day (e.g., shortened school day, evening classes, or Saturday classes)	1	2
h. *Summer bridge program	1	2

3. Please indicate in **part 1** whether the following educational options are available to students in your district. For each option you mark as available, please indicate in **part 2** how many students at risk of dropping out participate.

Educational option	1. Available in your district?		2. If available, how many students at risk of dropping out participate?		
	Yes	No	No or few at-risk students participate	Some at-risk students participate	Most at-risk students participate
a. *Career/technical high school (including regional career/technical high schools)	1	2	1	2	3
b. Career/technical courses at a regular high school	1	2	1	2	3
c. Dual enrollment in postsecondary courses with a career/technical focus	1	2	1	2	3
d. Dual enrollment in postsecondary courses with an academic focus (e.g., English, math, foreign languages) .	1	2	1	2	3
e. Work-based learning (e.g., internships/apprenticeships) ..	1	2	1	2	3

4. Does your district provide or subsidize child care while teen parents are attending classes? *(Circle one.)*

   Yes 1   No 2

5. When a student who is at risk of dropping out is transitioning from a school at one instructional level to a school at a higher instructional level (e.g., from middle school to high school), is information regularly provided to the receiving school about the unique needs of that student? *(Circle one.)*

   Yes 1   No 2

6. Are the following supports used in **any** of the schools in your district to help students transition from a school of one instructional level to a school at a higher instructional level (e.g., from middle school to high school)? *(Circle one on each line for each transition.)*

	Transition			
Transition support for all students	**Elementary to middle/junior high school**		**Middle/junior high school to high school**	
	Yes	No	Yes	No
a. Assign **all** students a student mentor upon entry into the new school	1	2	1	2
b. Assign **all** students an adult mentor upon entry into the new school	1	2	1	2
c. Offer an advisement class* for **all** students during the first year at the new school	1	2	1	2

7. Are any of the following types of mentors used in **any** of the schools in your district **specifically** to address the needs of students at risk of dropping out? *(Circle one on each line for each instructional level.)*

	Instructional levels					
Mentor	**Elementary school**		**Middle/junior high school**		**High school**	
	Yes	No	Yes	No	Yes	No
a. Student mentors	1	2	1	2	1	2
b. School counselors, teachers, or school administrators who formally mentor students	1	2	1	2	1	2
c. Adult mentors employed by the district whose **only** job is to mentor students	1	2	1	2	1	2
d. Community volunteers (i.e., volunteers from churches, community organizations, businesses, etc.)	1	2	1	2	1	2

8. Do **any** of the schools in your district use a formal program designed to reduce behavioral problems* in schools or classrooms (e.g., Positive Behavioral Support, Positive Behavioral Intervention System, etc.)? *(Circle one for each instructional level.)*

	Yes	No
a. Elementary school	1	2
b. Middle/junior high school	1	2
c. High school	1	2

9. Does your district have a standardized method of identifying students who may be at risk of dropping out (e.g., a standardized checklist of at-risk behaviors or an electronic warning system*)? *(Circle one.)*

Yes 1   No 2

10. To what extent are the following factors used in your district to identify students who are at risk of dropping out? *(Circle one on each line.)*

	Factor	Not at all	Small extent	Moderate extent	Large extent
a.	Truancy or excessive absences	1	2	3	4
b.	Academic failure indicated by grades, accrued course credits, or grade retention	1	2	3	4
c.	Failure on state standardized tests	1	2	3	4
d.	Behaviors that warrant suspension or expulsion	1	2	3	4
e.	Behaviors that warrant other disciplinary action	1	2	3	4
f.	Involvement with the criminal justice system	1	2	3	4
g.	Involvement with social services or foster care	1	2	3	4
h.	Pregnancy/teen parenthood	1	2	3	4
i.	Substance abuse	1	2	3	4
j.	Learning disability as indicated in an Individualized Education Plan (IEP)	1	2	3	4
k.	Mental health problems	1	2	3	4
l.	Observed change in student attitude or life conditions	1	2	3	4
m.	Homelessness or frequent address change	1	2	3	4
n.	Limited English proficiency	1	2	3	4
o.	Migrant status	1	2	3	4
p.	Other (*specify*)_____	1	2	3	4

11. Does your district work with any of the following to address the needs of students at risk of dropping out? *(Circle one on each line.)*

		Yes	No
a.	Child protective services	1	2
b.	Local businesses	1	2
c.	*Juvenile assessment center	1	2
d.	Community mental health agency	1	2
e.	Churches or community organizations (e.g., Boys & Girls Clubs, United Way, Lion's Clubs)	1	2
f.	Job placement center	1	2
g.	Crisis intervention center	1	2
h.	Drug and/or alcohol clinic	1	2
i.	Family planning/child placement agency	1	2
j.	Child care centers/providers (i.e., for children of teen parents)	1	2
k.	Health clinic or hospital	1	2
l.	State or local government agencies that provide financial assistance to needy families	1	2
m.	Other*(specify)* _____	1	2

12. When students appear highly likely to drop out of school,* does your district provide information about the employment or financial consequences of dropping out of school? *(Circle one.)*

Yes, this is standard procedure with all students highly likely to drop out	1
Yes, with some students	2
No	3

13. When students appear highly likely to drop out of school,* does your district provide information about the following education and training options? *(Circle one on each line.)*

Education and training option	Yes, this is standard procedure with all students highly likely to drop out	Yes, with some students	No
a. *Alternative schools or programs administered by your district or another entity	1	2	3
b. *Job training/GED combination programs (e.g., Job Corps)	1	2	3
c. GED or adult education programs	1	2	3
d. *Job training programs	1	2	3

14. Does your district try to determine the status of students who were expected to return to school in the fall but who do not return as expected? *(Circle one.)*

Yes, for all students	1
Yes, for some students	2
No	3

15. When students drop out during the school year, does your district follow up with those students sometime before the next school year to encourage them to return? *(Circle one.)*

Yes, for all students who drop out	1
Yes, for some students who drop out	2
No	3

16. Does your district use any of the following information to determine whether to implement additional district-wide dropout prevention efforts? *(Circle one on each line.)*

		Yes	No
a.	Dropout rates	1	2
b.	Graduation rates	1	2
c.	Attendance rates	1	2
d.	Number of expulsions or other disciplinary actions	1	2
e.	State standardized test scores	1	2
f.	Number of students attending adult education/GED program	1	2
g.	Number of students taking or passing the GED test	1	2
h.	Number or percentage of students failing courses or held back	1	2
i.	Feedback from a district-administered parent or student survey	1	2
j.	Other*(specify)* _____	1	2

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REFERENCES

Advisory Committee for the National Assessment of Vocational Education. (2003). Final *Report of the Advisory Committee for the National Assessment of Vocational Education.* Washington, DC: U.S. Department of Education, Office of the Under Secretary

Alexander, K., Entwise, D., & Horsey, C. (1997). First grade forward: Early foundations of high school dropout, *Sociology of Education,* Vol. 70, No. 2, pp. 87-107

Alliance for Excellent Education. (2010). *Florida State Card.* Retrieved October 20, 2010, from Alliance for Excellent Education: http://www.all4ed.org/about_the_crisis/schools/state_information/florida

Barbour, M., & Reeves, T. (2009). The reality of virtual schools: A review of the literature, *Computers & Education,* Vol. 52, No. 2, pp. 406-416

Barge, S. & Gehlbach, H. (2012). Using the theory of satisficing to evaluate the quality of survey data, *Research in Higher Education,* Vol. 53, No. 2, pp. 182-200

Barker, K. (2005). Overcoming barriers to high school success: Perceptions of students and those in charge of ensuring their success. (Doctoral Dissertation). The University of Texas at San Antonio, San Antonio, Texas

Bartlett, J., Kotrlik, J., & Higgins, C. (2001). Organizational research: Determining appropriate sample size for survey research, *Information Technology, Learning, and Performance Journal,* Vol. 19, No. 1, pp. 43-50

Bennett, C., Khangura, S., Brehaut, J., Graham, I., Moher, D. (2011). Reporting guidelines for survey research: An analysis of published guidance and reporting practices, PLoS Med, 8(8): e1001069. doi:10.1371/journal.pmed.1001069

Bickel, P. & Lehmann, E. (1975). Descriptive statistics for nonparametric models I. Introduction, *The Annals of Statistics,* Vol. 3, No. 5, pp. 1038-1044

Bishop, J. & Mane, F. (2003). *The impacts of career-technical education on high school completion and labor market success* (CAHRS Working Paper #03-18). Ithaca, NY: Cornell University, School of Industrial and Labor Relations, Center for Advanced Human Resource Studies. http://digitalcommns.ilr.cornell.edu/cahrswp/37

Black, M., Hess, C., & Berenson-Howard, J. (2000). Toddlers from low-income families have below normal mental, motor, and behavior scores on the revised Bayley scales, *Journal of Applied Development Psychology,* Vol. 21, No. 6, pp. 655-666

Black, M., Howard, D., Kim, N., & Ricardo, I. (1998). Interventions to prevention violence among African American adolescents from low-income communities, *Aggression and Violent Behavior,* Vol. 3, No. 1, pp. 17-33

Bloom, D. (2010). Programs and policies to assist high school dropouts in the transition to adulthood, *The Future of Children,* Vol. 20, No. 1, pp. 89-108

Bonanno, G. (2012). Uses and abuses of the resilience construct: Loss, trauma, and health-related adversities, *Social Science and Medicine,* Vol. 74, No. 5, pp. 753-756

Bordieu, P. (1986). *The forms of capital,* Retrieved January 29th, 2014, from Scribd: http://www.scribd.com/doc/17861467/Forms-of-Capital-by-Bourdieu-1986

Bracey, G. (2006). Dropping in on dropouts, *Phi Delta Kappan,* Vol. 87, No. 10, pp. 798-799

Brewster, A. & Bowen, G. (2004). Teacher support and the school engagement of Latino middle and high school students at risk of school failure, *Child and Adolescent Social Work Journal,* Vol. 21, No. 1, pp. 47-67

Bridgeland, J., Dilulio, J., Morison, K. (2006). *The silent epidemic: Perspectives of high school dropouts.* A report by Civic Enterprises in association with Peter D. Hart Research Associates for the Bill & Melinda Gates Foundation. Washington, DC: Civic Enterprises.

Broom, J. (2010). Filling gaps in the schoolhouse floor: The differential effects of graduation targeted intervention services on 11th grade academic achievement in 2008-2009. (Doctoral Dissertation). Georgia State University, Atlanta, Georgia

Brownstein, R. (2010). Pushed out, *Education Digest,* Vol. 75, No. 7, pp. 23-27

Bush, M. (2009). *Noteworthy state legislation for improving career and technical education*, Denver, CO: Education Commission of the States

Carver, P. & Lewis, L. (2011). *Dropout prevention services and programs in public school districts: 2010-11 (NCES 2011-037).* U.S. Department of Education, National Center for Education Statistics, Washington, DC: Government Printing Office.

Cashen, M. (2012). The impacts of gender and income on career and technical education, UC Davis Center for Policy Research: Davis, CA

Cassel, R. (2003). A high school dropout prevention program for the at-risk sophomore students, *Education,* Vol. 123, No. 4, pp. 649-658

Cecile, M. & Born, M. (2009). Intervention in juvenile delinquency: Danger of iatrogenic effects?, *Children and Youth Services Review,* Vol. 31, No. 12, pp. 1217-1221

Chapman, C., Laird, J., and KewalRamani, A. (2010). *Trends in High School Dropout and Completion Rates in the United States: 1972–2008* (NCES 2011-012). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC. Retrieved 06/25/2012 from http://nces.ed.gov/pubsearch.

Castellano, M., Stringfield, S. & Stone, J. (2003). Secondary career and technical education and comprehensive school reform: Implications for research and practice, *Review of Educational Research,* Vol. 73, No. 2, pp. 231-272

Catterall, J. (1989). Standards and school dropouts: A national study if tests required for high school graduation, *American Journal of Education,* Vol. 98, No. 1, pp. 1-34

Center for Mental Health at Schools at UCLA. (2010). School attendance: Focusing on engagement and reengagement, http://smhp.psych.ucla,edu/pdfdocs/schoolattend.pdf

Christie, K. (2008). Quick facts to inform a young e*ar, Phi Delta Kappan,* Vol. 89, No. 6, pp. 405-406

Christie, C. & Yell, M. (2008). Preventing youth incarceration through reading remediation: Issues and solutions, *The High School Journal,* Vol. 24, No. 2, pp. 148-176

Coleman, P. (1993). Testing the school system: Dropouts, accountability, and social policy, *Curriculum Inquiry,* Vol. 23, No. 3, pp. 329-342

Cobb, R. & Preskill, H. (1983). Evaluating vocational education: A review of past practices and suggestions for future policy, *Educational Evaluation and Policy Analysis,* Vol. 5 No. 4, pp. 495-505

Cullen, J., Levitt, S., Robertson, E. & Sadoff, S. (2013). What can be done to improve struggling high schools?, *The Journal of Economic Perspectives,* Vol. 27, No. 2, pp. 133-152

Dare, D. (2006). The role of career and technical education in facilitating student transitions to postsecondary education, *New Directions for Community Colleges,* Vol. 2006, No. 135, pp. 73-80

DelliCarpini, M. (2010). Building a better life: Implementing a career and technical education program for incarcerated youth, *The Journal of Correctional Education,* Vol. 61, No. 4, pp. 283-295

Dodd, A. & Bowen, L. (2011). 21st century community learning centers - improving the academic performance of at-risk students: A bronx tale, *Journal of Health and Human Services Administration,* Vol. 34, No. 1, pp. 10-14

Doran, J. (2005). Characteristics of the secondary alternative school program in New Jersey. (Doctoral Dissertation). Seton Hall University, South Orange, New Jersey

DuMont, K., Widon, C., & Czaja, S. (2007). Predictors of resilience and neglected children grown-up: The role of individual and neighborhood characteristics, *Child Abuse and Neglect,* Vol. 31, No. 3, pp. 255-275

Dryfoos, J. (1996). Adolescents at risk: Shaping programs to fit the need, *The Journal of Negro Education*, Vol. 65, No. 1, pp. 5-18

Dynarski, M., Clarke, L., Cobb, B., Finn, J., Rumberger, R., and Smink, J. "Dropout Prevention: A Practice Guide" *NCEE 2008–4025*, Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education, 2008, Retrieved from http://ies.ed.gov/ncee/wwc

Englund, M., Egeland, B., & Collins, W. (2008). Exceptions to high school dropout predictions in a low income sample: do adults make a difference*?, Journal of Social Issues,* Vol. 64, No. 1, pp. 77-93

Ensminger, M. & Slusarcick, A. (1992). Paths to high school graduation or dropout: A longitudinal study of a first-grade cohort, *Sociology of Education,* Vol. 65, No. 2, pp. 95-113

Fairbanks, S., Sugai, G., Guardino, D., & Lathrop, M. (2007). Response to intervention: Examining classroom behavior support in the second grade, *Exceptional Children,* Vol. 73, No. 3, pp. 288-310

Faucett, K. (2011). Virtual schoolteacher: Online education works for teachers and students, *Education Next,* Vol. 11, No. 3, p. 80

Finn, J. (1989). Withdrawing from school, *Review of Educational Research,* Vol. 59, No. 2, pp. 117-142

Fleischman, S. & Heppen, J. (2009). Improving low-performing high schools: Searching for evidence of promise, *The Future of Children,* Vol. 19, No. 1, pp. 105-133

Fletcher, E. & Cox, E. (2012). Exploring the meaning African American students ascribe to their participation in high school career academic and the challenges they experience, *The High School Journal,* Vol. 96, No. 1, pp. 4-19

Florida Department of Education Commission, Committees, & Task Forces. (2009). Florida's Graduation Rate Calculation: Implications for the Standardized National Calculation. Retrieved November 24, 2010, from Florida Department of Education Commission, Committees, & Task Forces: http://www.fldoe.org/committees/pdf/GraduationRates.pdf

Franklin, C., Streeter, C., Kim, J., Tripodi, S. (2007). The effectiveness of a solution focused, public alternative school for dropout prevention and retrieval, *Children & Schools,* Vol. 29, No. 3, pp. 133-144

Fuchs, L., Fuchs, D., Compton, D., Bryant, J., Hamlett, C., & Seethaler, P. (2007). Mathematics screening and progress monitoring at first grade: Implications for responsiveness to intervention, *Exceptional Children,* Vol. 73, No. 3, pp. 311-330

Gagnon, J. & Bottge, B. (2006). Mathematics instruction in secondary interim, short and long term alternative school placements, *Preventing School Failure,* Vol. 51, No. 1, pp. 39-47

Galea, S., Ahern, J., Nandi, A., Tracy, M., Beard, J., & Vlahov, D. (2007). Urban neighborhood poverty and the incidence of depression in a population-based cohort study, *Ann Epidemiol,* Vol. 17, No. 3, pp. 171-179

Gallagher, W. (2009). *Rapt: Attention and the focused life.* New York, New York: Penguin

Good, I. (1983). The philosophy of exploratory data analysis, *Philosophy of Science,* Vol. 50, No. 2, pp. 283-295

Gore, S. (1981). Assessing methods: Descriptive statistics and graphs, *British Medical Journal (Clinical Research Edition),* Vol. 283, No. 6289, pp. 486-488

Griffin, B. & Heidorn, M. (1996). An examination of the relationship between minimum competency test performance and dropping out of high school, *Educational Evaluation and Policy Analysis,* Vol. 18, No. 3, pp. 242-253

Haley, S. (2006). Dropping out of high school: A focus groups approach to examining why students leave and return. (Doctoral Dissertation). University of Texas at Austin, Austin, Texas

Hall, D. (2007). *Graduation Matters : Improving Accountability High School Graduation.* Washington D.C.: The Education Trust

Hall, E. (2007). The effects of disability awareness trainings with career and technical educators teaching in high need rural schools, *Rural Special Education Quarterly,* Vol. 26, No. 3, pp. 16-24

Hammond, C., Linton, D., Smink, J., & Drew, S. (2007). Dropout risk factors and exemplary programs. Clemson, SC: National Dropout Prevention Center, Communities in Schools, Inc.

Hawkins, A., & Barbour, M. (2010). US virtual school trial period and course completions policy study. *The American Journal of Distance Education,* Vol. 24, No. 1, pp. 5-20

Harvey, M. (2001). Vocational-technical education: A logical approach to dropout prevention for secondary special edu*cation,* Vol. 45, No. 3, pp. 108-113

Hemmer, L. (2009). Critical analysis of at risk policy disclosure: Implications for administrators and teachers. (Doctoral Dissertation). Texas A&M University, College Station, TX

Hirschfield, P. (2009). The impact of juvenile arrests on high school dropout, *Sociology of Education,* Vol. 82, No. 4, pp. 368-393

Hupfield, K. (2011). Resiliency skills and dropout prevention, *Scholarcentric,* Denver, CO

Hutchins, B. & Akos, P. (2013). Rural high school youth's access to and use of school-to-work programs, *The Career Development Quarterly,* Vol. 61, No. 3, pp. 210-225

Jones, J. (2009). Dropout prevention through the school library: Dispositions, relationships, and instructional practices, *School Libraries Worldwide,* Vol. 15, No. 2, pp. 77-90

Karsten, S. (2006). Policies for disadvantaged children under scrutiny: The Dutch policy compared with policies in France, England, and the USA, *Comparative Education,* Vol. 42, No. 2, pp. 261-282

Kemp, S. (2006). Dropout policies and trends for students with and without disabilities, *Adolescence,* Vol. 4, No. 162, pp. 235-250

Kemple, J. & Snipes, J. (2000). *Career academies: Impacts on students' engagement and performance in high school*, New York, New York: Manpower Demonstration Demonstration Research Corporation

Kemple, J. (2008). Career academies: Long-term impacts on labor market outcomes, educational attainment, and transitions to adulthood. New York. MDRC

Kim-Spoon, J., Haskett, M., Longo, G., & Nice, R. (2012). Longitudinal study of self-regulation, positive parenting, and adjustment problems among physically abused children, *Child Abuse & Neglect,* Vol. 36, No. 2, pp. 95-107

Kiser, L. (2007). Protecting children from the dangers of urban poverty, *Clinical Psychology Review,* Vol. 27, No. 2, pp. 211-225

Kiser, L. & Black, M. (2005). Family processes in the midst of urban poverty: What does the trauma literature tell us?, *Aggression and Violent Behavior,* Vol. 10, No. 6, pp. 715-750

Kortering, L. & Braziel, P. (2002). A look at high school programs as perceived by youth with learning disabilities, *Learning Disability Quarterly,* Vol. 25, No. 3, pp. 177-188

Kuo, V. (2010). Transforming American high schools: Possibilities for the next phase of high school reform, *Peabody Journal of Education,* Vol. 85, No. 3, pp. 389-401

Lachmann-Fitzgerald, C. (1999). A comparative investigation of parent and community based alternative to suspension and expulsion programs in the Chicago metropolitan area. (Doctoral Dissertation). Loyola University of Chicago, Chicago Illinois

Ladd, G., & Burgess, K. (1999). Charting the relationship trajectories of aggressive, withdrawn, and aggressive/withdrawn children during early grade school, *Child Development,* Vol. 70, No. 4, pp. 919-929

Lamb, S. (2011). School dropout and inequality, *School Dropout and Completion: International Comparative Studies in Theory and Policy,* pp. 369-390

Lane, K., Kalberg, J., Menzies, H., Bruhn, A., Eisner, S., & Crnobri, M. (2011). Using systematic screening data to assess risk and identify students for targeted supports: Illustrations across the K-12 curriculum, *Remedial and Special Education,* Vol. 32, No. 1, pp. 39-54

Leiter, J. & Johnsen, M. (1994). Child treatment ad school performance, *American Journal of Education,* Vol. 102, No. 2, pp. 154-189

Lessard, A., Fortin, L., Marcotte, D., Potvin, P., & Royer, E. (2009). Why did they not drop out? Narratives from resilient students, *The Prevention Researcher,* Vol. 16, No. 3, pp. 21-24

Liu, F. & Cavanaugh, C. (2011). Success in high school biology: Factors influencing student academic performance, Vol. 12, No. 1, pp. 37-54

Liu, F. & Cavanaugh, C. (2012). Factors influencing student academic performance in online high school algebra, *Open Learning: The Journal of Open, Distance, and e-learning,* Vol. 27, No. 2, pp. 149-167

MacIver, M. & MacIver, D. (2010). How do we ensure that everyone graduates? An integrated prevention and tiered intervention model for schools and districts, *New Directions for Youth Development,* Vol. Fall 2010, No. 127, pp. 25-35

Mellard, D., Woods, K., & Desa, Z. (2012). An oral reading fluency assessment for young adult career and technical education students, *Learning Disabilities Research and Practice,* Vol. 27, No. 3, pp. 125-135

Mench, B. & Kandel, D. (1988). Dropping out of high school and drug involvement, *Sociology of Education,* Vol. 61, No. 2, pp. 95-113

McCallumore, K. & Sparapani, E. (2010). The importance of ninth grade on high school graduation rates and student success in high school, *Education Digest,* Vol. 76, No. 2, pp. 60-64

McDill, E. & Natriello, G. (1986). A population at risk: Potential consequences of tougher school standards for student dropouts, *American Journal of Education,* Vol. 94, No. 2, pp. 135-181

Menesses, K. & Gresham, F. (2009). Relative efficacy of reciprocal and non-reciprocal peer tutoring for students at-risk for academic failure, *School Psychology Quarterly,* Vol. 24, No. 4, pp. 266-275

Montmarquette, C., Viennot, N., & Dagenais, M. Dropout. school performance, and working while in school, *The Review of Economics and Statistics,* Vol. 89, No. 4, pp. 752-760

Morris, P., Bloom, D., Kemple, J., & Hendra, R. (2003). The effects of a time-limited welfare program on children; The moderating role of parents' risk of welfare dependency, *Child Development,* Vol. 74, No. 3, pp. 851-874

Murnane, R. (2007). Improving the education of children living in poverty, *The Future of Children,* Vol. 17, No. 2, pp. 161-182

Myint-U, A., O'Donnell, L., Osher, D., Petrosino, A., & Stueve, A. (2008). *Piloting a searchable database of dropout prevention programs in nine low-income urban school districts in the Northeast and Islands Region* (Issues & Answers Report, REL 2008–No. 046). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northeast and Islands. Retrieved from http://ies.ed.gov/ncee/edlabs

National Center for Education Statistics. (2011). Technical notes: Dropout Prevention Services and Programs in public school districts: 2010-11 (NCES 2011-037). U.S. Department of Education, National Center for Education Statistics, Washington, DC: Government Printing Office.

The National Commission on Excellence in Education (1983). A nation at risk: The imperative for education reform, http://teachertenure.procon.org/sourcefiles/a-nation-at-risk- tenure-april-1983.pdf

The National High School Center, National Center on Response to Intervention, and Center on Instruciton. (2010). "Tiered interventions in high schools: Using preliminary "lessons learned" to guide ongoing discussion" Washington, DC: American Institutes for Research

Neild, R., Boccanfuso, C., & Byrnes, V. (2013). The academic impact of career and technical schools: A case study of a large urban district, *Center for Social Organization of Schools,* Johns Hopkins University

Nunn, G. & McMahan, K. (2001). Ideal problem solving using a collaborative effort for special need and at-risk children, *Education,* Vol. 121, No. 2, pp. 305-312

Olsen, L. (2010) Aztec middle college: High school alternatives in community colleges, *Community College Journal of Research and Practice,* Vol. 34, No. 8, pp. 662-675

Osher, D., Morrison, G., & Bailey, W. (2003). Exploring the relationship between student mobility and dropout among students with emotional and behavioral disabilities, *The Journal of Negro Education,* Vol. 72, No. 1, pp. 79-96

Oxford, M. & Lee, J. (2011). The effect of family processes on school achievement as moderated by socioeconomic context, *Journal of School Psychology,* Vol. 49, No. 5, pp. 597-612

Pears, K., Kim, H., & Level, L. (2011). Girls in foster care: Risk and promotive factors for school adjustment across the transition to middle school, *Children and Youth Services Review,* Vol. 34, No. 1, pp. 234-243

Pazera, C. (2011). Career and technical education: College readiness and cost effectiveness, DRE publication 10.90 RB, Department of Research and Evaluation, Austin Independent School District

Perry, J. & Wallace, E. (2012). What schools are doing around career development: Implications for policy and practice, *New Directions for Youth Development,* Vol. Summer 2013, No. 134, pp. 33-44

Placier, M. (1993). The semantics of state policy making: The case of at-risk, *Educational Evaluation and Policy Analysis,* Vol. 15, No. 4, pp. 380-395

Plank, S., DeLuca, S., & Estacion, A. (2008). High school dropout and the role of career and technical education: A survival analysis of surviving high school, *Sociology of Education,* Vol. 81, No. 4, pp. 345-370

Rand Labor and Population. (2005.). *Early childhood interventions: Proven results, Future promise.* Santa Monica, CA: Karoly, L.A., Kilburn, M.R., & Cannon, J.S.

Raudenbush, S., Fotiu, R., & Cheong, Y. (1998). Inequality of access to educational resources: A national report card for eighth-grade math, *Educational Evaluation and Policy Analysis,* Vol. 20, No. 4, pp. 253-267

Reid, K., Aqui, Y., & Putney, L. (2009). Evaluation of an evolving virtual school, *Educational Media International,* Vol. 46, No. 4, pp. 281-294

Repetto, J., Cavanaugh, C., Wayer, N., & Liu, F. (2010). Virtual high schools: Improving outcomes for students with disabilities, *The Quarterly Review of Distance Education,* Vol. 11, No. 2, pp. 91-104

Reynolds, A., Temple, J., Ou, S., Arteaga, I., & White, B. (2011). School based early childhood education and age 28 well being: Effects by timing, dosage, and subgroups, *Science,* Vol. 333, No. 6040, pp. 360-364

Riccomini, P., Zhang, D., & Katsiyannis, A. (2005). Promising school based interventions for reducing aggressive behavior and student dropout, *The Journal of At-Risk Issues,* Vol. 11, No. 2, pp. 11-16

Rice, K. (2006). A comprehensive look at distance education in the K-12 context, *Journal of Research on Technology in Education,* Vol. 38, No. 4, pp. 425-448

Roblyer, M.D. (2006). Virtually successful: Defeating the dropout problem through online school programs, *Phi Delta Kappan,* Vol. 88, No. 1, pp. 31-36

Rojewski, J. (1999). The role of chance in the career development of students with learning disabilities, *Learning Disability Quarterly,* Vol. 22, No. 4, pp. 267-278

Roy, J. &. (2008, June 4). Using Administrative Data to Estimate Graduation Rates: Challenges, Proposed Solutions and their Pitfalls. *Education Policy Analysis Archives*, Vol. 16, No. 11, pp. 1-34.

Rumberger, R. (2003). The causes and consequences of student mobility, *The Journal of Negro Education,* Vol. 72, No. 1, pp. 6-21

Santiago, C., Wadsworth, M., & Stump, J. (2009). Socioeconomic status, neighborhood disadvantage, and poverty-related stress: Prospective effects on psychological syndromes among diverse low-income families, *Journal of Economic Psychology,* Vol. 32, No. 2, pp. 218-230

Sawyer, R., Holland, D., & Detgen, A. *State policies and procedures and selected local implementation practices in Response to Intervention in the six Southeast Region states* (Issues & Answers Report, REL 2008–No. 063). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southeast. Retrieved from http://ies.ed.gov/ncee/edlabs, 2008

Scheel, M., Madabhushi, S., & Backhaus, S. (2009). The academic motivation of at risk students in a counseling prevention program, *The Counseling Psychologist,* Vol. 37, No. 8, pp. 1147-1178

Schiller, K. (1999). Effects of feeder patterns on students' transition to high school, *Sociology of Education,* Vol. 72, No. 4, pp. 216-233

Schwartz, O., Sheeber, L., Dudgeon, P. & Allen, N. (2012). Emotion socialization within the family environment and adolescent depression, *Clinical Psychology Review,* Vol. 32, No. 6, pp. 447-453

Shernoff, D., Csikszentmihalyi, M., Schneider, B., & Shernoff, E. (2003). Student engagement in high school classrooms from the perspective of flow theory, *School Psychology Quarterly,* Vol. 18, No. 2, pp. 158-176

Smink, J. & Reimer, M. (2005). Fifteen effective strategies for improving student attendance and truancy prevention. National Dropout Prevention Center: Clemson SC

Smith, R., Clark, T., Blomeyer, R., (2005). *A synthesis of new research on K-12 online learning,* Naperville, IL: Learning Point Associates. Available online at http://www.ncrel.org/ tech/synthesis/synthesis.pdf

Southwick, S., Morgan, C., Vythilingam, M, & Charney, D. (2010). Mentors enhance resilience in at-risk children and adolescents, *Psychoanalytic Inquiry,* Vol. 26, No. 4, pp. 577-584

Stanley, K. & Plucker, J. (2008). Improving high school graduation rates, *Education Policy Brief,* Vol. 6, No. 7, pp. 1-12

Stern, D. (2009). Expanding policy options for educating teenagers, *The Future of Children,* Vol. 19, No. 1, pp. 211-239

Stern, D., Dayton, C., Paik, I., & Weisberg, A. (1989). Benefits and costs of dropout prevention in a high school program combining academic and vocational education: Third-year results from replication of California peninsula academies, *Educational Evaluation and Policy Analysis,* Vol. 11, No. 4, pp. 405-416

Stone, J. Alfeld, C. & Pearson, D. (2008). Rigor and relevance: Enhancing high school students' math skills through career and technical education, *American Educational Research Journal,* Vol. 45, No. 3, pp. 767-795

Suh, S. & Suh, J. (2007). Risk factors and levels of risk for high school dropouts, *Professional School Counseling,* Vol. 10, No. 3, pp. 297-306

Texas House of Representatives: House Research Organization. (2010). *Pre-kindergarten: Should state support be expanded?* (Focus Report No. 81-11). Austin, Texas.

Thornburgh, N. (2006). Dropout nation: What's wrong with America's high school students, *Time Magazine,* Vol. Apr. 09 2006, pp. 1-11

Tipper, A. (2010). Economic models of the family and the relationship between economic status and health, *Social Science and Medicine,* Vol. 70, No. 10, pp. 1567-1573

Trickey, D., Siddaway, A., Meiser-Stedman, R., Serpell, L., & Field, A. (2011). A meta-analysis of risk factors for post-traumatic stress disorders in children and adolescents, *Clinical Psychology Review,* Vol. 32, No. 2, pp. 122-138

Tucker, B. (2009). Florida's online option, *Education Next,* Vol. 9, No. 3, p. 18

Tyler, J. & Lofstrom, M. (2009). Finishing high school: Alternative pathways and dropout recovery, *Future of Children,* Vol. 19, No. 1, pp. 77-103

Van Dorn, R., Bowen, G., & Blau, J. (2006). The impact of community diversity and consolidated inequality on dropping out of high school. *Family Relations,* Vol. 55, No. 1, pp. 105-118

Vrasidas, C., Zembylas, M., & Chamberlain, R. (2003). Complexities in the evaluation of distance education and virtual schooling, *Educational Media International,* Vol. 40, No. 3-4, pp. 201-218

UCLA, (2014). Retrieved March 30th, 2014 from the Institute for Digital Research in Education at The University of California Los Angeles: http://www.ats.ucla.edu/stat/spss/output/logistic.htm

UCLA, (2014).Retrieved March 30th, 2014 from the Institute for Digital Research in Education at The University of California Los Angeles: http://www.ats.ucla.edu/stat/multi_pkg/faq/general/citingats.htm

U.S. Department of Education (1994). *National Agenda for achieving better results for children and youth with serious emotional disturbance,* Washington, DC: Author.

U.S. Department of Education. (2001). *Elementary and Secondary Education, No Child Left Behind Act of 2001.* Retrieved October 12, 2010, from U.S. Department of Education: http://www2.ed.gov/policy/elsec/leg/esea02/index.html

Vartanian, T. & Gleason, P. (1999). Do neighborhood conditions affect high school dropout rates and college graduation rates?, *The Journal of Socio-Economics,* Vol. 28, No. 1, pp. 21-41

White, S., Kelly, F. (2010). The school counselors role in school dropout prevention, *Journal of Counseling and Development,* Vol. 88, pp. 227-235

White, G., Lare, D., Mueller, S., Smeaton, P., & Waters, F. (2007). The virtual education academy: A novel approach to engaging at-risk students, *Delta Kappa Pi Record,* Vol. 44, No. 1, pp. 13-17

Whittaker, J., Harden, B., See, H., Meisch, A., & Westbrook, T. (2010). Family risks and protective factors: Pathways to early headstart toddlers' social-emotional functioning, *Early Childhood Research Quarterly,* Vol. 26, No. 1, pp. 74-86

Wonacott, M. (2002). Dropouts and career and technical education, (Myths and Realities Report No. 23), U.S. Department of Education, Office of Educational Research and Improvement, National Library of Education, Educational Resources Information Center

Wood, C. & Baseman, G. (2005). HIGHSCHOOL.COM, *Edutopia,* Vol. April/May 2005, pp. 32-37

Young, D. (2008). Improving Alabama's graduation rates, *Delta Kappa Gamma Bulletin,* Vol. 74, No. 4. pp. 34-36

Ysseldyke, J. & Scholin, S. (2010). Instructionally valid assessment with response to intervention, *Teaching Exceptional Children,* Vol. 42, No. 4, pp. 54-61

Zhang, D. & Law, B. (2005). Self-determination as a dropout prevention strategy, *The Journal of At-Risk Issues,* Vol. 11, No. 2, pp. 25-31

Zirkel, P. & Thomas, L. (2010). State laws and guidelines for implementing RtI, *TEACHING Exceptional Children,* Vol. 43, No. 1, pp. 60-73

Zvoch, K. (2006). Freshman year dropouts: Interactions between student and school characteristics and student dropout status, *Journal of Education for Students Placed At-Risk,* Vol. 11, No. 1, pp. 97-117

BIOGRAPHICAL SKETCH

Patrick Capriola is a Senior Professional Development Specialist with The University of Florida, Lastinger Center for Learning. He currently works with administrators and teachers to improve classroom instruction in Abu Dhabi, UAE, where he resides with his family.