STUDENTS AT RISK: THE IMPACTS OF SELF-EFFICACY AND RISK FACTORS ON ACADEMIC ACHIEVEMENT

by

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I would like to thank each and every educator who saw me through to this moment and contributed to my love for learning and my desire for higher levels of academic achievement. I would also like to thank all of my students for being a motivating force toward this accomplishment as I worked to model determination, dedication, and educational achievement so that they might know what is available to each of them and strive to meet their own academic goals. A special thanks is given to my dissertation committee, Dr. Trache, my dissertation committee chair, and Drs. Davis and Tobolowsky, all of whom I admire and respect. A special thanks to all my family and friends who have seen me through the last three years, my beloved dog who lay beside me through many hours of research and writing, and my fellow colleague who listened and advised as I read and re-read a single paragraph dozens of times trying to decide on the use of a single word. Finally, this accomplishment is dedicated to my father, Michael H. Cooper, who instilled the importance of education and educational accomplishment in me from the very beginning. The stories of his own education, the good times and the bad, his trials and successes, seeing the effects of his academic achievements, and finally, witnessing the role he played as an educator in the lives of my sisters and I, as well as countless ‘children’ who no matter their age will always know and affectionately refer to him as Coach and/or Mr. Cooper, these are the things which ultimately inspired this journey and saw me through to its end.

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Abstract

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School dropout continues to be a societal and educational concern today. There are various eligibilities which identify students as being at risk for school dropout. This study uses the Education Longitudinal Study of 2002 (ELS:2002) and its definition of the term ‘at risk’ to explore the impacts of varying levels of risk, student self-beliefs, and the level of effort and persistence applied to academic tasks on level of educational attainment by age 26 in at-risk youth. ELS:2002 data is used to select the final study sample (n=4,002).

The study demonstrates that the level of risk (i.e., number of at-risk factors identified for the student in grade 10) is disproportionate across socio-demographic categories, and that certain populations are more likely to be at higher risk during high school. Data show that the level of risk affects student self-beliefs. The study findings indicate that socio-demographic factors are good predictor variables for educational attainment. Study findings also indicate that both English self-efficacy and educational expectations have significant impact on attainment outcomes despite the presence of risk and thus could be helping those at higher risk to overcome their at-risk circumstances.
Therefore, this study concludes that educators should be aware of the effects of varying levels of risk and student self-beliefs on attainment among at-risk youth. The study findings suggest that these might be important variables to consider when establishing and implementing policies and practices seeking to decrease the likelihood of school dropout and increase educational attainment among at-risk youth.
# Table of Contents

Acknowledgements .................................................................................................................. iii  
Abstract .......................................................................................................................................... iv  
List of Tables .................................................................................................................................... x  
Chapter 1 Introduction ................................................................................................................... 1  
Statement of the Problem ............................................................................................................. 5  
Purpose of the Study .................................................................................................................... 7  
Research Questions ....................................................................................................................... 7  
Researcher Perspective ................................................................................................................. 8  
Significance of the Study ............................................................................................................. 12  
Definition of Terms ..................................................................................................................... 14   
   At Risk ......................................................................................................................................... 14  
   Usage of the Terms ‘At Risk’ and ‘Drop Out’ ........................................................................... 16  
Overview of Chapters .................................................................................................................. 16  
Chapter 2 Literature Review ....................................................................................................... 18  
   The At-Risk Label ..................................................................................................................... 19  
      The Effects of Single Parenting on Children ........................................................................ 21  
      The Effects of Lower Levels of Parental Education on Children ........................................ 22  
      The Effects of Having a Sibling Drop Out of School ......................................................... 24  
      The Effects of Mobility on Students .................................................................................. 25  
      The Effects of Grade-Level Failure ..................................................................................... 27  
      The Effects of Poverty on Children .................................................................................... 29  
   Self-Beliefs, Behaviors, and Attainment ................................................................................. 31  
      Self-Efficacy and Educational Expectations ....................................................................... 31  
      Self-Efficacy and Behaviors ............................................................................................... 33
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Efficacy and Academic Performance and Attainment</td>
<td>36</td>
</tr>
<tr>
<td>Developing Self-Efficacy in At-risk Students</td>
<td>38</td>
</tr>
<tr>
<td>Theoretical Framework</td>
<td>39</td>
</tr>
<tr>
<td>Chapter Summary</td>
<td>42</td>
</tr>
<tr>
<td>Chapter 3 Research Methods</td>
<td>44</td>
</tr>
<tr>
<td>Study Purpose and Research Questions</td>
<td>44</td>
</tr>
<tr>
<td>Data</td>
<td>45</td>
</tr>
<tr>
<td>Research Sample</td>
<td>46</td>
</tr>
<tr>
<td>Rationale for Using ELS Data</td>
<td>47</td>
</tr>
<tr>
<td>Research Design</td>
<td>48</td>
</tr>
<tr>
<td>Variables and Constructs</td>
<td>48</td>
</tr>
<tr>
<td>Statistical Procedures</td>
<td>52</td>
</tr>
<tr>
<td>Research Plan</td>
<td>54</td>
</tr>
<tr>
<td>Ethics</td>
<td>55</td>
</tr>
<tr>
<td>Chapter 4 Findings</td>
<td>56</td>
</tr>
<tr>
<td>Profile of At-Risk Students</td>
<td>56</td>
</tr>
<tr>
<td>Research Question 1</td>
<td>58</td>
</tr>
<tr>
<td>Level of Risk Profiles</td>
<td>58</td>
</tr>
<tr>
<td>Gender</td>
<td>59</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td>59</td>
</tr>
<tr>
<td>Socio-economic Status</td>
<td>60</td>
</tr>
<tr>
<td>Student Educational Expectations</td>
<td>60</td>
</tr>
<tr>
<td>Summary of Findings</td>
<td>61</td>
</tr>
<tr>
<td>Research Question 2</td>
<td>62</td>
</tr>
<tr>
<td>Self-Efficacy and Level of Risk</td>
<td>62</td>
</tr>
</tbody>
</table>
List of Tables

Table 3-1 Sample Selection and Weights ........................................................................... 48
Table 3-2 Variables and Constructs .................................................................................. 49
Table 3-3 Research Plan ..................................................................................................... 54
Table 4-1 Socio-Demographic Factors and Educational Expectations ......................... 57
Table 4-2 Level of Risk (Number of At-Risk Factors) ....................................................... 58
Table 4-3 Level of Risk by Socio-Demographic Factors and Student Educational
Expectations ....................................................................................................................... 59
Table 4-4 English and Math Self-Efficacies Composite Scores by Level of Risk ........... 62
Table 4-5 Highest Level of Educational Attainment by Age 26 ........................................ 65
Table 4-6 Multinomial Logistic Regression Model for Educational Attainment ........... 67
Chapter 1

Introduction

After reaching a peak in the early 1970s, public school enrollment declined nationally into the early 1980s before experiencing an increase in the latter part of the decade (National Center for Education Statistics, 2013). Since then, enrollment has continued to increase nationally through each subsequent decade. In 2011-2012, public school enrollment totaled 49.5 million, and it is predicted to increase through 2023 (NCES, 2013). A portion of these students will never make it to high school graduation. Students identified at greatest risk for dropping out of school are labeled ‘at risk.’

The at-risk student is exposed to hardships, which both researchers and educators identify as problematic in regards to high school graduation, college participation and completion, and access to meaningful employment (Center for Labor Market Studies, 2009; Center for Public Education, 2007; Kalb & Williams, 2002; McMillan & Reed, 1994; Texas Education Agency, 2014). However, despite the presence of often overwhelming factors, which place the student at risk, mostly at a disadvantage in terms of schooling, some at-risk students are able to overcome their at-risk circumstances and experience greater levels of academic performance and attainment (Alfassi, 2003; Center for Public Education, 2007; McMillan & Reed, 1994; Zimmerman, 2000). This phenomenon deserves to be better understood.

Research literature indicates economic, social, and moral reasons for addressing the issue of school dropout among at-risk youth (CLMS, 2009; Center for Public Education, 2007; Kominski, Jamieson, & Martinez, 2001; McMillan & Reed, 1994; Sum, Khatiwada, McLaughlin, & Palma, 2009; TEA, 2012). Understanding the complex issues associated with being at risk first requires an overview of the contexts in which the term
‘at risk’ is used and the linked implications of this status and students’ likeliness to drop out of school.

Educational systems define the term ‘at risk’ by a set list of criteria. Students meeting one or more of these criteria are identified, coded, and reported as at risk within federal and state electronic collection databases. These at-risk students are often identified as at risk for dropping out of school, and this is a major concern for parents, educational institutions, and society. Research indicates that certain identifiers used by educational systems to identify at-risk youth carry greater likelihood for school dropout. For example, students with a history of academic failure, especially those who have been previously retained, are more likely to drop out of school (Connor, Alberto, Compton, & O’Connor, 2014; Kaufman, McMillen, & Sweet, 1996; Ormrod, 2010; Randolph, Fraser, & Orthner, 2004; Schonert-Reichl, 2000). Students with emotional and behavioral problems also carry higher risk of dropout (Chapman, Buckley, Sheehan, & Shochet, 2013; Hawken, Bundock, Kladis, O’Keeffe, & Barrett, 2014; Hecker, Young, & Caldarella, 2014; Ormrod, 2010).

There are several issues associated with dropping out of school. Some of the most significant of these are economic, including but not limited to increased poverty and lack of gainful employment. A high school diploma is a critical first step for employability and the earning of a living wage (CLMS, 2009). Post-secondary education and a college degree are also often prerequisites for a well-paying job (CLMS, 2009). Americans not earning at least a high school diploma have significantly lower earning potential and job opportunities. For instance, the Center for Labor Market Studies’ (2009) report evidences a steady decline in the annual earnings of male dropouts over the past three decades. High school dropouts are estimated to earn $400,000 (nearly $485,000 for male dropouts) less between the ages of 18-64 than high school graduates. Also, because
dropouts contribute much less in federal, state, and local taxes than they receive in benefits, they place a considerable fiscal burden on society (CLMS, 2009).

In addition to the economic implications associated with school dropout among at-risk youth, there are also social and moral reasons for addressing this trend. Research literature focuses on many of the same at-risk identifiers used by school systems to identify at-risk youth but also expands its focus to include groups and/or individuals who have been historically marginalized by society thus increasing their chance to become at-risk. Researchers note evident disparities among gender and ethnic groups in regards to dropping out of school (Bowers, Sprott, & Taff, 2012; CLMS, 2009; Daresnborg & Blake, 2013; DeCapua & Marshall, 2011; Lucio, Rapp-Paglicci, & Rowe, 2011; Sum et al., 2009; Texas Higher Education Coordinating Board, 2013; Ward, Strambler, & Linke, 2013). In 2007, approximately 6.2 million youth were high school dropouts with 60.1% being male, 18.8% African American, and 30.1% Hispanic (CLMS, 2009). In their analysis of high school dropouts, Bowers et al. (2012) also identify African American, Hispanic, and English Language Learner (ELLs) students as having higher rates of school dropout. Students from single-parent households and low socio-economic (SES) backgrounds are also at higher risk for dropping out of school (Bowers et al., 2012; Kaufman et al., 1996; Schonert-Reichel, 2000; Stetser & Stillwell, 2014; US Department of Education, 1993). Although all groups are represented within drop-out statistics, impoverished youth and young African American and Hispanic males are the hardest hit (CLMS, 2009; Stetser & Stillwell, 2014). In the field of educational practice, the term ‘at risk’ most often refers to the risk of school dropout; whereas, in research literature, the term ‘at risk’ can be used in reference to a wider range of negative life outcomes that are not solely academic (Moore, 2006). For example, many dropouts become caught up in a vicious cycle of drugs, gangs, crime, and incarceration (CLMS, 2009; Sum et al., 2009). This reality can produce
negative effects for each individual, identify negatively the at-risk population, and create significant problems for society as a whole.

The question is what can be done to help at-risk students overcome the multiple barriers to which they are exposed throughout their academic careers in order to reverse the trend. There is evidence that for many individuals the development of self-beliefs, particularly self-efficacy, is associated with academic success and more positive life trajectories (Bandura, 1993; Center for Public Education, 2007; Finn & Rock, 1997; McMillan & Reed, 1994). However, there is little research in regards to the effects of self-efficacy on the high school completion and post-secondary pathways of at-risk students. I believe that the development of self-efficacy in at-risk youth can positively influence the likelihood of post-secondary schooling and completion for the group. Many researchers suggest that the issue of self-efficacy among at-risk youth should be more thoroughly studied to understand its impacts and determine the significance of self-efficacy on educational outcomes among the group (Alfassi, 2003; Chemers, Li-tze Hu, & Garcia, 2001; Hsieh, Sullivan, & Guerra, 2007; Kaufman et al., 1996; Schunk, 1991).

To sum up the key background elements of this study, there is vast evidence that the presence of at-risk factors increases the likelihood of school dropout. Dropping out of school is a major issue at the national and state level which justifies the interest of educational researchers studying at-risk youth. School dropout is linked to the negative effects of poverty and joblessness (CLMS, 2009; Sum et al., 2009). As previously discussed, when at-risk students drop out of school, they limit their chances to continue post-secondary education. Achieving a college degree is linked to the development of educational and employment skills necessary to become a productive, contributing adult in a global economy (CLMS, 2009; Frishberg, Lee, Fletcher, & Webster, 2010; Radcliffe & Bos, 2011). Moreover, within drop-out statistics, certain populations remain
overrepresented with males, minorities, and students from low-SES backgrounds more likely to drop out of school and suffer its effects. On a positive note, there is evidence that some resilient at-risk students do not drop out but go on to attain a high school diploma and pursue post-secondary education (Bangser, 2008; CLMS, 2009; Lucio et al., 2011; Moore, 2006; Ormrod, 2010). Their pathways need to be better understood in order to develop effective interventions for all at-risk students (Chait, Muller, Goldware, & Housman, 2007; Christenson & Thurlow, 2004; Ehren, 2008; Gable, Park, & Scott, 2014; Galanter, Rosengarten, & Camacho, 2010; Oslund, Simmons, Hagan-Burke, Kwok, Simmons, Taylor, & Coyne, 2015; Reiber & McLaughlin, 2004; Wanzek, Roberts, & Otaiba, 2014).

Statement of the Problem

Factors labeling youth at risk are complex and often carry the potential to multiply leading to an increased presence of additional at-risk factors within the lives of at-risk youth (Schonert-Reichl, 2000; Suh & Suh, 2007; Thiessen, 1997; Toglia & Berg, 2013). Students labeled at risk are more likely to drop out of both high school and college and are less likely to enroll in a four-year university (Frishberg et al., 2010; Radcliffe & Bos, 2011). At-risk factors place youth on a trajectory that often results in negative academic outcomes, while also preventing these youth from developing into healthy and productive adults (Bandura, 1993; Frerer, Sosenko, & Henke, 2013; Frishberg et al., 2010; Lucio et al., 2011; Schonert-Reichl, 2000; Ward et al., 2013). The nature and timing of the risk factors occurrence further influences these outcomes and are shown to have greater impact during times of transition, such as that from high school to college (Bailey & Karp, 2003; Frerer et al., 2013; Radcliffe & Bos, 2011; Schlossberg, 1981; Schonert-Reichl, 2000). Overall, the at-risk label has a negative connotation associated with a trajectory of
intermittent participation in school, incomplete education, and difficulty integrating into the workforce.

However, being labeled at risk does not mean certain failure which makes it important to develop informed intervention and policy aimed at reducing risk in youth while also promoting more positive academic outcomes and life course trajectories (Bangser, 2008; Lucio et al., 2011; Moore, 2006; Ormrod, 2010; Schonert-Reichl, 2000). Either through interventions implemented in schools or by finding their own resources to overcome barriers, there are resilient students who escape at-risk trajectories. While there is evidence that some students labeled at risk go on to experience academic success, the factors that contribute to shaping their resiliency are still not clearly understood (Bangser, 2008; Lucio et al., 2011; Moore, 2006; Ormrod, 2010). I argue that at-risk students who graduate high school and are able to pursue higher education demonstrate high levels of confidence in their abilities (i.e., academic self-efficacy). This outcome occurs in my best judgment because these resilient individuals who have developed higher levels of academic self-efficacy, have also set up greater expectations for educational attainment, and the higher levels of academic self-efficacy positively impact the at-risk student’s belief that he or she can reach their academic goals (Bandura, 1993). It is my assertion that the development of self-efficacy among at-risk students holds the potential for increased academic success for the group, and more research is needed to support this assertion and to discern how other factors affect the relationship between academic self-efficacy and educational attainment among at-risk students.
Purpose of the Study

The main assumption of this study is that at-risk students who manifest high levels of academic self-efficacy during high school are likely to graduate high school and enroll in and complete post-secondary education. I also hypothesize that the number of at-risk factors identified in high school, which indicate various levels of hardship, may affect both students’ self-efficacy and educational attainment. Additional factors that describe students’ behaviors (e.g., academic effort and persistence) and students’ self-beliefs (e.g., educational expectations), as well as socio-demographic factors are proposed in the literature to predict educational attainment. The purpose of this study is to examine the profiles of at-risk youth in a nationally representative sample to better understand their academic self-beliefs and behaviors. Specifically, this study explores the influences of academic self-efficacy, level of risk (i.e., number of at-risk factors identified for the student in grade 10), level of academic effort and persistence applied during high school, educational expectations, and socio-demographic characteristics on the educational attainment of at-risk youth by age 26.

Research Questions

This study will address the following research questions:

1. Are there differences in the profiles of at-risk high school students who have varying levels of risk, in terms of socio-demographic factors (i.e., gender, race/ethnicity, SES) and educational expectations?

2. How are English and math self-efficacy levels influenced by level of risk (i.e., number of at-risk factors identified for the student in grade 10)?

3. What is the relative contribution of socio-demographic factors (i.e., gender, race/ethnicity, SES), academic self-efficacy (i.e., English and math self-efficacy), level of risk (i.e., number of at-risk factors identified for the student in grade 10),
level of academic effort and persistence applied during high school, and educational expectations on the actual level of educational attainment by age 26 in at-risk youth?

Researcher Perspective

Education has always been a central part of my life. I have been involved in Texas public schools in a working capacity since the age of 16 when I took my first job as an after-school childcare provider at my former elementary school. Throughout my own academic studies and education career, several interactions with at-risk students profoundly shaped both my professional and personal perspectives. These instances inspire my research.

During my Master’s degree studies, I completed my student teaching in two secondary social studies classrooms instructing senior level government/economics, U.S. history, and world history. During this period, I will never forget the testimony of Candi¹, the African American valedictorian of her inner-city, urban high school. Candi often recounted the poverty she experienced growing up and the difficulties of being raised in a single-parent household. She also gave detailed accounts of the negative reactions she faced from her African American peers as she strove to succeed in school. Frequently, she was shunned by these individuals and accused of “acting white” as she placed high importance on her studies, striving to graduate with high marks in order to attend college. Despite her circumstances, she succeeded. She claimed the title of high school valedictorian, received a college scholarship, and sat alongside me as we pursued our Master’s degrees together.

¹ All names used in this section have been changed to protect the individual’s privacy.
Then, there was also Darius, an African American high school senior being raised by a single-mother and living in poverty. Darius was a government student in twelfth grade as I was completing my student teaching. Darius had never passed a government test, but I knew he was capable. One day, I asked Darius to come in before school to review with me for that day’s assessment, and he agreed. He came in two minutes late for our study session profusely apologizing. I quickly reassured him that it was alright. He explained that his family had one vehicle, and he had taken his mother to work at the airport at four o’clock that morning so that he could have the car to meet for our review. That day, I was better able to understand some of the barriers at-risk youth face and the sacrifices they have to make in order to be successful academically.

The following year, I served as a substitute teacher working in several different positions. During this time, I was one of the few substitute teachers willing to work in the junior high school’s behavior unit, so I was placed there frequently. There were three boys in the behavior unit total; two of these students made lasting impressions. Jack was a White, non-Hispanic male student from a single-parent household living in poverty and on conditional release. He had a police-issued ankle monitor to track his comings and goings. He displayed significant, problematic behaviors that impacted his circumstances both inside and outside of school. One day, I was called in but had no place to leave my new puppy, Reece, so I brought her with me. Jack’s attitude drastically improved with Reece in the classroom. He loved dogs. He spent the day cuddling and playing with Reece, and he seemed like a completely different student. Another boy in the room, Aaron, had suffered extreme physical abuse evidenced by a significant amount of burn scars. Aaron’s reaction to Reece was the opposite of Jack’s reaction. Aaron immediately perched on top of his desk drawing his legs in close to his chest with his arms secured tightly around them. Jack and I tried to comfort him and explain why we had this new
creature in our classroom. We assured him that puppies, specifically Reece, were harmless. Aaron was not easily convinced. He explained that he had also been exposed to regular dog attacks as a young child at the hands of his abuser in addition to being set on fire. This was a hard truth for me to hear, and Jack and I gave Aaron his space. Although Aaron remained perched on his desk, as the day went on he asked more and more questions about Reece. Eventually, he wanted to pet her “as long as I held her tightly and did not let her move around.” I did. Jack was elated for Aaron, and I was too. Aaron’s face relaxed and his eyes sparkled. He said, “She is so soft.” Years later, I was assisting at the local animal shelter, and Aaron walked in with a group of high school students there to volunteer. Although he did not recognize me, I learned he was a regular volunteer at the shelter. I observed him walking and playing with the larger dogs in the shelter’s recreation area. I was amazed and so happy for him. This moment illustrated to me the capacity for resilience that people can exhibit.

After being a substitute, I was hired within the district as a secondary English second language (ESL) teacher assistant. I served in that position for one year before being hired on as an elementary ESL teacher working with limited English proficient (LEP) students in grades K-6. For these students, my most important role was being their advocate. I defended the academic abilities of my ESL students to countless teachers. I sat in on numerous Admission, Review, and Dismissal (ARD) meetings in which grade level, classroom teachers sought to label and place one of my LEP students in special education. In some instances, this decision was warranted. However, it was not in many cases. Yet, the parents did not have the education or the language ability to understand the meeting’s proceedings and various documents. In several instances, the parents’ lack of education resulted in a lack of confidence in their ability to participate in these meetings. I was there for the parent so the family could feel more comfortable. It was my
job to present evidence and advocate for their child’s capabilities to ensure correct placement. Reflecting on these situations, I realize the need for educators as supports. At-risk students might not be able to advocate for themselves. Furthermore, the parents of the at-risk student might not, for varying reasons, be able to advocate for their child either. Oftentimes, educators make major decisions in lower grade levels that will impact a child’s educational pathway including their post-secondary opportunities. Therefore, it is important that we, as educators, take the education and educational placements of at-risk youth seriously.

Currently, during the regular school year I serve as a fourth grade reading, writing, and social studies teacher in an urban community. This is my eighth year teaching. In the summers, I continue to teach as a secondary history and science ESL teacher serving students in grades 7-12 who are within their first two years of entry into the United States. In order to qualify for this program, students must be labeled LEP and are therefore categorized at risk by Texas Education Agency (TEA) guidelines. This was also my second summer to work as a pre-school teacher in a classroom with children ranging from one to two years of age.

In each of these positions, I have overseen and implemented various support initiatives for at-risk students of all ages and ability levels. My experience includes working directly with students identified and labeled at risk based on state defined criteria and reported as at risk within the Public Education Information Management System (PEIMS) database. I have also worked with numerous student populations identified in research literature as being historically at risk. My experience also includes working with students meeting the variable criteria for at-risk identification within ELS:2002, the national data employed in my dissertation research. Although the number of at-risk students I have worked with during my eight years of teaching is not incredibly large,
many of them encountered a significant number of at-risk factors, which made me think that the level of risk affects students’ trajectories throughout the educational system.

Based on my experiences, I feel the needs of at-risk students are not being adequately met by the public school system. My interest in at-risk students stems from my background as a classroom teacher working with those who have been identified as at risk in at least one of the aforementioned contexts (i.e., the education system, research literature, ELS:2002).

As a doctoral student, I am interested in the topic of at-risk youth because I want to develop a systematic way to understand and study issues I observed through my experiences as a teacher. My professional and academic backgrounds enable me to address this topic in a thoughtful and well-informed manner involving not only empirical research evidence and theory, but also practice and experience.

It is my hope that this research will help inform educational practice and policy in regards to developing appropriate and effective interventions and supports for at-risk youth. For instance, it is my belief that academic self-efficacy and the educational expectations students set for themselves are major factors that have the potential for higher levels of educational attainment among at-risk youth. This belief has driven me to test these assumptions in my doctoral research.

Significance of the Study

Research indicates self-efficacy promotes academic success for at-risk students (Bandura, 1993; Bandura, 1994; Brooks-Gunn et al., 1993; Cassel, 2003; Center for Public Education, 1997; Cheung & Lai, 2013; Hsieh et al., 2007; Kaufman et al., 1996; McMillan & Reed, 1994; Schunk, 1991; Zimmerman, 2000). However, current literature does not focus enough on understanding the effects of such internal mechanisms on at-risk youth in relation to pursuing and completing a post-secondary degree. This study
adds to current research on the topic of academic self-efficacy in at-risk youth by providing further insight into the impact of self-efficacy on the level of educational attainment achieved by age 26 in at-risk youth.

The study raises awareness on the negative effects of high levels of risk for these students by exploring whether the number of risk factors present influences self-beliefs (i.e., English self-efficacy, math self-efficacy, educational expectations) and outcomes (i.e., actual level of educational attainment by age 26). This is important to know because schools and the community should intervene before students enter a cycle of failure(s) and experience multiple negative effects associated with higher levels of risk.

Using the study’s findings, the researcher provides recommendations for curriculum, intervention, and policy featuring specific, targeted programs aimed at developing self-efficacy among at-risk youth in schools in order to support higher levels of academic achievement for the group and reduce the negative impacts of at-risk factors. The study’s findings can largely inform the field of education. Educators may use this research to promote a need for targeted interventions aimed at the development of self-efficacy in at-risk students in schools. The study’s findings inform whether research-based, systematic interventions developing self-efficacy in at-risk students have the potential to increase school participation and academic attainment for the group.

Finally, this study contributes to the literature using self-efficacy theory. According to Bandura’s (1977a, 1994) self-efficacy theory, the belief in one’s ability to succeed in specific situations plays a major role in how the individual approaches goals, tasks, and challenges. The cultivation of self-efficacy among at-risk youth in schools provides these students with the skills needed to better understand their at-risk conditions and gain greater control over their outcomes (Bandura, 1989; Bandura, 1994). In gaining this knowledge, at-risk students are empowered to better understand their choices and those
outcomes which could result in greater control of their circumstances (Bandura, 1977b; Bandura, 1989). The theory also suggests that these students will be able to resist and disengage from undesirable conditions negatively affecting the development of self-efficacy, both inside and outside of school (Bandura, 1977a; Bandura, 1989). This current study contributes to research literature by providing quantitative evidence documenting the impacts of self-efficacy on academic involvement and outcomes in at-risk youth.

Definition of Terms

At Risk

The examination of at-risk youth requires an understanding of the term's meaning and various applications. During its history, public education has created labels used to identify and group its students. Those students most at risk of school drop out are encompassed under a broad category termed ‘at risk’ (Ormrod, 2010; Schonert-Reichl, 2000; TEA, 2014).

The term's definition and use varies from context to context. For example, federal and state municipalities have set criteria for the identification of at-risk students. Students identified using this set of criteria are coded and reported as being at risk in the school system. In the United States, the Elementary and Secondary Education Act (ESEA) of 1965 and its subsequent amendments require that states submit data for all students in the categories of economically disadvantaged, racial and ethnic groups, students with disabilities, and students with limited proficiency in English (TEA, 2011). This enrollment data is used to monitor the needs of a community, to adjust school programs, and to predict and respond to the changing needs of a population. Student enrollment also informs educational policy, planning, and research. In order to categorize students for the purpose of informing these areas, school systems utilize a labeling system which features the at-risk code.
For example, in Texas, PEIMS contains all data including student demographic and academic performance, personal, financial, and organizational information (TEA, 2015). The data collected through PEIMS electronic collection has a standard set of definitions, codes, formats, procedures, and dates (TEA, 2015). ‘At risk’ is a reporting category within this system. As a Texas public school teacher, I utilize this identification frequently within the workplace. Once identified in the system, the at-risk student may be monitored and supported at his or her campus and in his or her individual classroom(s).

Over the last several decades, the definition of the term ‘at risk’ has come to encompass a number of eligibilities in research literature (Ormrod, 2010; Schonert-Reichl, 2000). These eligibilities can include basic demographic information (e.g., parenthood, limited English proficiency, homelessness), factors involving student background (e.g., previously retained, previously dropped out), and various learning (e.g., failure to meet standard on assessment instruments, failure to maintain an average equivalent to 70 or higher in core-subject areas) and behavioral attributes (e.g., parole, probation) (Dodd & Bowen, 2011; Hamre & Pianta, 2005; Hecker et al., 2014; Kominski et al., 2001; Lucio et al., 2011; Ormrod, 2010; Schonert-Reichl, 2000). In comparison to the public school system identification, the term ‘at risk’ takes on a broader definition and usage in research literature. In this context, the term ‘at risk’ is most often used in reference to groups and/or individuals who have been traditionally marginalized by society and/or those who research has identified as being most at risk academically and/or in terms of other negative life outcomes.

For the purposes of this study, I use the ELS:2002 definition of the term ‘at risk.’ ELS:2002 identifies as being ‘at risk,’ a survey respondent who: “(1) comes from a single-parent household; (2) has two parents without a high school diploma; (3) has a sibling who has dropped out of school; (4) has changed schools two or more times (excluding
changes due to school promotions); (5) has repeated at least one grade; and/or (6) comes from a household with an income below the federal threshold for poverty \(^2\) (NCES, 2012, p. 64). Since this study is based on ELS:2002 data, it is by this definition that the at-risk youth are identified and my study’s research questions are explored.

Usage of the Terms ‘At Risk’ and ‘Drop Out’

Throughout this study, I use various forms of the two terms, ‘drop out’ and ‘at risk.’ The term ‘at risk’ appears both with and without a hyphen. When a hyphen is used (i.e., at-risk), I am using the term as an adjective coming directly before the noun it is describing (e.g., at-risk youth). When the hyphen is absent (i.e., at risk), I am using the term as an adjective; however, the term is not used directly in front of the noun it is describing. For example, the student was at risk for failure.

Similarly, I use three forms of the term ‘drop out’ (i.e., drop out, drop-out, dropout). Drop out is used as a verb. For example, the student will drop out of school. Drop-out is used as an adjective. For example, the drop-out rate is a concern. Finally, dropout is used as a noun representing either a person or a thing. For example, the high school dropout went straight into the workforce, or research literature addresses the effects of school dropout on youth. The clarification of these forms and their uses aids in an understanding of the term ‘at risk.’

Overview of Chapters

The study is organized in five chapters. The focus of the first chapter is to identify/state the problem, present the purpose of the study, and state the research questions. In addition, I discuss the researcher’s perspective related to the topic and the

\(^2\) Family income is $20,000 or less and household size is 5 or less; $25,000 or less if household size is 6 or 7; $35,000 or less if household size is 8; and $50,000 or less if household size is 9 or more (NCES, 2012).
significance of the study. The definition of terms section is included to help the reader understand the various meanings of some key terms.

Following this introductory chapter, a review of the literature provides insight concerning the at-risk population identified by the ELS:2002 criteria and presents studies focused on the impacts at-risk factors have on students. Chapter 2 also includes an overview of the theoretical framework guiding my research. Chapter 3 covers the study's methods, introduces the Education Longitudinal Study of 2002 (ELS:2002), details criteria for the selection of the research sample, provides information on the study's constructs and variables, and indicates the statistical procedures used to develop the study's research questions and conclusions. Chapter 4 features the research findings addressing each of the study's three research questions providing detailed interpretation of the quantitative results. Finally, Chapter 5 discusses the study's key findings in relation to research literature and highlights implications for practice and future research; Chapter 5 also features recommendations for policy and additional practice, as well as the study's conclusions.
Chapter 2

Literature Review

The literature review features a discussion of the term ‘at-risk label’ to understand the complexity of this notion and the potential cumulative effects of at-risk factors. As stated in the Introduction, the term ‘at risk’ varies by context. Since this research is based on national data provided by the Education Longitudinal Study of 2002 (ELS:2002), the at-risk population examined in the study corresponds to the ELS description of the variable. As stated, this includes any student who: “(1) comes from a single-parent household; (2) has two parents without a high school diploma; (3) has a sibling who has dropped out of school; (4) has changed schools two or more times (excluding changes due to school promotions); (5) has repeated at least one grade; and/or (6) comes from a household with an income below the federal threshold for poverty” (NCES, 2012, p. 64). These students are identified as being at risk academically during high school and thus being potentially at risk to experience long-term negative outcomes including difficulty pursuing post-secondary education (NCES, 2012). First, the literature review in Chapter 2 looks at studies that focus on each of the six risk factors which define the ELS:2002 at-risk variable.

Second, the literature review also addresses the effects of self-efficacy on student self-beliefs, behaviors, and academic performance and attainment, as well as the potential of programs developing self-efficacy affecting performance and attainment in order to support the main focus of the study: the role of self-efficacy on the academic outcomes of the at-risk student. Finally, Chapter 2 presents main concepts from Bandura’s (1977a, 1977b) self-efficacy theory helping to build the theoretical framework of the study.
The At-Risk Label

The term ‘at risk’ emerges from the basic concept of youth whom were found to be at risk for developing into healthy, productive adults (Schonert-Reichl, 2000). According to Cuban (1989), the term was originally used in reference to underprivileged, or low-SES, youth. Therefore, interventions were targeted toward alleviating the impacts of poverty (Cuban, 1989). The result was to create and support a public school system in which all children not receiving some form of alternative education (e.g., private school, home school) were required to attend. The term ‘at risk’ initially referred to youth deemed at risk for non-enrollment in or non-attendance of formal schooling.

However, as time went on, the term has evolved and expanded. In research literature, the term refers to those most at risk for dropping out of school and/or experiencing numerous other poor life outcomes (Moore, 2006; Ormrod, 2010; Schonert-Reichl, 2000). Educators approach identification of those students deemed at risk from a deficit model in which the issues or factors identifying the student as at risk are inherent to the individual and/or his or her family (Marsh, 1990; Schonert-Reichl, 2000). However, it is important to note that an at-risk label does not necessarily denote participation in risky behaviors (Schonert-Reichl, 2000). The term now encompasses a number of individual characteristics within a wide array of demographic, cognitive, and behavioral attributes (Gable et al., 2014; Hecker et al., 2014; Kominski et al., 2001; Ormrod, 2010; Schonert-Reichl, 2000; TEA, 2014).

Typically, at-risk factors do not exist in isolation, and oftentimes students have more than one risk factor present. At-risk factors also have the tendency to multiply since one issue that places the student at risk may generate another one (Schonert-Reichl, 2000; Suh & Suh, 2007; Thiessen, 1997; Toglia & Berg, 2013). As the level of risk increases, so do the negative effects associated with the presence of at-risk factors.
For example, according to Schonert-Reichl (2000), at-risk students with one risk factor present have academic outcomes similar to that of their non-at-risk peers. However, those with two or more risk factors present can be four times more likely to experience unfavorable outcomes, such as school failure and dropout, and those students with four or more can be ten times more likely to experience negative outcomes (Schonert-Reichl, 2000). Schonert-Reichl’s (2000) study suggests that the number of at-risk factors should be considered in examining the academic and behavioral outcomes of at-risk students.

Negative outcomes are more likely to occur during times of transition (Schlossberg, 1981; Schonert-Reichl, 2000). Several transitions are identified as particularly impactful in childhood. In early childhood, the transition to elementary school is identified as highly impactful in a child’s life (Schonert-Reichl, 2000). Also, the transition into early adolescence is identified as highly formative and very challenging (Brooks-Gunn, Guo, & Furstenberg, 1993; Schonert-Reichl, 2000). The data used in my study provides insight into the high school to post-secondary transition, which could be challenging specifically in at-risk students.

As the term ‘at risk’ remains broad, the interventions seen at the school level remain largely too general and often ineffective (Ehren, 2008; Galanter et al., 2010; Reiber & McLaughlin, 2004; Schonert-Reichl, 2000). It is necessary that educators understand this population better in order to effectively address the educational needs of at-risk students, thereby supporting higher levels of academic achievement among at-risk youth. In order to understand this population, educators must not only look at individual risk factors, but also, understand the interconnectedness that often exists among them. The following sections help to illustrate this point while focusing on the at-risk factors identified in the ELS:2002 population and their effects on students’ academic performance and behavioral development.
The effects of single parenting on children

According to U.S. Census data, there are approximately 13.7 million single parents in the U.S. (Wolf, 2015). These individuals are currently raising approximately 22 million children under the age of 21. Single parenting is identified as one risk factor which affects the cognitive and emotional development of children (Jensen, 2013; Thiessen, 1997).

According to Thiessen (1997), research on single parenting dates back prior to 1973 when the phenomenon referred to as ‘father absence’ was identified. Initially, the effects of single parenting on the child were interpreted using a family deficit model (Marsh, 1990; Schonert-Reichl, 2000; Thiessen, 1997). Even when the effect of single parenting on specific outcomes, such as high school and post-secondary outcomes, could not be proven through rigorous statistical testing, research still indicated the effects of single-parenting on the child’s development and school outcomes were mostly negative (Marsh, 1990; Thiessen, 1997).

As time went on, more research focused on the relationship between single parenting and becoming at-risk academically. Researchers report that children from single-parent households are found to be at greater academic risk than children from two-parent households (Jensen, 2013; Nelson, 2009; Rumberger & Lim, 2008; Thiessen, 1997). Thiessen (1997) states, “Children of single parents are more likely to have lower test scores, lower grades, and increased drop-out behavior than children from intact families” (p. 9). Children in single-parent households are also three times more likely to drop out of high school in comparison to children in two-parent households even when the groups are controlled for ability level (Thiessen, 1997). In conclusion, children raised in single-parent households are more likely to perform at lower levels and drop out of school compared to children raised in homes with both parents present.
Thiessen (1997) reports that several studies have sought to determine why children from single-parent households have lower academic performance levels and a higher likelihood of school dropout. It is determined that single parents spend less time helping their children on schoolwork and provide less encouragement for the work. Single parents also have lower educational expectations for their children, impose less consistent discipline, and exert less parental control (Barber & Eccles, 1992; Thiessen, 1997).

There are certainly protective factors that can support at-risk students who encounter specific life circumstances overcome barriers. Protective factors, similarly to risk factors, also have a tendency to multiply, further reducing the effects of risk factors (Thiessen, 1997). Single parenting could have numerous effects on the cognitive and emotional development of children, increasing a need for protective factors. For instance, self-efficacy could help to alleviate the negative effects associated with being raised by a single parent. Research indicates self-efficacy, social support availability, and family cohesion could help to protect against negative outcomes (Jensen, 2013; Rumberger & Lim, 2008; Thiessen, 1997). Thiessen (1997) states that the presence of these protective factors (i.e., self-efficacy, social support availability, family cohesion) could reduce the harmful effects of single parenting on the child.

The effects of lower levels of parental education on children

Research literature indicates that parental educational attainment impacts the educational expectations, as well as the overall educational attainment of youth (Cooper & Crosnoe, 2007; Eccles, 2007; Hamre & Pianta, 2005; Leventhal & Brooks-Gunn, 2000; McDevitt, Ormrod, Cupit, Chandler, & Aloa, 2013; Nelson, 2009; Thiessen, 1997). Higher parental educational attainment correlates with higher educational expectations of children (Nelson, 2009).
In one study, Nelson (2009) reports that the aspirations of eighth grade students to attend college stem primarily from their parents’ expectations of children’s attainment that are related to the parents’ own educational attainment. The National Household Surveys Program (NHES) of 2003, reports that 88% of students whose parents had earned at least a Bachelor’s degree knew their parents expected them to complete college compared to only 44% of students whose parents had a high school diploma or less (Nelson, 2009). Parents with higher degrees show they value education, and they set a benchmark for their child’s educational attainment. Parents with advanced degrees prioritize academic success (Nelson, 2009). In fact, parental education is linked to student’s test scores and overall grade point average (GPA) (Nelson, 2009).

In addition, parents achieving a post-secondary degree(s) understand the process of college enrollment and completion, as well as the long-term benefits of attaining a post-secondary degree. Therefore, they are able to pass this information on for the benefit of their child, and they are more likely to support their child throughout the college-going process in comparison to parents with no post-secondary schooling (Nelson, 2009).

Furthermore, the level of education the parent has achieved affects the academic self-efficacy of the child (Nelson, 2009). Research shows both the mother and the father’s achievements and interactions with their child help to develop and foster self-efficacy (Brooks-Gunn et al., 1993; Nelson, 2009). If either parent is absent (i.e., physically absent or lacking involvement), the child loses that direct influence, which impacts on the child’s aspirations and belief that he or she can execute behaviors necessary to reach specific, desired attainments (Nelson, 2009).
The effects of having a sibling drop out of school

As stated, risk factors tend to be multiplicative (Suh & Suh, 2007; Thiessen, 1997; Toglia & Berg, 2013). The literature does not contain much research on the effects of sibling dropout on at-risk youth. However, there are a plethora of articles which state that if a student’s sibling drops out of school, they are more likely to drop out as well (Editorial Projects in Education Research Center, 2011; Hale & Canter, 1998; Hammond, Linton, Smink, & Drew, 2007; Marjoribanks, 2002; Marjoribanks, 2004; Rumberger & Lim, 2008). Therefore, students with at-risk siblings have themselves a greater chance of becoming at-risk students and dropping out of school.

During early and middle childhood, children spend more time with their siblings compared to their parents and non-familial peers (McDevitt et al., 2013). While parents often set the tone surrounding schooling in the family, children contribute a great deal to the family’s dynamics (McDevitt et al., 2013). Through their behaviors children influence their siblings (McDevitt et al., 2013). Siblings, especially older siblings, can serve as role models with positive or negative influences. In one study, Marjoribanks (2002) examines the relationships among sibling-related variables (e.g., total number of children in the family, birth order), environmental influences, and the likelihood of school dropout. In the study, data is collected from 4,570 females and 4,096 male Australian adolescents. The findings indicate that sibling-related variables carry a small but significant association with adolescents’ school drop-out behavior (Marjoribanks, 2002). In a later follow-up study, researchers examine the relationships between sibling-related variables and university attendance of each sibling (Marjoribanks, 2004). Data is collected from 4,116 females and 3,889 male Australian young adults. Logistic regression analyses in both studies indicate that after controlling for differences in family background and learning environment, there is a small but significant association between sibling-related variables
and the outcome of school dropout, as well as sibling-related variables and the likelihood that a student will pursue post-secondary education (Marjoribanks, 2004).

Research indicates that sibling influence has an impact on the educational outcomes of children (Marjoribanks, 2004; McDevitt et al., 2013). Since siblings are often being raised in the same household(s), their behaviors influence one another. Moreover, any risk factors one child is exposed to so too is their sibling. Based on the assumption that risk factors have the potential to multiply their effects and often exist in relation with other risk factors, this could help explain how sibling dropout would affect the other children in the family. For example, if school dropouts are more likely to come from single-parent households, have parents with lower levels of educational attainment, be highly mobile, and live in poverty, it makes sense that the environmental factors affecting one sibling would affect the others as well (Grant, Stronge, Popp, 2008; Nelson, 2009; Rumberger & Lim, 2008, Thiessen, 1997; Tingle, Schoeneberger, & Algozzine, 2012).

The effects of mobility on students

As discussed, one risk factor often exists alongside other indicators of risk. However, there are some risk factors which research has proven to be more impactful on the lives of at-risk youth than others. Frequently changing schools is one risk factor which has been identified as significantly impactful to student academic performance and long-term achievement. These students are frequently referred to in research literature as being highly mobile (Grant et al., 2008). Due to the rigor and demands of curriculum and schooling, they often fall behind their non-highly mobile counterparts (Grant et al., 2008).

There are varying definitions of high mobility (Grant et al., 2008). The definition used in ELS:2002 identifies risk if the student “has changed schools two or more times (excluding changes due to school promotions)” (NCES, 2012, p. 64). Some researchers consider as highly mobile students those who change schools more than six times during
K-12 years, while others believe a highly mobile student to be one that has moved more than once in a school year (Grant et al., 2008). Those students who are the most mobile are often homeless, members of migrant worker families, living in poverty, children in foster care, and/or children whose parents are in the military (Grant et al., 2008). Depending on the category into which they fall and the reason(s) for moving, highly mobile students are often deemed at the highest risk for academic failure and/or school dropout (Grant et al., 2008; Iserhangen & Bulkin, 2011).

Research shows that students who change schools four or more times before they reach grade eight are at least four times more likely to drop out of school (Iserhangen & Bulkin, 2011). In their study, Iserhangen and Bulkin (2011) report that 13 out of 158 high school dropouts cite frequent moving as the reason he or she dropped out. Also, 41% of highly mobile students, students who change schools more than three times before grade eight, are low achievers in comparison to 26% of students who are non-highly mobile (Iserhangen & Bulkin, 2011). On average, highly mobile students’ math, science, reading, and writing scores are lower than corresponding scores of low-mobility students (Grant et al., 2008; Iserhangen & Bulkin, 2011). Therefore, highly mobile students are more likely to achieve at lower levels and drop out of school compared to low-mobility students.

Highly mobile students present a unique challenge for educators, who find it difficult to meet their needs as they are only interacting with them for a short period of time. This might be one reason why highly mobile students as a group have lower academic performance. Research also shows that highly mobile students often reside in lower income areas, and they attend schools in which the majority of students have lower verbal ability. In addition, teachers in these schools have lower academic dispositions and skills themselves further exacerbating the issue (Grant et al., 2008). Most of these
teachers score in the lowest quartiles on SAT and ACT college-entrance examinations. Highly mobile students lack experiences and exposure to quality curriculum and instruction, yet their teachers are most likely to be those who are uncertified, teaching outside of their certification, and/or lack content knowledge for the subject area they are teaching (Grant et al., 2008).

As already noted, high mobility is often associated with other at-risk factors, such as school poverty and exposure to low-quality instruction. These factors culminate often producing poor academic and life outcomes for the highly mobile student.

The effects of grade-level failure

Grade-level failure is another risk factor which leads to school dropout (Grant et al., 2008; Iserhangen & Bulkin, 2011; Rumberger & Lim, 2008; West, 2012). One of the most important indicators of student success, or lack thereof is student academic and social engagement (Finn, 1993; Finn & Rock, 1997; Randolph et al., 2004; Rumberger & Lim, 2008). Retaining students can have harmful effects on behavior, self-esteem, and the ability to achieve academically and interact socially (Randolph et al., 2004; West, 2012). Without these buy-ins, students are more likely to make the decision to leave school before graduation (Finn & Rock, 1997; Randolph et al., 2004; Rumberger & Lim, 2008).

Exact statistics are hard to come by and researchers’ opinions vary regarding the magnitude, causes, and effects of the grade retention phenomenon. However, David (2008) reports that 10-20% of students are retained at least once in their educational careers, and Tingle et al. (2012) estimate that 7-15% of all students are retained in the U.S. each year. Several demographic and background factors play a significant role in a student’s chance of grade retention (Karweit, 1999). Student high mobility, disability and poor health status, living in the South, and attending a school with high poverty are the
main factors indicating higher grade retention rates (Karweit, 1999). Also, male students are almost twice as likely to repeat a grade level compared to female students (David, 2008; Karweit, 1999; Tingle et al., 2012). Minority students are at higher risk for grade retention as well (David, 2008; Tingle et al., 2012).

There are ongoing debates as to the effectiveness of grade retention on student outcomes (Barshay, 2014; David, 2008; Jimerson, 2001; Karweit, 1999; West, 2012). However, research indicates that students who are retained perform at lower levels and are more likely to drop out of school (David, 2008; Jacob & Lefgren, 2007; Jimerson, 2001; Karweit, 1999; NCES, 2006; NCES, 2014; Tingle et al., 2012). When retained students are compared to similarly achieving students who were promoted, research cannot find any positive effects associated with grade retention (David, 2008; Tingle et al., 2012). Students who are retained show negative achievement outcomes which far outweigh any negative outcomes experienced by the promoted students who had similar academic performance in the previous grade (Jimerson, 2001; Roderick & Nagaoka, 2005; Tingle et al., 2012). Even in cases where academic gains occur as a result of grade retention, retained students still do not perform at high levels (Jimerson, 2001; Karweit, 1999). Students who are retained are also more likely to drop out (David, 2008; Jacob & Lefgren, 2007; NCES, 2006; Randolph et al., 2004; Tingle et al., 2012). Students who repeat a grade level between kindergarten and grade five are 60% less likely to graduate high school than students who were promoted (Barshay, 2014). These students are also 60% less likely to graduate from high school than their own siblings (Barshay, 2014). Therefore, research suggests that grade retention which is perceived as an at-risk factor could be actually detrimental to students, increasing rather than alleviating the at-risk situation.
In order to prevent negative outcomes resulting from grade retention, effective school interventions are needed to support struggling students (David, 2008; Jimerson, 2001; Tingle et al., 2012; Randolph, et al., 2004; Rumberger & Lim, 2008; West, 2012). Each school district should focus more on the implementation of research-based interventions for effective instruction aimed at engaging and supporting struggling students versus retaining them (Rumberger & Lim, 2008; Tingle et al., 2012). Researchers agree that these interventions can be effective at redirecting life course trajectories and producing more positive academic outcomes (Rumberger & Lim, 2008; Randolph et al., 2004; Tingle et al., 2012).

The effects of poverty on children

The final risk factor used to define the at-risk label in ELS:2002 is poverty. ELS:2002 defines poverty as a family income of $20,000 or less in a household of five or fewer individuals, $25,000 or less in a household of 6 or 7 individuals, $35,000 or less in household compromised of 8 individuals, and $50,000 or less if household size is 9 or more (NCES, 2012). Poverty is a growing concern in the U.S. with a rate that is continually rising (Lacour & Tissington, 2011). Children living in poverty often have other risk factors impacting their academic and behavioral trajectories, and the issues surrounding poverty, especially when compounded by other risk factors, can severely limit a student’s academic involvement, overall achievement, and life outcomes (Grant et al., 2008; Jensen, 2013; Karweit, 1999; Rebell, 2014; Thiessen, 1997). Poverty affects the ways in which at-risk youth identify, perform, and attain (Grant et al., 2008; Jensen, 2013; Karweit, 1999; Lacour & Tissington, 2011; Leventhal & Brooks-Gunn, 2000; Rebell, 2014; Thiessen, 1997).

The study of effects of poverty on youth dates back more than half a century (Leventhal & Brooks-Gunn, 2000). Poverty is often seen in correlation with other risk
factors which also negatively impact the academic achievement of at-risk youth (Jensen, 2013). Characteristics of impoverished neighborhoods that affect children’s development and achievement include: lack of stimulating learning and social environments (e.g., parks, libraries, community centers), lack of appropriate socialization models (e.g., adult role models, supervision and monitoring, structure and routines), negative behaviors of neighbors and peers that influence youth, inadequate community resources, and psychological issues (e.g., comparison and identification that students living in poverty make in relation to their neighbors and/or peers within the neighborhood) (Leventhal & Brooks-Gunn, 2000). Students who grow up in poverty are also more likely to develop health problems (e.g., vision and hearing issues, asthma, untreated cavities) (Rebell, 2014). These are obstacles that students in poverty have to deal with on a more consistent basis than other students (Rebell, 2014).

Furthermore, the longer a student is in poverty, the more serious the effects on the child’s potential to succeed academically (Brooks-Gunn & Duncan, 1997; Brooks-Gunn et al., 1993; Rebell, 2014). Students spend approximately five times as much time with their families and in their neighborhoods than in schools (Rebell, 2014). This means that the interventions and supports implemented by schools are only helping to cover the needs of impoverished children a mere fraction of their childhood. According to Rebell (2014), the large proportion of U.S. students who live in poverty directly relates to the low performance levels seen on standardized tests. Something needs to be done to support the at-risk student when he or she is not in school (Leventhal & Brooks-Gunn, 2000; Rebell, 2014). According to Rebell (2014), schools need more funding and appropriate national and/or state-wide programs implemented to alleviate the effects of poverty. Without these systems in place, schools in areas of great poverty will continue to regress.
Understanding the effects of poverty on at-risk youth is just another piece in the complex objective of understanding the at-risk student.

**Self-Beliefs, Behaviors, and Attainment**

Research says that the presence of risk can impact student self-beliefs, behaviors, and educational attainment (Alfassi, 2003; Betz & Hackett, 1981; Betz & Hackett, 1983; DeAngelis, 2012; Fenning & May, 2013; Iravani, 2012; Lent, Brown, & Larkin, 1984; Ling, Hawkins, & Weber, 2011; Zimmermann, 2000). Research also indicates that varying levels of risk can affect these areas differently (Schonert-Reichl, 2000; Suh & Suh, 2007; Thiessen, 1997; Toglia & Berg, 2013).

**Self-efficacy and educational expectations**

It is this study's assertion that high levels of academic self-efficacy and high levels of educational expectations result in higher performance achievements and educational attainment despite the presence of risk factors. Furthermore, the question is whether self-efficacy could produce these effects for the group as a whole despite varying levels of risk among the at-risk youth.

There is little research in regards to the relationship between academic self-efficacy and educational attainment in terms of specific attainments for at-risk students. In fact, there is little research exploring this topic for students, in general. However, there is more literature in regards to self-efficacy and student choices of specific educational pathways. For example, research literature indicates that self-efficacy plays a role in the choice of college major or field of study (Betz & Hackett, 1981; Betz & Hackett, 1983; Fenning & May, 2013; Lent et al., 1984). Therefore, because self-efficacy is associated with students’ declarations of specific fields of study one can infer that self-efficacy has also impacted student educational attainment as it is linked to post-secondary participation. For example, in their study, Betz and Hackett (1983) explore the
relationship of math self-efficacy to the selection of science-based college majors. Their results indicate that math self-efficacy is strongly associated with students’ choice of science-based college majors which indicate specific educational pathways that thus reflect a relationship between academic self-efficacy and educational attainment. In addition, Betz and Hackett find that males’ math self-efficacy is significantly higher compared to females, which could explain why males are more likely to choose science-based college majors compared to females. This determination could be useful in exploring self-efficacy beliefs and educational attainment among at-risk youth. For example, this study’s findings might indicate that at-risk students with lower academic self-efficacy also are less likely to pursue post-secondary education and therefore have lower levels of educational attainment just as the females in Betz and Hackett’s (1983) study report lower levels of math self-efficacy and are less likely to pursue science-based college majors.

Similarly, in another study, male and female students are asked questions that indicate their level of self-efficacy to successfully complete the educational requirements and job duties of 10 traditionally female and 10 traditionally male occupations. The results of this study indicate significant differences in the self-efficacies between males and females in relation to traditional versus non-traditional occupations (Betz, 1981). Females report significantly higher levels of self-efficacy to pursue and complete the requirements and duties of traditionally female occupations and significantly lower levels of self-efficacy in relation to traditionally male occupations. However, males report equivalent levels of self-efficacy for both categories (Betz, 1981). These findings could be useful in explaining why certain college majors and career fields hold higher percentages of males compared to females in areas in which female students demonstrate lower self-efficacy. Due to
lower levels of self-efficacy, females are choosing not to pursue traditionally male occupations.

Although there is not much research on self-efficacy and the educational attainment of at-risk youth, research shows that self-efficacy can be a predictor of students’ educational and career choices (Betz & Hackett, 1981; Betz & Hackett, 1983; Fenning & May, 2013; Lent et al., 1984). This relationship implies that self-efficacy and educational expectations both contribute to students’ declaration of a college major and persistence in post-secondary pursuance. This is one reason why my study takes into account self-efficacy and educational expectations as a set of self-beliefs that determine what at-risk students are attaining in terms of post-secondary education.

Self-efficacy and behaviors

The presence of at-risk factors can also negatively affect academic behaviors (DeAngelis, 2012; Iravani, 2012; Ling et al., 2011). Higher levels of student self-efficacy are however associated with more positive student behaviors which can thus help the at-risk students to overcome barriers created by their circumstances (Alfassi, 2003; Zimmerman, 2000).

When a student’s behavior is disruptive to the class, it interferes with his or her learning, the learning of other students, and also the teacher’s ability to instruct (Finn, 1993; Finn & Rock, 1997; Ling et al., 2011). Ling et al. (2011) suggest that approximately 10% of all students display behavior problems. While behavioral risk factors are significantly related to poor educational outcomes, such as school dropout, self-efficacy is one factor which can result in more positive behaviors tied to academic success (Alfassi, 2003; Chapman et al., 2013; Finn, 1993; Hawken et al., 2014; Hecker et al., 2014; Ormrod, 2010; Zimmerman, 2000).
Lent et al. (1984) explore whether self-efficacy helps students to successfully complete the educational requirements tied to certain career fields. Specifically, they examine the persistence and success of undergraduate students in pursuing science and engineering majors. Their study results indicate that those students who demonstrate high self-efficacy are more likely to complete the educational requirements, earn higher grades, and continue on with their selected major compared to students with low self-efficacy (Lent et al., 1984). The study’s findings suggest that self-efficacy impacts student educational behaviors toward desired outcomes (Lent et al., 1984). Based on the study’s results, self-efficacy is a predictor of the academic behaviors students will employ to achieve desired academic performance and attainment outcomes.

Researchers report that a student’s perceived level of self-efficacy is one factor positively impacting the effort and persistence the at-risk student applies toward participation in academic endeavors (Alfassi, 2003; Bandura, 1993; Cassel, 2003; Schunk, 1991). Finn (1993) conducts a study exploring the relationship between self-efficacy and at-risk student academic behaviors. The study's findings indicate that self-efficacy is one factor associated with increased effort and persistence on academic tasks. Additionally, Finn (1993) reports that student engagement and academic achievement are positively related even when the variables of gender, ethnicity, and socioeconomic status are controlled for. Therefore, one can conclude that self-efficacy results in positive academic behaviors which lead to higher levels educational attainment. In a second study, Finn (1993) looks specifically at at-risk youth’s behaviors and achievement. The study reports that behavior is significantly related to academic outcomes.

Schunk (1991) had similar findings. He reports that self-efficacy directly impacts the effort and persistence a student exerts toward the achievement of a task. Those with lower self-efficacy choose avoidance, while those with higher levels of self-efficacy
choose to actively participate (Schunk, 1991). These individuals exhibit behaviors of endurance which carry over into and influence their interactions with more difficult encounters. Schunk emphasizes that high self-efficacy, in and of itself, does not result in optimal performance. Rather, higher levels of self-efficacy result in behaviors which support more desired outcomes (Schunk, 1991).

Hsieh et al. (2007) support this result through their own findings. In their study, they examine student motivations toward learning. Hsieh et al. (2007) report that student behaviors involving choice of tasks, initiation, persistence, commitment, and effort are related to student achievement. Students with higher self-efficacy are more likely to persist, even when facing adversity (Hsieh et al., 2007). Whereas, students with lower self-efficacy are less likely to invest effort in performing the task (Hsieh et al., 2007). Hsieh et al. (2007) express that self-efficacy affects goal setting in three primary ways. First of all, it influences the student's desire to develop and improve his or her ability. Secondly, it concerns the student with demonstrating his or her ability. Finally, it results in a student's desire to hide any incompetency. Hsieh et al. (2007) conclude that when faced with academic demands, student behaviors play a significant role in outcomes, but self-efficacy directly affects these behaviors. Students with higher levels of self-efficacy tend to engage and persist in academic tasks which they find to be difficult leading to increased academic success (Hsieh et al., 2007).

Researchers agree that self-efficacy affects the tasks students choose to take on, the ways in which they approach these tasks, the level of effort and persistence the student applies toward a task, and as a result, impacts student success toward desired outcomes on specific endeavors (Alfassi, 2003; Betz & Hackett, 1981; Betz & Hackett, 1983; Cassel, 2003; Hsieh et al., 2007; Lent et al., 1984; Schunk, 1991). Therefore, student self-beliefs could influence student behaviors which in turn could have an effect
on student outcomes, such as academic achievement during high school, decision to pursue post-secondary education, and graduating from college. (Alfassi, 2003; Bandura, 1993; Cassel, 2003; Hsieh et al., 2007; Schunk, 1991; Zimmerman, 2000).

Research literature supports that student self-beliefs influence behaviors. Specifically, the literature indicates that higher levels of self-efficacy are associated with more positive academic behaviors (e.g., effort and persistence) associated with higher levels of performance and academic attainment. Although my analysis will not test the sequence of relationships between self-efficacy, educational expectations, and level of effort and persistence, these three factors as indicators of student self-beliefs and behaviors during high school will be included in a model of educational attainment, in addition to level of risk indicators.

Self-efficacy and academic performance and attainment

Although the presence of risk factors indicates an increased likelihood of school dropout, self-efficacy could help decrease the chances of dropout and result in higher levels of educational attainment among at-risk youth. Research literature indicates that the development of self-efficacy among at-risk youth is associated with academic success which could also increase the likelihood of pursuing post-secondary education and graduating from college (Bandura, 1993; Center for Public Education, 2007; Finn & Rock, 1997; McMillan & Reed, 1994). Studies exploring the topic of self-efficacy and its relationship with other student self-beliefs, academic behaviors, academic performance, and attainment levels among at-risk youth are necessary for determining the actual impact of self-efficacy on educational outcomes (Alfassi, 2003; Chemers et al., 2001; Hsieh et al., 2007; Kaufman et al., 1996; Schunk, 1991). As discussed in previous sections, the literature suggests that self-efficacy, educational expectations, and behaviors affect level of performance on academic measures and educational attainment.
The literature also proposes that increased self-efficacy in at-risk students is an efficient intervention as it could result in higher levels of performance among the group (Alfassi, 2003; Bandura, 1993; Chemers et al., 2001; Hsieh et al., 2007; Kaufman et al., 1996; Zimmerman, 2000).

In one study focused on self-efficacy in relation to student performance, Lucio et al. (2011) examine the impact of various factors previously identified as impacting cumulative grade point average (GPA). Their study involves student participants from three different high schools in an urban area in the southeast United States. Surveys and school records are utilized. The researchers report that when academic self-efficacy and academic engagement are present there is a higher likelihood of student academic success as measured by GPA. However, when these two factors are absent, the at-risk student is more likely to have a low GPA. Fenning and May (2013) also report an association between self-efficacy and GPA. In their study, the researchers explore the impacts of self-efficacy on high school academic performance and current academic performance among college freshmen. The results indicate that the best predictor of high school GPA is general self-efficacy, or the belief in one’s self to succeed on tasks that are not solely academic; similarly, the best predictor for the students’ current GPA as college freshmen is academic self-efficacy, specifically. These studies show that self-efficacy affects the academic performance levels of students.

In addition to specific performance measures, such as GPA, researchers also explore the association between self-efficacy and academic attainment. In their study, Kaufman et al. (1996) suggest that students from low-SES backgrounds and those with multiple risk factors present have not seen an improvement in the rates at which they drop out of school since 1980. Kaufman et al. (1996) use NELS:88 and the High School and Beyond Study (BS&B) to assess the probability of drop out between tenth and twelfth
grades by taking into account various at-risk factors while controlling for other variables. The study’s findings suggest that at-risk factors can negatively affect academic attainment, but higher levels of self-efficacy can help prevent negative outcomes (Kaufman et al., 1996).

Researchers studying at-risk youth support the need for developing student self-efficacy in order to promote higher levels of academic performance and attainment for the group (Alfassi, 2003; Cassel, 2003; Cheung & Lai, 2013; Hsieh et al., 2007; Kaufman et al., 1996; Schunk, 1991; Zimmerman, 2000). Research literature supports a primary assumption of this study that higher levels of self-efficacy are associated with higher achievement on academic performance measures and higher levels of academic attainment. To further explore this assertion, this study focuses on the relationship between self-efficacy and academic attainment to better understand the importance of self-efficacy for at-risk youth.

Developing self-efficacy in at-risk students


Bandura (1993) says that effective intellectual functioning goes beyond merely understanding factual knowledge and basic reasoning. He believes effective intellectual functioning also involves self-regulatory factors (Bandura, 1993; Bandura, 2001). Bandura (1993) states, “Among the mechanisms of agency, none is more central or pervasive than people’s beliefs about their capabilities to exercise control over their own
level of functioning and over events that affect their lives” (p. 118). Self-efficacy is an important determinant of academic and life outcomes.

Educators recognize a need for effective interventions aimed at meeting the diverse needs of the at-risk student (David, 2008; Tingle et al., 2012; Randolph, et al., 2004; Rumberger & Lim, 2008; Schonert-Reichl, 2000; West, 2012). Research literature states that interventions focused on problematic functioning and protective factors are crucial in overcoming the negative effects associated with being at-risk (Bandura, 1993; DeAngelis, 2012; Kaufman et al., 1996; Schonert-Reichl, 2000; Toglia & Berg, 2013). Bandura and Cervone (1983) suggest that the development of self-efficacy in at-risk youth can be an effective means of instilling a psychological structure which supports motivation, results in controlled behaviors aimed at goal attainment, and ultimately leads to more positive academic outcomes. This study further explores this notion by examining the relationship between self-efficacy and academic attainment in at-risk youth by age 26.

Theoretical Framework

Self-efficacy theory helps guide this study. Self-efficacy theory is based on the belief that psychological procedures serve as a means of creating and strengthening perceived self-efficacy (Bandura, 1977b). Self-efficacy determines how people feel, think, motivate themselves, and behave (Bandura, 1994). Bandura (1997) defines academic self-efficacy as the personal judgment of one’s performance capabilities.

Bandura (1977a) states that self-efficacy stems from four main sources: (1) performance accomplishments, (2) vicarious experiences provided by social models, (3) social persuasion, and (4) states of physiological arousal (Bandura, 1994). Performance accomplishments are identified as the most influential source of one’s perceived self-efficacy because they are based on one’s experiences of personal mastery (Bandura, 1977a; Bandura, 1994). However, self-efficacy can also be influenced by observing
others similar to oneself succeed in their efforts, as well as others using verbal 
persuasion to convince the person of his or her own capability to succeed (Bandura, 
1977a; Bandura, 1994). Finally, the way the individual judges his or her level of anxiety 
and vulnerability to stress also contributes to his or her perceived level of self-efficacy 
(Bandura, 1977a; Bandura, 1994). For example, individuals with higher levels of self-
efficacy interpret affective arousal as an energizing facilitator of performance, while 
individuals with low self-efficacy perceive affective arousal as a debilitation to 
performance (Bandura, 1994).

Based on this theory, Bandura (1989, 1994) notes that the development of self-
efficacy is beneficial to influencing one's motivations and actions leading to desired 
outcomes. Self-efficacy theory differentiates between outcome expectancies and efficacy 
expectancies. Bandura (1977b) notes that while outcome expectancies represent a 
person's belief that a given behavior will result in a specific outcome, efficacy 
expectations are a person's belief that they are capable of executing the behavior(s) 
which leads to the desired outcome(s) (Bandura, 1977b). Therefore, an individual's self-
efficacy affects the activities the individual chooses to engage in (Bandura, 1994). People 
with high self-efficacy approach difficult tasks as challenges for mastery versus threats to 
be avoided (Bandura, 1994). These individuals are strongly committed to challenging 
goals. They quickly recover from failure and react to setbacks with heightened effort. 
Similarly, self-efficacy also affects the individual's level of effort and persistence applied 
toward a behavior following engagement (Bandura, 1977b; Bandura & Cervone, 1983).

Developing competencies, such as self-efficacy enable people greater control of 
their circumstances (Bandura, 1977b; Bandura, 1989; Bandura, 1994). Bandura (1989) 
states:
With such skills, people are better able to provide supports and direction for their actions, to capitalize on planned or fortuitous opportunities, to resist social traps that lead down detrimental paths, and to disengage themselves from such predicaments should they become enmeshed in them. (p. 8)

Individuals with high self-efficacy attribute failure to insufficient effort on their part and/or to a lack of the knowledge and skills needed to be successful on a given task, but they view these skills as acquirable (Bandura, 1994). Therefore, efficacious individuals believe in a certain degree of control over their circumstances. However, Bandura also emphasizes the importance of social support in realizing desired outcomes (Bandura, 1989; Bandura, 1994). He states that social supports can be instrumental in overcoming obstacles and life stressors in addition to providing incentives, meaning, and worth to behaviors (Bandura, 1989).

Self-efficacy theory lends itself to the belief that educational efforts aimed at increasing student academic self-efficacy among at-risk youth would increase academic achievement for the group (Alfassi, 2003; Bandura, 1977b; Bandura, 1989; Bandura, 1993; Bandura, 1994; Bandura, 1997). Alfassi (2003) states that a student’s level of self-efficacy influences his or her academic achievements and aspirations for higher levels of educational attainment. Alfassi (2003) goes on to say that the higher the student’s level of self-efficacy, the greater their effort, persistence, and resilience when facing at-risk factors. Therefore, high self-efficacy is a significant indicator of overall effort and persistence, as well as higher academic achievement.

In conclusion, this study is informed by Bandura’s (1994) self-efficacy theory that puts forward the idea that self-efficacy, defined as one’s belief in his or her capabilities to produce effects, provides a crucial component for academic success and further educational attainment (Alfassi, 2003). Other research involving self-efficacy and/or self-
efficacy theory is also useful in guiding this study by focusing on additional concepts, such as effort and persistence and educational expectations that could contribute to higher educational attainment (Alfassi, 2003).

Chapter Summary

In summary, this chapter examines research on the various effects at-risk factors have on student academic outcomes. The literature review addresses each of the six characteristics used by ELS:2002 to define at-risk youth. These at-risk factors have the tendency to multiply within the lives of at-risk youth. Oftentimes, the presence of any one of these risk factors indicates the presence of others. At-risk factors can affect student academic self-beliefs and behaviors, as well as attainment. These factors have the tendency to result in negative academic and life outcomes in at-risk youth. Specifically, at-risk students are at greater risk for dropping out of school.

However, research shows that protective factors, which also carry the potential to multiply, can help to alleviate and overcome the negative effects associated with being at risk. The empirical evidence suggests that higher levels of self-efficacy result in post-secondary pursuance and degree attainment. The literature suggests that high educational expectations also result in greater academic performance and attainment. Students with higher levels of self-efficacy take on more rigorous academic tasks and believe in their own ability to succeed and achieve. However, research literature does not provide much on the topics of academic self-efficacy and level of risk or at-risk student self-beliefs and specific levels of educational attainment. Therefore, this study further explores the relationships among self-efficacy and level of risk and student self-beliefs and educational attainment among at-risk youth with Bandura’s (1977a, 1994) self-efficacy theory serving as a conceptual framework. This study contributes to this topic by exploring the impacts of academic self-efficacy (i.e., English and math self-efficacy), level
of risk (i.e., number of at-risk factors identified for the student in grade 10), level of academic effort and persistence applied during high school, and the student's educational expectations on the actual level of educational attainment by age 26 in at-risk youth.
Chapter 3

Research Methods

Study Purpose and Research Questions

This study is based on the assumption that higher levels of academic self-efficacy during high school result in higher levels of educational attainment in at-risk youth by age 26. In this study, I also put forward that the number of at-risk factors identified in high school, which indicate various levels of hardship, may affect students' self-beliefs (e.g., self-efficacy, educational expectations) and educational attainment. An additional factor that describes students' behaviors (e.g., academic effort and persistence) is employed in the literature to predict educational attainment. Therefore, the purpose of the study is to examine the profiles of at-risk youth in a nationally representative sample to better understand how a variety of individual characteristics influence the development of self-efficacy during high school potentially leading to higher levels of educational attainment by age 26 in at-risk youth. The study employs data from ELS:2002 and includes several variables, such as socio-demographic factors, self-efficacy as it relates to English and math, student educational expectations, and student self-reported level of academic effort and persistence, the number of risk factors present, and educational attainment. The study addresses the following research questions:

1. Are there differences in the profiles of at-risk high school students who have varying levels of risk, in terms of socio-demographic factors (i.e., gender, race/ethnicity, SES) and educational expectations?
2. How are English and math self-efficacy levels influenced by level of risk (i.e., number of at-risk factors identified for the student in grade 10)?
3. What is the relative contribution of socio-demographic factors (i.e., gender, race/ethnicity, SES), academic self-efficacy (i.e., English and math self-efficacy),
level of risk (i.e., number of at-risk factors identified for the student in grade 10),
level of academic effort and persistence applied during high school, and
educational expectations on the actual level of educational attainment by age 26
in at-risk youth?

The conceptual model that shapes the analysis includes constructs classified as
individual characteristics (i.e., gender, race/ethnicity, SES, level of risk), student
academic self-beliefs (i.e., English and math self-efficacy and student educational
expectations) and behaviors (i.e., level of academic effort and persistence) in tenth
grade, and student outcomes. The study focuses on a long-term outcome: educational
attainment by age 26 in at-risk youth. The model is based on the assumption that student
academic beliefs (particularly self-efficacy) and behaviors are crucial in determining the
outcome that is also affected by individual characteristics (i.e., socio-demographic factors
and level of risk to which the student has been exposed by age 16). This conceptual
model is used to introduce the detailed information on variables and guides the research
design to address the study’s research questions.

Data

ELS:2002 is a nationally representative, longitudinal study of students enrolled in
tenth grade in 2002. The students interviewed in 2002 are tracked throughout their
secondary and post-secondary years. Academic information is also collected from
student English and math assessments, as well as high school transcripts. In 2002, data
was collected from the students, their parents, teachers, and administrators.

The information contained in ELS:2002 is collected in several waves between
2002 and 2012. The base year (BY) for the study is 2002. The first follow-up (F1), when
most students were in twelfth grade, is 2004. The second follow-up (F2) is 2006, and the
third follow-up (F3) is 2012. The information required for this study is available in publicly
available data, so access to restricted-use files is not necessary. This current study uses data from two ELS waves, 2002 and 2012, although, some socio-demographic data is also consolidated with information from the 2004 follow-up survey.

Research Sample

This study’s research sample is extracted from the ELS:2002 nationally representative sample and consists of students who have been reported as being at risk in grade 10 and present at least one at-risk factor. Considering the study’s research design (Table 3.1), I first select students who participated in both base year (2002) and third follow-up (2012) surveys, which corresponds to \(n=11,966\) of the \(N=16,197\) ELS respondents. The statistics show that of the \(n=11,966\) youth in ELS:2002, \(n=4,037\) met the criteria for inclusion in this study’s research sample, having been reported at risk by grade 10. Since, the Native American students represent a small group which consists of \(n=35\) individuals, I eliminate them from the research sample to avoid singularities in the regression models. Therefore, this study’s final research sample consists of \(n=4,002\) individuals. The final research sample includes only valid cases, or those cases with no missing information on all variables of interest.

Following suggestions from the literature, I put forward that it is important to differentiate the at-risk subsamples by different levels of risk. The study’s research sample encompasses 2,371 participants with one risk factor present (i.e., labeled in this study as low risk). There are 1,048 with two risk factors present (i.e., medium risk). Finally, there are 583 participants with three to six risk factors present (i.e., high risk).

The distribution of the research sample across socio-demographic categories leads to large enough groups (e.g., smallest subsample of about 200 for the Multiracial, non-Hispanic group). The research sample has 55.6% female and 44.4% male respondents. The research sample consists of 55.6% White, non-Hispanics, 16.6%
Hispanics, 13.7% African Americans, 8.8% Asians, and 5.2% Multiracial, non-Hispanics (i.e., more than one race). When looking at SES, those participants categorized in the lowest quartile consist of 27% of the study sample. There are 23.3% in the second quartile, 24.2% in the third quartile, and 25.5% within the highest SES quartile.

Rationale for Using ELS Data

Students exposed to risk factors are at higher risk for dropping out of high school and not pursuing college education. These at-risk qualifiers (often identified by federal and/or state agencies) encompass a wide range of eligibilities sometimes resulting in ineffective interventions as educators attempt to intervene for the group as a whole without addressing individual at-risk factors. For practical reasons related to availability of resources, I am not advocating for a plethora of particular interventions for at-risk students which would likely be unrealistic. However, it is my belief that interventions aiming at developing academic self-efficacy could impact the group as a whole regardless of the reason(s) why the student was classified as being at risk. If for practical reasons educators have to continue with a 'one size fits all' mindset, research exploring self-efficacy in at-risk youth offers at least a possible solution and helps to determine if the cultivation of self-efficacy in at-risk youth could serve as an effective intervention strategy for the group as a whole.

ELS:2002 offers good data for the purposes of this study because it provides a large nationally representative research sample, and it includes a variable that identifies ‘at risk’ students based on a broad set of criteria. ELS:2002 contains information on the number of at-risk factors which permits to test the assumption that different levels of risk may affect outcomes. Also, ELS:2002 collects its data in waves from 2002, when these students were in grade 10 (i.e., age 16), through 2012 (i.e., age 26) providing data on the post-secondary pathways experienced by at-risk youth. This allows the researcher to
explore the profiles of a nationally representative sample of at-risk youth while analyzing
the various post-secondary pathways of at-risk youth from a life course perspective.

Research Design

Variables and Constructs

Several ELS:2002 variables are selected and prepared for this study. Indicators
of survey waves are included in variable labels as BY (2002 survey), F1 (first follow-up
survey), F3 (third follow-up survey). As shown in Table 3.1, the variable BYRISKFC is
employed to select only students for whom at least one at-risk factor was identified. Other
variables (F3BYTSCWT) are employed to limit the sample to only respondents of both
the base year (BY) and third follow-up (F3) surveys. In addition, the survey weights
(F3QWT) are used to compute normalized weights (i.e., that preserve the proportions in
the population and the size of the sample) which will be used in all statistical analyses.

<table>
<thead>
<tr>
<th>Variable/Construct Name</th>
<th>Type</th>
<th>Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Identified At Risk in Tenth Grade (BYRISKFC)</td>
<td>Categorical</td>
<td>0=No risk factor (Not selected) 1=At least one risk factor</td>
</tr>
<tr>
<td>Student Completed BY and F3 Surveys (F3BYTSCWT)</td>
<td>Categorical</td>
<td>0=Did not complete 1=Completed BY and F3</td>
</tr>
<tr>
<td>Survey Weight (F3QWT)</td>
<td>Continuous variable</td>
<td>Used to derive normalized weights</td>
</tr>
</tbody>
</table>

Table 3.2 shows the variables and constructs employed in the analysis. Among
the individual characteristics, I include socio-demographic factors namely three
categorical variables of gender (F1SEX), race/ethnicity (F1RACE), and SES
(F1SES1QU). These variables are selected from the first follow-up survey (but compared
to the base year) to ensure complete and reliable information. In addition, academic risk
in tenth grade (BYRISKFC) is used in the analysis as a categorical variable to measure
the level of risk. I classify survey respondents with one risk factor present and two risk factors present as low risk and medium risk, respectively, as these groups encompass large enough numbers. However, I choose to categorize all survey respondents with 3-6 risk factors present as high risk because these groups do not have large enough numbers to be considered separately and do not present significant differences when compared across various other variables.

Table 3-2 Variables and Constructs

<table>
<thead>
<tr>
<th>Variable/Construct Name</th>
<th>Type</th>
<th>Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Individual Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of Risk (BYRISKFC)</td>
<td>Categorical 3-category variable</td>
<td>1=High Risk (3-6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2=Medium Risk (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3=Low Risk (1)</td>
</tr>
<tr>
<td>Gender (F1SEX)</td>
<td>Categorical 2-category variable</td>
<td>0=Female</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1=Male</td>
</tr>
<tr>
<td>Race/Ethnicity (F1RACE)</td>
<td>Categorical 5-category variable</td>
<td>1=Asian/Hawaii/Pac. Islander</td>
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<tr>
<td></td>
<td></td>
<td>2=Black/African American</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3=Hispanic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4=Multiracial, non-Hispanic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5=White, non-Hispanic</td>
</tr>
<tr>
<td>SES (F1SES1QU)</td>
<td>Categorical 4-category variable</td>
<td>1=First quartile (lowest)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2=Second quartile</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3=Third quartile</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4=Fourth quartile (highest)</td>
</tr>
<tr>
<td><strong>Student Academic Self-Beliefs and Behaviors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English Self-Efficacy Scale (DERIVED)</td>
<td>Continuous (scale 1-4)</td>
<td>Mean score based on 5 survey items (BYS89C, BYS89F, BYS89I, BYS89K, BYS89M):</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• I'm certain I can understand the most difficult material presented in my English texts.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• I'm confident I can understand the most complex material presented by my English teacher.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• I'm confident I can do an excellent job on my English assignments.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• I'm certain I can master the skills being taught in my English class.</td>
</tr>
</tbody>
</table>
| Math Self-Efficacy Scale (DERIVED) | Continuous (scale 1-4) | Mean score based on 5 survey items (BYS89A, BYS89B, BYS89L, BYS89R, BYS89U):  
• I'm certain I can understand the most difficult material presented in my math texts.  
• I'm confident I can understand the most complex material presented by my math teacher.  
• I'm confident I can do an excellent job on my math assignments.  
• I'm confident I can do an excellent job on my math tests.  
• I'm certain I can master the skills being taught in my math class. |
|----------------------------------|------------------------|--------------------------------------------------------------------------------|
| Student Educational Expectations in Tenth Grade (BYSTEXP) | Categorical 3-category variable (original categories are aggregated) | 1=High School or Below  
2=Some Post-Secondary Education (Incomplete/Undergraduate certificate/Associate’s degree)  
3=College Graduation (Bachelor’s degree or above) |
| Student Self-Reported Level of Academic Effort and Persistence (DERIVED) | Continuous (scale 1-4) | Mean score based on 5 survey items (BYS89G, BYS89J, BYS89O, BYS89S, BYS89V): When studying...  
• I make sure that I remember the most important things.  
• I try to work as hard as possible.  
• I keep working even if the material is difficult.  
• I try to do the best to acquire the knowledge and skills taught  
• I put forth my best effort. |
| Outcome |  |  |
| Highest Level of Educational Attainment Earned as of F3 (F3ATTAINMENT) | Categorical 3-category variable (original categories are aggregated) | 1=High School or Below  
2=Some Post-Secondary Education (Incomplete/Undergraduate certificate/Associate’s degree)  
3=College Graduation (Bachelor’s degree or above) |

Then, the database is used to derive composite scores for self-reported level of student self-efficacy in English (i.e., survey items BYS89C, BYS89F, BYS89I, BYS89K, BYS89M) and in math (i.e., survey items BYS89A, BYS89B, BYS89L, BYS89R,
BYS89U). The selection of survey items for these two scales follows the ELS:2002 codebook (i.e., I will not perform any factor analysis to identify the items) which also indicates high reliabilities for both scales (i.e., alpha Cronbach over 0.9 is reported in ELS documentation). I conduct reliability analysis tests to obtain the Cronbach’s alphas for the English and math self-efficacy scales with my research sample, and I obtain .926 and .931, respectively, indicating high reliability for both scales. I then derive new variables defined as mean scores based on the five items in each self-efficacy scale, which are continuous variables ranging from 1 to 4.

The variable describing student’s educational expectations in grade 10 (BYSTEXP) has very detailed categories, so I propose to recode some categories and aggregate them into a 3-category variable: High School or Below (i.e., Less than high school graduation or High school graduate/GED only), Some Post-Secondary Education (i.e., Don’t know, Attend/complete a 2-year college, Attend college but not complete a 4-year degree), or College Graduation (i.e., Graduate from college or Obtain a graduate degree).

The student’s self-reported level of academic effort and persistence is based again on survey items (i.e., BYS89G, BYS89J, BYS89O, BYS89S, BYS89V) identified for this scale in the ELS:2002 codebook (i.e., I will not perform any factor analysis to identify the items) which also indicates high alpha Cronbach for the scale reliability. I first compute a Cronbach’s alpha of .887 for the academic effort and persistence scale for my sample. I then derive a new variable defined as mean scores based on five items leading to a continuous variable ranging from 1 to 4.

Finally, I consider one main outcome (dependent) variable. The information on student’s highest level of educational attainment as of the third follow-up (F3ATTAINMENT) is used to derive a 3-category variable (i.e., High School or Below,
Some Post-Secondary Education, College Graduation) obtained again through recoding and aggregating categories of the ELS variable. The category ‘High School or Below’ indicates no post-secondary attendance with or without a high school credential. The category ‘Some Post-Secondary Education’ indicates some post-secondary attendance with no post-secondary certificate, an undergraduate certificate, or an associate’s degree completed. The category ‘College Graduation’ indicates a Bachelor’s degree or higher level of graduate degrees completed. The study uses the student’s highest level of educational attainment as of the third follow-up survey as it corresponds with the student at age 26. The first follow-up (2004) survey places the student at age 18 which typically corresponds with high school graduation. The second follow-up (2006) survey places the youth at age 20 which would not provide the best indication of overall attainment as most 20-year-olds would not have yet graduated with a 4-year degree. Therefore, the third follow-up (2012) when the individual is at age 26 provides the best indication of highest level of overall educational attainment.

Statistical Procedures

In order to address the study’s research questions, several statistical procedures are utilized. These procedures include cross-tabulations and chi-square tests for analysis of categorical data, descriptive statistics and ANOVA for continuous variables, and multinomial logistic regression to predict the educational attainment outcome.

The purpose of a cross-tabulation is to show a distribution of cases (counts and percentages) across the categories of two variables (Gall, Gall, & Borg, 2003). A cross-tabulation is used to explore the study’s categorical data and discuss student profiles. For instance, the cross-tabulation of level of risk by gender displays the proportions of male and female students within each category describing the number of at-risk factors, which indicates if there are any gender differences. The chi-square test is then used to infer
whether there is an association between the two categorical variables (i.e., gender and level of risk). In this study, the chi-square tests are used to determine whether there is a significant association between the level of risk and either gender, race/ethnicity, SES, or educational expectations.

Descriptive statistics provide information on the mean, median, mode, variance, and standard deviation of continuous variables such as English self-efficacy and math self-efficacy. Then, one-way analysis of variance (ANOVA) technique is used to compare means of continuous variables among two or more samples using the F-distribution (Bluman, 2012; Gall et al., 2003). For instance, to explore mean differences among at-risk groups, ANOVA tests are performed to find whether the differences between means (e.g., English self-efficacy and math self-efficacy) by the level of risk (i.e., low risk, medium risk, high risk), are statistically significant (Bluman, 2012; Gall et al., 2003).

Finally, multinomial logistic regression is used to predict the different outcomes of a categorical dependent variable with more than two categories when given a set of independent variables (Bluman, 2012; Gall et al., 2003). A multinomial logistic regression predicts the likelihood of the different outcomes for educational attainment (3-category variable) when gender, race/ethnicity, SES, English self-efficacy, math self-efficacy, level of risk, level of academic effort and persistence, and educational expectations are included in the model.

Levene’s Test for Equality of Variances is ran to assess if variables English and math self-efficacy have equal variances for the risk groups. The Levene’s test and the assumption of normality for the dependent variables (i.e., English and math self-efficacy) are explored prior to using ANOVA tests. A corrected version of the F-ratio (Welch’s F test) is used if the Levene’s test is violated (Field, 2013).
Research Plan

Table 3.3 shows the detailed research plan to address the three research questions guiding this study. For each research question, the table shows the set of variables and the statistical procedures employed.

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Variables</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ1</td>
<td>Level of Risk, Gender, Race/Ethnicity, SES, Educational Expectations</td>
<td>Cross-tabulations &amp; Chi-square tests (p&lt;.05)</td>
</tr>
<tr>
<td>RQ2</td>
<td>English Self-Efficacy &amp; Math Self-Efficacy, Level of Risk</td>
<td>Descriptive statistics &amp; ANOVA tests (p&lt;.05)</td>
</tr>
<tr>
<td>RQ3</td>
<td>Educational Attainment, Gender, Race/Ethnicity, SES, English Self-Efficacy, Math Self-Efficacy, Level of Risk, Level of Academic Effort &amp; Persistence, Educational Expectations</td>
<td>Descriptive statistics &amp; Multinomial logistic regression (odds ratios)</td>
</tr>
</tbody>
</table>

In order to address the first research question, I create the respondents' profiles of students by level of risk for each of the three socio-demographic factors and educational expectations. All variables are categorical. Chi-square tests are used to examine if there is any significant association between the level of risk and gender, race/ethnicity, SES, and educational expectations (a statistical significant result is attained for a $p$-value less than .05).

Next, I employ descriptive statistics to determine the means and standard deviations for English self-efficacy and math self-efficacy. Then, I utilize ANOVA tests to compare the differences between the means of English and math self-efficacies by level of risk (statistically significant mean differences correspond to a $p$-value less than .05).
Finally, I run one multinomial regression model in which socio-demographic factors (i.e., gender, race/ethnicity, SES), English and math self-efficacies, level of risk, level of academic effort and persistence, and educational expectations are tested as predictors of educational attainment by age 26. Results for the multinomial logistic regression model are presented in terms of odds ratios.

*Ethics*

I sought Institutional Review Board (IRB) approval for this study through the University of Texas at Arlington (UTA) in May 2015. The UTA Office of Research and Regulatory Services communicates that only studies which qualify as human subject research by the definition provided by federal guidelines are reviewed and approved. This study does not qualify as human subject research, as it uses data which is publicly available with no expectations of privacy. Therefore, the federal regulations do not apply, and the IRB has no jurisdiction for this study. Appendix A includes the exemption letter provided by the UTA Office of Research Administration Regulatory Services.
Chapter 4

Findings

This chapter presents the study’s findings. The Statistical Package for the Social Sciences (SPSS) 20.0 is used to conduct the data analysis for each of the study’s three research questions. Before addressing the research questions, the chapter presents a profile of at-risk students in the research sample. Then, I use cross-tabulations to explore the distributions within groups of varying levels of risk by gender, race/ethnicity, SES, and educational expectations in grade 10. I also employ chi-square tests to examine whether there is any significant association between the level of risk and gender, race/ethnicity, SES, or student educational expectations. Second, I employ descriptive statistics to obtain the mean and standard deviation of English self-efficacy and math self-efficacy by level of risk groups. ANOVA tests are then ran to determine whether the differences between group means are statistically significant. Finally, a multinomial logistic regression predicts the likelihood of the different outcomes for educational attainment (i.e., High School or Below, Some Post-Secondary Education, College Graduation) when gender, race/ethnicity, SES, English self-efficacy, math self-efficacy, level of risk, level of academic effort and persistence, and educational expectations are included in the model.

Profile of At-Risk Students

First, I provide frequency tables of the individual characteristics and student educational expectations for the study’s research sample compared to the nationally representative ELS sample. I am interested to explore whether the profiles of the at-risk student sub-population are noticeably different from the entire student population. Table 4.1 shows that the sample of at-risk youth includes a higher proportion of female students compared to the ELS representative sample (54% versus 51% in the ELS sample), a slightly higher proportion of Hispanics (18% versus 16%), and a higher proportion of
students from the lowest SES group (30% versus 25%). Yet, despite their at-risk circumstances and socio-demographic differences, at-risk youth have similar educational expectations compared to the ELS sample, and 72% of the at-risk students aim to obtain a college degree (i.e., College Graduation).

Table 4-1 Socio-Demographic Factors and Educational Expectations

<table>
<thead>
<tr>
<th>Variables</th>
<th>Research sample</th>
<th>ELS:2002</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent (%)</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>2165</td>
<td>54</td>
</tr>
<tr>
<td>Male</td>
<td>1838</td>
<td>46</td>
</tr>
<tr>
<td><strong>Race/Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian/Hawaii/Pac. Islander</td>
<td>142</td>
<td>4</td>
</tr>
<tr>
<td>Black/African American</td>
<td>584</td>
<td>15</td>
</tr>
<tr>
<td>Hispanic</td>
<td>720</td>
<td>18</td>
</tr>
<tr>
<td>Multiracial, non-Hispanic</td>
<td>190</td>
<td>5</td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>2365</td>
<td>59</td>
</tr>
<tr>
<td><strong>SES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Quartile (lowest)</td>
<td>1185</td>
<td>30</td>
</tr>
<tr>
<td>Second Quartile</td>
<td>969</td>
<td>24</td>
</tr>
<tr>
<td>Third Quartile</td>
<td>999</td>
<td>25</td>
</tr>
<tr>
<td>Fourth Quartile (highest)</td>
<td>850</td>
<td>21</td>
</tr>
<tr>
<td><strong>Student Education Expectations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School or Below</td>
<td>319</td>
<td>8</td>
</tr>
<tr>
<td>Some Post-Secondary</td>
<td>805</td>
<td>20</td>
</tr>
<tr>
<td>Education</td>
<td>2876</td>
<td>72</td>
</tr>
<tr>
<td>College Graduation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALL</td>
<td>4002</td>
<td>100</td>
</tr>
</tbody>
</table>

Second, the assertion of this study is that the level of risk present matters. All study participants carry some level of risk. In Table 4.2, those students described as at 'low risk' for school dropout had one risk factor present during high school. Students described as at ‘medium risk’ for school dropout had two risk factors, and students described as at ‘high risk’ for school dropout had three to six risk factors present. Table 4.2 presents the counts and percentages for varying levels of risk within the research sample. The results indicate that the majority of at-risk youth fall within the low-risk category accounting for 58% of the study sample. Students of medium risk account for
26% of the study’s sample, and those students with the most risk comprise only 16% of the study sample.

Table 4-2 Level of Risk (Number of At-Risk Factors)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Risk (1)</td>
<td>2319</td>
<td>58</td>
</tr>
<tr>
<td>Medium Risk (2)</td>
<td>1050</td>
<td>26</td>
</tr>
<tr>
<td>High Risk (3-6)</td>
<td>634</td>
<td>16</td>
</tr>
<tr>
<td><strong>ALL</strong></td>
<td>4002</td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Research Question 1

Are there differences in the profiles of at-risk high school students who have varying levels of risk, in terms of socio-demographic factors (i.e., gender, race/ethnicity, SES) and educational expectations?

Level of Risk Profiles

Table 4.3 presents in columns two to four the counts and percentages of at-risk students within each level of risk group (i.e., number of risk factors) for each category of socio-demographic factors and student educational expectations. Significance of chi-square tests of association between the level of risk and each socio-demographic factors and between the level of risk and student educational expectations in grade 10 are shown in the first column near the variable name. If $p<.05$, I conclude that there is a statistically significant association among variables. The fourth column provides percent of the research sample for each category of socio-demographic and educational expectations variables to compare with the column percent within each level of risk group.
Gender

As compared to their proportion in the research sample (54%), female students are more likely to be in the medium (56%) and high (57%) risk groups. The association between gender and the level of risk is statistically significant \( (p = .041) \) as indicated by the chi-square test (Table B1).

Table 4-3 Level of Risk by Socio-Demographic Factors and Student Educational Expectations (Counts/Column %)

<table>
<thead>
<tr>
<th>Variables/categories</th>
<th>Low Risk (1)</th>
<th>Medium Risk (2)</th>
<th>High Risk (3-6)</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender (*)(^a)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1215 (52%)</td>
<td>591 (56%)</td>
<td>359 (57%)</td>
<td>54%</td>
</tr>
<tr>
<td>Male</td>
<td>1104 (48%)</td>
<td>459 (44%)</td>
<td>275 (43%)</td>
<td>46%</td>
</tr>
<tr>
<td><strong>Race/Ethnicity (</strong>*(^a)**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian/Hawaii/Pac. Islander</td>
<td>86 (4%)</td>
<td>36 (3%)</td>
<td>20 (3%)</td>
<td>4%</td>
</tr>
<tr>
<td>Black/African American</td>
<td>355 (15%)</td>
<td>211 (20%)</td>
<td>154 (24%)</td>
<td>18%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>109 (5%)</td>
<td>46 (4%)</td>
<td>35 (6%)</td>
<td>5%</td>
</tr>
<tr>
<td>Multiracial, non-Hispanic White</td>
<td>1532 (66%)</td>
<td>573 (55%)</td>
<td>260 (41%)</td>
<td>59%</td>
</tr>
<tr>
<td><strong>SES (</strong>*(^a)**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Quartile (lowest)</td>
<td>420 (18%)</td>
<td>388 (37%)</td>
<td>377 (60%)</td>
<td>30%</td>
</tr>
<tr>
<td>Second Quartile</td>
<td>539 (23%)</td>
<td>268 (26%)</td>
<td>162 (26%)</td>
<td>24%</td>
</tr>
<tr>
<td>Third Quartile</td>
<td>695 (30%)</td>
<td>238 (23%)</td>
<td>66 (10%)</td>
<td>25%</td>
</tr>
<tr>
<td>Fourth Quartile (highest)</td>
<td>665 (29%)</td>
<td>156 (15%)</td>
<td>29 (5%)</td>
<td>21%</td>
</tr>
<tr>
<td><strong>Student Educational Expectations (</strong>*(^a)**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School or Below</td>
<td>131 (6%)</td>
<td>104 (10%)</td>
<td>82 (13%)</td>
<td>8%</td>
</tr>
<tr>
<td>Some Post-Secondary</td>
<td>401 (17%)</td>
<td>221 (21%)</td>
<td>183 (29%)</td>
<td>20%</td>
</tr>
<tr>
<td>Education</td>
<td>1784 (77%)</td>
<td>724 (69%)</td>
<td>368 (58%)</td>
<td>72%</td>
</tr>
<tr>
<td><strong>ALL</strong></td>
<td>2319 (58%)</td>
<td>1050 (26%)</td>
<td>634 (16%)</td>
<td>4002</td>
</tr>
</tbody>
</table>

\(^a\) Significance of chi-square tests of association: *\(p < .05\) **\(p < .01\) ***\(p < .001\)

Race/ethnicity

Asian/Hawaii/Pac. Islanders, as well as Multiracial, non-Hispanic groups have nearly equal representation in each of the three risk groups. There are notable differences compared to the representation in the sample for the other three racial/ethnic
groups. For Black/African American and Hispanic groups, there is an increase in proportions within each level of risk group as the level of risk increases from low to high, whereas White, non-Hispanic students’ proportions decrease as the level of risk increases. For example, there are 10% Black/African American students represented in the lowest risk group and 26% in the highest risk group, compared to 15% in the research sample. There are 15% Hispanic students falling within the lowest risk group and 24% within the highest risk group, compared to 18% in the research sample. Whereas, White, non-Hispanic students have 66% in the lowest risk group and 41% within the highest risk category, compared to 59% in the research sample. The association between race/ethnicity and level of risk is statistically significant ($p=.000$) as indicated by the chi-square test of association (Table B1).

Socio-economic status

In the medium and high-risk categories, percentages are highest in the first quartile (the lowest SES category). As compared to their proportion in the research sample (30%), students in the lowest SES quartile are more likely to be in the medium (37%) and high (60%) risk groups. The second quartile distributions are quite similar regardless of the level of risk present. The third quartile and the fourth quartile (the highest SES category) see their proportions steadily decline as the level of risk increases. As compared to their proportion in the research sample (21%), students in the highest SES quartile are more likely to be in the low risk group (29%) and least likely (5%) to be in the high-risk group. The association between SES and level of risk is statistically significant ($p=.000$) as indicated by the chi-square test of association (Table B1).

Student educational expectations

Notably, regardless of the level of risk present, the majority of at-risk students (72%) report ‘College Graduation’ as their highest educational expectations. For the ‘High
School or Below’ and ‘Some Post-Secondary Education’ expectations categories, there is an increase in proportions as the level of risk increases from low to high, whereas for the ‘College Graduation’ category, there is a decrease in proportions as the level of risk increases. For instance, the proportions of students with ‘High School or Below’ expectations are 6%, 10%, and 13% when level of risk increases, as compared to 8% in the sample. The proportions of students with ‘Some Post-Secondary Education’ expectations are 17%, 21%, and 29% when level of risk increases, as compared to 20% in the sample. On the contrary, the proportions of students with ‘College Graduation’ expectations are 77%, 69%, and 58% when level of risk increases, as compared to 72% in the sample. The association between student educational expectations and level of risk is statistically significant ($p=.000$) as indicated by the chi-square test (Table B1).

Summary of Findings

Female students are more likely than male students to exhibit higher levels of risk. Similarly, higher levels of risk are found among Black/African American and Hispanic students. Not surprisingly, students within the lowest SES quartile have a higher percentage of high-risk students, while students in the highest two SES quartiles are less likely to show a high level of risk. It is worth noting that the overwhelming majority of at-risk students report ‘College Graduation’ as their highest educational expectations although those exposed to a larger number of at-risk factors are more likely to report educational expectations of ‘High School or Below’ or ‘Some Post-Secondary Education.’ All chi-square tests of association between the number of at-risk factors and the other variables are statistically significant (see Table B1 for more details). In conclusion, the results indicate there is a relationship between level of risk and socio-demographic factors and student educational expectations.
Research Question 2

How are English and math self-efficacy levels influenced by level of risk (i.e., number of at-risk factors identified for the student in grade 10)?

Self-Efficacy and Level of Risk

Table 4.4 presents the means and standard deviations of English self-efficacy and math self-efficacy for the research sample as a whole, as well as for each of the three risk level groups. The results suggest that at-risk students tend to have a greater belief in their ability to perform in English (i.e., mean score of 2.73) compared to math (i.e., mean score of 2.50).

Table 4-4 English and Math Self-Efficacies Composite Scores by Level of Risk

<table>
<thead>
<tr>
<th>Level of Risk</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>English self-efficacy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Risk (1)</td>
<td>2318</td>
<td>2.79</td>
<td>.79</td>
</tr>
<tr>
<td>Medium Risk (2)</td>
<td>1050</td>
<td>2.68</td>
<td>.78</td>
</tr>
<tr>
<td>High Risk (3-6)</td>
<td>634</td>
<td>2.58</td>
<td>.81</td>
</tr>
<tr>
<td>Total</td>
<td>4002</td>
<td>2.73</td>
<td>.80</td>
</tr>
<tr>
<td>Math self-efficacy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Risk (1)</td>
<td>2318</td>
<td>2.57</td>
<td>.85</td>
</tr>
<tr>
<td>Medium Risk (2)</td>
<td>1050</td>
<td>2.44</td>
<td>.79</td>
</tr>
<tr>
<td>High Risk (3-6)</td>
<td>634</td>
<td>2.36</td>
<td>.81</td>
</tr>
<tr>
<td>Total</td>
<td>4002</td>
<td>2.50</td>
<td>.83</td>
</tr>
</tbody>
</table>

To compare self-efficacy among the level of risk groups, one can first examine the group means. ANOVA tests are then ran to determine whether there is statistically significant difference between the self-efficacy means among the varying level of risk groups. A p-value of p>.05 indicates there is no statistically significant difference between group means, whereas a p-value of p<.05 indicates a statistically significant difference between group means.

The validity of each ANOVA test is also discussed in terms of normality and homogeneity of variances. I first assess graphically the normality of the data for each
dependent variable (i.e., English and math self-efficacy) across the three risk groups using Normal Q-Q Plots to examine whether data points are close to a diagonal line. The Normal Q-Q Plots are fairly linear for both dependent variables across risk level groups. I further check the Levene’s Test for Equality of Variances, prior to conducting the one-way ANOVA tests. If variances are significantly different ($p<.05$ for the Levene’s test), a corrected version of the F-ratio is recommended, such as Welch’s F test (Field, 2013). Finally, if the ANOVA test is significant, a post-hoc comparison is ran to identify which group means are different (e.g., Scheffé test which is more conservative, so less likely to reject the null hypothesis of equal means).

English self-efficacy

The study first looks at English self-efficacy to determine if the number of risk factors present matters. Results in Table 4.4 indicate that participants in the low-risk group ($M=2.79$, $SD=.79$) report higher levels of English self-efficacy than participants in the medium ($M=2.68$, $SD=.78$) and high ($M=2.58$, $SD=.81$) risk categories. According to Levene’s Test for Equality of Variances (Table B2), $p=.593$ ($p>.05$) which means the ANOVA assumption regarding equal variances is met. ANOVA test is ran to determine if the observed differences are statistically significant. Table B3 shows that $F(2, 3998) = 19.057$, $p =.000$ which means there are differences between means. Post-hoc comparisons (details not reported) show there are significant differences in means among all risk groups at the 0.05 alpha level.

Math self-efficacy

The impact of number of risk factors on math self-efficacy yields similar results in terms of effect of level of risk on self-efficacy. Descriptive statistics indicate participants in the low-risk group ($M=2.57$, $SD=.85$) report higher levels of math self-efficacy than participants in the medium ($M=2.44$, $SD=.79$) and the high ($M=2.36$, $SD=.81$) risk
categories. One problem is that according to Levene’s Test for Equality of Variances (Table B2), \( p = .000 \) (\( p < .05 \)) which means the ANOVA assumption regarding equal variances is violated. As a result, I propose to use the Welch’s adjusted \( F \)-ratio which is recommended by Field (2013) and yields statistical significance at the .05 alpha level:

Welch’s \( F(2, 1591.77) = 20.08, p = .000 \). Post-hoc comparisons (details not reported) show there are significant differences in means among risk groups at the 0.05 alpha level only between the low-risk group and the other two, while the medium and high-risk groups have comparable math self-efficacy means.

**Summary of Findings**

For all risk level groups, English self-efficacy is higher than math self-efficacy. In addition, the means for both English and math self-efficacy decrease as the level of risk increases. Inferential tests show statistically significant differences among the means of English and math self-efficacy by risk level groups. In conclusion, the results indicate there is a relationship between level of risk and student English and math self-efficacies.

**Research Question 3**

What is the relative contribution of socio-demographic factors (i.e., gender, race/ethnicity, SES), academic self-efficacy (i.e., English and math self-efficacy), level of risk (i.e., number of at-risk factors identified for the student in grade 10), level of academic effort and persistence applied during high school, and educational expectations on the actual level of educational attainment by age 26 in at-risk youth?

**Educational Attainment**

Table 4.5 shows the highest level of educational attainment achieved by study participants by age 26. The last two columns compare the percentages of educational attainment for the at-risk research sample and the ELS:2002 sample.
Table 4-5 Highest Level of Educational Attainment by Age 26

<table>
<thead>
<tr>
<th>Level of Educational Attainment</th>
<th>Research sample</th>
<th>ELS:2002</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent (%)</td>
</tr>
<tr>
<td>High School or Below</td>
<td>543</td>
<td>13.6</td>
</tr>
<tr>
<td>Some Post-Secondary Education (Incomplete/ Undergraduate certificate/ Associate’s degree)</td>
<td>2090</td>
<td>52.2</td>
</tr>
<tr>
<td>College Graduation (Bachelor’s degree or above)</td>
<td>1369</td>
<td>34.2</td>
</tr>
<tr>
<td><strong>ALL</strong></td>
<td><strong>4002</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

The results suggest that the majority of at-risk youth (86%) receive some post-secondary education, completing or not a degree by age 26. While 52% either do not complete their degree or achieve a lesser degree than a Bachelor’s, 34% of the at-risk students completed a Bachelor’s degree or more by age 26. When comparing these percentages with the corresponding indicators in the ELS sample, the results are somehow unexpected. By age 26, for all respondents 16%, 51%, and 33% attain ‘High School or Below’ education, ‘Some Post-Secondary Education,’ and ‘College Graduation,’ respectively. The at-risk research sample is slightly more educated than the ELS sample, although differences are minor.

*Modeling Educational Attainment*

This section explores how socio-demographic factors, English and math self-efficacy, level of risk, level of academic effort and persistence in grade 10, and educational expectations predict educational attainment by age 26 in at-risk youth. Since the dependent variable, educational attainment, has three categories, I use a multinomial logistic regression analysis in which ‘High School or Below’ is the reference category for the dependent variable. Likelihood ratio tests show that all predictor variables contribute significantly to this model. The Nagelkerke Pseudo R-Square $R^2$ coefficient indicates that
30.2% of the variability in the outcome (i.e., educational attainment) is explained by the overall model. Results that indicate the relative contribution of each predictor variable are presented in terms of odds ratios. The odds ratios are calculated for each predictor against specific reference categories, such as low-risk group, male, White, non-Hispanics, highest SES, ‘College Graduation’ expectations, chosen as student characteristics that describe the most advantageous position. Odds ratios higher than one, indicate that a particular group is more likely than the reference group associated with the respective predictor variable to attain some post-secondary education or college graduation rather than having only high school (or below) education. The opposite relationship is indicated by odds ratios lower than one. In addition, three continuous predictors are included in the model: English and math self-efficacy and level of academic effort and persistence. For these predictors, an odds ratio greater than one indicates that higher levels of self-efficacy or effort and persistence lead to an increase in the likelihood to attain the specific level of education as compared to having only high school (or below) education. Table 4.6 presents the odds ratios for the model.
Table 4-6 Multinomial Logistic Regression Model for Educational Attainment (High School or Below=ref)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Odds Ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Some Post-Secondary Education</td>
</tr>
<tr>
<td><strong>Level of Risk (Low risk=ref)</strong></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>.671**</td>
</tr>
<tr>
<td>Medium</td>
<td>.775*</td>
</tr>
<tr>
<td><strong>Gender (Male=ref)</strong></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1.680***</td>
</tr>
<tr>
<td><strong>Race/Ethnicity (White, non-Hispanic=ref)</strong></td>
<td></td>
</tr>
<tr>
<td>Asian/Hawaii/Pac. Islander</td>
<td>2.637**</td>
</tr>
<tr>
<td>Black/African American</td>
<td>1.674**</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1.441**</td>
</tr>
<tr>
<td>Multiracial, non-Hispanic</td>
<td>.576**</td>
</tr>
<tr>
<td><strong>SES (Highest quartile=ref)</strong></td>
<td></td>
</tr>
<tr>
<td>First Quartile (lowest)</td>
<td>.325***</td>
</tr>
<tr>
<td>Second Quartile</td>
<td>.480***</td>
</tr>
<tr>
<td>Third Quartile</td>
<td>.804</td>
</tr>
<tr>
<td><strong>Student Educational Expectations (College graduation=ref)</strong></td>
<td></td>
</tr>
<tr>
<td>High School or Below</td>
<td>.210***</td>
</tr>
<tr>
<td>Some Post-Secondary Education</td>
<td>.438***</td>
</tr>
<tr>
<td><strong>Self-Efficacy (continuous variables)</strong></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>1.440***</td>
</tr>
<tr>
<td>Math</td>
<td>1.014</td>
</tr>
<tr>
<td><strong>Level of Academic Effort and Persistence (continuous variable)</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.884</td>
</tr>
</tbody>
</table>

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

Level of risk

According to the data, the level of risk (i.e., number of at-risk factors identified for the student in grade 10) present appears to be a significant predictor to the model.

Compared to the reference group (i.e., low risk), students in the medium and high-risk categories are less likely to obtain post-secondary education and graduate from college rather than attaining only high school (or below) education. Students with a medium level of risk present are 0.72 times less likely to achieve a college degree and are about 0.78 times less likely to obtain at least some post-secondary education. However, students
with a high level of risk present are about 0.43 times less likely to graduate college and are approximately 0.67 times less likely to receive at least some post-secondary education. The level of risk present is affecting the post-secondary education of at-risk youth. High-risk students in particular have their chances to attain post-secondary education practically halved compared to low-risk youth.

Gender

Gender appears to be a significant predictor to the model. Compared to males, female are significantly more likely to obtain post-secondary education and graduate from college rather than attaining high school (or below) education. As the odds ratios indicate in Table 4.6, females are two times more likely than males to obtain a college degree and are about 1.7 times more likely to at least have some post-secondary education. Gender is a distinct factor affecting the pursuit and completion of higher levels of education among at-risk youth.

Race/ethnicity

Odds ratios are statistically significant for all race/ethnicity categories, when comparing ‘Some Post-Secondary Education’ to ‘High School or Below,’ but only for the Asian/Hawaii/Pac. Islander and Multi-Racial, non-Hispanic groups when comparing ‘College Graduation’ to ‘High School or Below.’ Compared to the reference group (White, non-Hispanic), Asian/Hawaii/Pac. Islanders are approximately 2.6 and 4.6 times more likely to obtain post-secondary education and graduate from college rather than attaining high school (or below) education. However, Multiracial, non-Hispanic students are around 0.50 times less likely to obtain post-secondary education and graduate from college.

While Black/African American and Hispanic groups are about 1.5 more likely than White, non-Hispanic students to obtain post-secondary education rather than attaining only high school (or below) education, differences in terms of ‘College Graduation’ are not
statistically significant. Race/ethnicity is a relevant predictor variable of educational attainment for at-risk youth.

Socio-economic status

Socio-economic status appears to be a significant predictor to the model. Compared to the reference category (Highest Quartile), all other lower SES groups are significantly less likely to graduate from college rather than attaining only high school (or below) education. In addition, the lowest two SES quartiles are different than the highest two SES quartile with respect to attaining ‘Some Post-Secondary Education,’ while students in the third quartile had comparable attainment to those in the reference category. For instance, the first SES quartile is about 0.33 and 0.10 times less likely than the highest SES quartile to obtain ‘Some Post-Secondary Education’ and achieve ‘College Graduation,’ respectively, compared to having ‘High School or Below’ education. Similarly, the second SES quartile is about 0.48 and 0.18 times less likely than the highest SES quartile to obtain ‘Some Post-Secondary Education’ and achieve ‘College Graduation,’ respectively, compared to having ‘High School or Below’ education. Finally, the third SES quartile is about 0.36 times less likely than the highest SES quartile to achieve ‘College Graduation,’ rather than having ‘High School or Below’ education. SES status is a relevant factor impacting the post-secondary pathways of at-risk youth.

Student educational expectations

Student educational expectations appear to be a very relevant predictor to the model, producing only statistically significant odds ratios. Compared to the reference category (College Graduation), students who expect to obtain only high school education (i.e., have lower educational expectations) or some post-secondary education (i.e., have medium expectations) are significantly less likely to actually attain ‘Some Post-Secondary Education’ or ‘College Graduation.’ As the odds ratios indicate in Table 4.6, students with
low expectations (i.e., High School or Below) are approximately 0.04 times less likely than students with high expectations (i.e., College Graduation) to actually obtain a college degree, and they are about 0.21 times less likely to at least have some post-secondary education. Students who expect to obtain some post-secondary education are approximately 0.19 times less likely than students with high expectations to actually graduate college, and they are about 0.44 times less likely to at least attain some post-secondary education. The educational expectations are a crucial factor affecting the attainment of at-risk students.

English self-efficacy

English self-efficacy is a significant predictor to the model. Table 4.6 shows odds ratios greater than one for both levels of educational attainment when compared to the reference category (High School or Below). For instance, an increase in English self-efficacy by one unit, increases by 44% the likelihood to obtain ‘Some Post-secondary Education’ and by approximately 62% the likelihood to complete ‘College Education’ rather than attaining only high school (or below) education.

Math self-efficacy

Math self-efficacy is also a good predictor to the model. Table 4.6 shows odd ratios greater than one for both levels of educational attainment when compared to the reference category (High School or Below). A one unit increase in the level of math self-efficacy increases only by 1% the student’s likelihood to obtain ‘Some Post-Secondary Education’ which corresponds to a non-significant odds ratio. However, a one unit increase in the level of math self-efficacy increases by 22% the likelihood to achieve ‘College Graduation,’ and this effect is statistically significant. Therefore, both English and math self-efficacy are predictors to the model, but it appears self-efficacy in English matters much more in predicting educational attainment among at-risk youth by age 26.
Academic effort and persistence applied in grade 10

The odds ratios are not statistically significant for this predictor variable. As captured by this study, a one unit increase in the level of academic effort and persistence decreases the likelihood to obtain ‘Some Post-Secondary Education’ by approximately 12% and increases the likelihood to complete ‘College Graduation’ by about 22%. Clearly, higher levels of academic effort and persistence are beneficial for attaining a college degree although effects are not significant.

Summary of Model Findings

In summary, the multinomial logistic regression model shows that the level of risk present, gender, English self-efficacy, student educational expectations, and to some extent level of academic effort and persistence are significant predictors of educational attainment by age 26. The higher the level of risk the less likely it is for the student to receive post-secondary schooling and earn a degree(s). At-risk females are more likely to pursue post-secondary education and graduate college. Students with higher SES backgrounds are more likely to pursue post-secondary education and graduate college. It also appears that student beliefs matter significantly when predicting educational outcomes. Students with higher English self-efficacy and higher educational expectations are more likely to pursue post-secondary education and earn a college degree.

For other variables, such as race/ethnicity, math self-efficacy, and the level of academic effort and persistence, differences are not always pronounced. For example, the effect of race/ethnicity on educational attainment is more relevant when comparing ‘Some Post-Secondary Education’ with ‘High School or Below.’ Interesting results are obtained for the Asian/Hawaii/Pac Islander group who is more likely than all other race/ethnicity groups to attain higher levels of education, and for the Multi-Racial, non-Hispanic group who is the least likely of all the race/ethnicity groups to attain higher
levels of education. Math self-efficacy is less significant in predicting educational attainment, and the effects of academic effort and persistence, as captured by this study, are not significant.

Summary of Study Findings

The main assumptions of the study are that level of risk (i.e., number of at-risk factors identified for the student in grade 10) and academic self-efficacy are playing an important role in the educational attainment of at-risk youth by age 26. I also put forward that at-risk youth do not represent a homogeneous group. Therefore, the level of risk might be different across socio-demographic factors, might generate different educational expectations in at-risk youth, and different levels of academic self-efficacy. Finally, I propose an educational attainment model guided by Bandura’s (1977b, 1989, 1993, 1994) self-efficacy theory and informed by the at-risk literature (Alfassi, 2003; Bandura, 1993; Betz & Hackett, 1981; Betz & Hackett, 1983; Cassel, 2003; Chemers et al., 2001; DeAngelis, 2012; Hsieh et al., 2007, Iravani, 2012; Kaufman et al., 1996; Ling et al., 2011; Schonert-Reichl, 2000; Schunk, 1991; Toglia & Berg, 2013; Zimmerman, 2000) to account for the effects of level of risk, academic self-efficacy, educational expectations, level of academic effort and persistence, and socio-demographic factors. The key findings are summarized below:

- The level of risk (i.e., number of at-risk factors identified for the student in grade 10) is differently distributed across socio-demographic characteristics. The high-risk students are recruited from the lowest SES backgrounds and are more likely to be female, Black/African American, and Hispanic students. There is a
significant relationship between level of risk and the socio-demographic factors which demonstrates that the at-risk population is very diverse.

- The majority of at-risk students have high educational expectations (i.e., College Graduation), although those exposed to a higher level of risk are more likely to expect only high school graduation or some post-secondary education. There is a significant relationship between level of risk and student educational expectations.

- Students with varying levels of risk report different levels of academic self-efficacy. First, math self-efficacy is lower than English self-efficacy for all risk groups. Second, the level of reported English and math self-efficacy decreases with an increase in the level of risk among at-risk youth.

- All socio-demographic factors are good predictor variables for educational attainment. The most likely to attain ‘College Graduation’ are females, Asian/Hawaii/Pac. Islander and White, non-Hispanic students, and those from the highest SES background. Female students, all racial groups other than White, non-Hispanic and Multiracial, non-Hispanic, and those from the highest two SES quartiles are also likely to attain some post-secondary education rather than obtain only high school (or below) education.

- Level of risk, student English self-efficacy, and student educational expectations have significant impact on educational attainment. Being at low risk favors higher educational attainment. Higher level of English self-efficacy also increases the likelihood of attaining post-secondary education and reaching college graduation. Those who aim higher in terms of educational expectations are also more likely to actually attain higher levels of education. The model clearly suggests that higher levels of English self-efficacy and promoting and supporting high
educational expectations to pursue and complete post-secondary education are associated with higher levels of educational attainment of at-risk youth.

- As captured by this study, the least important variables in predicting educational attainment are math self-efficacy and the level of academic effort and persistence. However, the model indicates that higher levels of math self-efficacy and academic effort and persistence are beneficial to attaining ‘College Graduation.’
Chapter 5
Discussion

This chapter includes a summary and discussion of the key findings of the study. Limitations of the study are discussed, as well as the significance of the study in emphasizing the importance of academic self-efficacy and high educational expectations among at-risk youth during high school that affect their level of educational attainment. Finally, the chapter presents the implications and recommendations for policy, practice, and future research.

Who Are They and How Well Do They Achieve?

The research sample employed in this study is comparable with the ELS:2002 nationally representative sample in terms of socio-demographic composition. On a positive note, the study’s findings indicate that the majority of at-risk students are most likely to fall within the low risk category with only one risk factor present. However, female students are more likely than male students to exhibit higher levels of risk. Black/African American and Hispanic students are also more likely to be at high risk. Not surprisingly, the lowest SES quartile has a higher percentage of high-risk students. The overwhelming majority of at-risk students reported high educational expectations in grade 10 despite being exposed to risk which is encouraging in terms of actually attaining higher levels of education.

Research literature suggests that certain groups remain overrepresented in drop-out statistics thus losing the race to higher educational attainment. The literature also indicates that minority males and students from low-SES backgrounds are more likely to be at-risk and suffer this fate. Considering the literature, it is surprising that this study’s findings suggest that females are more likely to be at-risk and exhibit higher levels of risk.
compared to males. However, the study supports research showing that minority students are at higher risk.

The study’s findings contribute to the literature by differentiating the at-risk group by level of risk. In doing so, the study’s findings indicate that the level of risk (i.e., number of at-risk factors identified for the student in grade 10) is differently distributed across socio-demographic groups, and specific groups (i.e., minority racial groups, low-SES) are associated with higher levels of risk.

Study findings also show the consequences of being at high risk with respect to higher educational attainment. Socio-demographic factors are good predictors of educational attainment by age 26. Interestingly, although females are more likely to be at high risk compared to males, they are also more likely to pursue post-secondary education and graduate college. However, White, non-Hispanic students who are less likely to be at high risk, are more likely to graduate college than any other race/ethnic group except Asian/Hawaii/Pac. Islander. The attainment of both at-risk female and at-risk White, non-Hispanic students illustrates that while low risk is associated with higher levels of educational attainment, there are also demographic groups (e.g., females) who are able to achieve higher levels of attainment despite higher levels of risk.

In conclusion, the study shows that at-risk factors affect all socio-demographic groups, although some socio-demographic attributes are more associated with higher levels of risk which impact their educational attainment. However, other factors, such as self-beliefs act as protective factors. This point further illustrates the importance of this study and others like it. It is necessary that researchers and educators understand the at-risk group in order to identify what factors, which can be influenced at the school level, would alleviate the socio-demographic factors (which educators often have little control over).
Level of Risk and Student Academic Self-Beliefs

Research literature suggests that at-risk factors impact student self-beliefs (e.g., academic self-efficacy, educational expectations) (DeAngelis, 2012; Iravani, 2012; Ling et al., 2011). The presence of risk factors can affect the student’s expectations for educational attainment and the level of confidence he or she has to be able to engage in and successfully complete the educational requirements needed to fulfil academic goals (Betz, 1981; Lent et al., 1984). Research literature suggests that the level of risk (i.e., the number of at-risk factors present) can further impact student self-beliefs and thus affect outcomes. Oftentimes, the presence of any one risk factor is seen in association with others resulting in a decrease in the student's level of self-efficacy; additionally, higher levels of risk can also negatively impact the educational goals students set for themselves (Betz, 1981; Lent et al., 1984; Schonert-Reichl, 2000; Suh & Suh, 2007; Thiessen, 1997; Toglia & Berg, 2013). The literature supports one of the main assumptions of my dissertation that level of risk (i.e., number of at-risk factors identified for the student in grade 10) is playing an important role in determining at-risk students’ self-beliefs (e.g., academic self-efficacy and educational expectations).

Similar to the literature, my study also indicates that the level of risk present impacts student academic self-efficacy. For example, this study’s findings show that as the level of risk increases the reported level of English self-efficacy decreases. The same is observed for self-efficacy in math. In fact, for both English and math self-efficacies, the mean scores decrease as the number of at-risk factors increase. These findings indicate that students with lower levels of risk have greater levels of academic self-efficacy, and the high-risk students (i.e., those who experience more than one at-risk factor) exhibit lower levels of English and math self-efficacy. The literature supports these findings, suggesting that students with lower levels of risk present possess higher levels of self-
efficacy. When students have a greater belief in themselves, they are more likely to take on more challenging tasks and persevere through any difficulties that might arise (Alfassi, 2003; Cassel, 2003; Hsieh et al., 2007; Schunk, 1991). Therefore, students with lower levels of risk possess greater levels of self-efficacy and are more likely to take on more rigorous academic challenges and pursuits. In addition, my findings indicate that English self-efficacy is a statistically significant predictor and math self-efficacy a good predictor of educational attainment, as to which at-risk students with higher levels of self-efficacy are more likely to achieve ‘Some Post-Secondary Education’ or ‘College Graduation’ attainment compared to ‘High School or Below’ attainment. Given that at-risk students with lower levels of risk possess greater academic self-efficacy, it is not surprising that these students would be more likely than those with higher levels of risk to pursue post-secondary education and graduate college. Students with lower levels of risk face fewer barriers to post-secondary participation and completion. Furthermore, they have greater confidence in their ability to achieve their academic goals.

This current study also explores student educational expectations for attainment by level of risk. Although the study sample, which includes all at-risk students, reports educational expectations comparable to the ELS:2002 nationally representative sample, my study’s findings suggest that the level of risk present matters more than simply being at risk in shaping students’ educational pathways. The study clearly supports the claim that educational expectations and level of risk are associated.

For example, the expectations for participation in post-secondary education or college completion decrease as the level of risk increases. Only 58% of high-risk students compared to 77% of low-risk students expect to obtain a college degree. While the expectations for ‘College Graduation’ decrease with an increase in risk level, the expectations for only ‘High School or Below’ attainment or ‘Some Post-Secondary
Education’ increase as the level of risk increases. Twenty-nine percent of high-risk students expect to pursue or complete some post-secondary education and 13% of them expect only high school education. For low-risk students, the corresponding percentages are 17% and 6%. Based on this result, one can conclude that the level of risk present does impact educational expectations among at-risk students. Students with lower levels of risk report higher educational expectations, while students with higher levels of risk are more likely to indicate lower expectations for educational attainment. Given that at-risk students with lower levels of risk are more likely to report greater educational expectations and the desire to pursue post-secondary education and graduate college, it is not surprising that educators focus on decreasing the level of risk in this population. It is however remarkable that even high-risk students have the desire to attain post-secondary education credentials; although, they are also realistic about their life circumstances that may hinder successful attainment.

As discussed, research literature suggests that students with greater self-beliefs are more likely to pursue and attain their academic goals, as they have the confidence and belief that their goals are attainable, and my study shows that this is also true for at-risk students. The literature indicates that lower risk is associated with greater self-efficacy. Also, students with lower risk are more likely to pursue post-secondary education and degrees as these students have less barriers to post-secondary pursuance. In conclusion, both research literature and this present study indicate that the level of risk present affects at-risk students’ academic self-efficacy and educational expectations which is likely to indirectly impact educational attainment.
Level of Risk and Attainment

As stated, at-risk factors typically do not exist in isolation, and oftentimes students have more than one risk factor present (Schonert-Reichl, 2000; Suh & Suh, 2007; Thiessen, 1997; Toglia & Berg, 2013). Increased risk is associated with more negative outcomes, such as school failure and dropout (Moore, 2006; Ormrod, 2010; Schonert-Reichl, 2000). The literature suggests that students with fewer at-risk factors present often have academic performance levels and outcomes comparable to their non-at-risk peers, while students with higher risk are much more likely to experience negative outcomes (Schonert-Reichl, 2000). The literature supports a main assumption of my dissertation that level of risk (i.e., number of at-risk factors identified for the student in grade 10) is playing an important and direct role in the educational attainment of at-risk youth.

Although there is not much literature on the educational attainment of at-risk youth when differentiating the group by level of risk, the literature does indicate that higher risk is associated with lower performance on academic measures, such as GPA, a greater likelihood of both high school and college dropout, and a lesser likelihood of enrollment in a four-year college (Fenning & May 2013; Frishberg et al., 2010; Lucio et al., 2011; Nelson, 2009; Radcliffe & Bos, 2011). The literature also suggests that the level of risk present impacts the academic pursuits (e.g., pursuing post-secondary education, specific college majors) students choose to take on. In the literature, students with lower risk are more likely to have greater self-beliefs and set specific education and career goals often tied to post-secondary education and degree(s) attainment.

This current study adds to the literature on the relationship between level of risk and educational attainment by providing quantitative findings to illustrate the impact of varying levels of risk on educational attainment in at-risk youth by age 26. The study’s
findings indicate that students with lower levels of risk present are more likely to reach ‘Some Post-Secondary Education’ or ‘College Graduation’ attainment compared to only ‘High School or Below’ attainment. As part of this study, I create a model that shows which groups of at-risk students are more likely to obtain post-secondary education and graduate from college. This study’s findings indicate that the level of risk present appears to be a significant predictor to the model with greater risk associated with lower levels of attainment and lower risk associated with a greater likelihood for the student to attain at least some post-secondary education. Given that at-risk students with lower levels of risk face less obstacles associated with at-risk factors, it is not surprising that these students have a higher likelihood of pursuing post-secondary education and graduating from college. In conclusion, this study demonstrates that the level of risk present has a direct effect on educational attainment among at-risk youth.

Student Academic Self-Beliefs and Attainment

Research shows that at-risk factors can affect student academic self-beliefs and attainment (DeAngelis, 2012; Iravani, 2012; Ling et al., 2011). The literature indicates that higher levels of risk are associated with lower self-efficacy, educational expectations, and educational attainment (Alfassi, 2003; Bandura, 1993; Cassel, 2003; Schunk, 1991, Zimmerman, 2000). The findings of this current study, support these claims. Moreover, both research literature and this study identify a possible solution, the development of self-efficacy among at-risk youth. Higher levels of student self-efficacy and educational expectations are associated with higher levels of academic performance and attainment (Alfassi, 2003; Zimmerman, 2000). The literature supports a primary assumption of my dissertation that student self-beliefs and particularly academic self-efficacy are playing an important role in the educational attainment of at-risk youth.
The literature suggests that higher levels of self-efficacy and greater educational expectations lead to post-secondary participation and completion. The study's findings indicate that higher levels of academic self-efficacy and higher educational expectations (e.g., to achieve 'Some Post-Secondary Education' or 'College Graduation') lead to a greater likelihood of obtaining at least some post-secondary education rather than only attaining 'High School or Below' education. English self-efficacy, specifically is a significant predictor of higher levels of educational attainment. The higher the level of English self-efficacy, the greater the likelihood of pursing post-secondary education and graduating from college. Self-efficacy in math, although not as strong a predictor as English self-efficacy, is also a good predictor of educational attainment among at-risk youth. Given that at-risk students with greater academic self-efficacy indicate a stronger belief in their ability to engage in and achieve academic goals, it is not surprising that at-risk students with higher levels of English and math self-efficacy are more likely to pursue post-secondary education and graduate college compared to at-risk students with low academic self-efficacy.

The literature also suggests that students with higher levels of self-efficacy set specific goals for attainment because they believe themselves to be capable of achieving these goals (Alfassi, 2003; Zimmerman, 2000). This study's findings indicate that educational expectations appear to be a highly significant predictor of educational attainment. For example, at-risk students with expectations of 'High School or Below' are about five times less likely to obtain some post-secondary education and about 25 times less likely to graduate from college compared to at-risk students who report 'College Graduation' expectations. Similarly, at-risk students with expectations of 'Some Post-Secondary Education' are approximately two times less likely to obtain at least some post-secondary education and about five times less likely to graduate from college
compared to at-risk students who reported expectations for ‘College Graduation.’ In agreement to the literature, when students set educational goals for themselves, they would set realistic goals they felt they could achieve and then work to attain these goals. This is the reason why the level of effort and persistence demonstrated by students during high school, although not a significant predictor of attainment as captured by the results of this study, represents an educational behavior that supports the attainment of college graduation.

Both research literature and this current study suggest that the development of self-efficacy is associated with academic success among at-risk youth (Bandura, 1993; Center for Public Education, 2007; Finn & Rock, 1997; McMillan & Reed, 1994). Higher levels of English self-efficacy and educational expectations to pursue and complete post-secondary education are associated with higher levels of educational attainment among the at-risk youth studied in my dissertation. In conclusion, the development of self-efficacy and high aspirations for educational attainment among at-risk youth could increase the likelihood of post-secondary participation and completion for the group. This conclusion and the relationship between level of risk and self-beliefs suggest that in addition to the direct effect of level of risk on attainment, there could be an indirect effect as higher levels of risk impact attainment by actually diminishing one’s confidence in responding to academic tasks and establishing high educational expectations.

Limitations of the Study

There are always limitations in the information that results from quantitative research that is mostly focused on revealing the phenomenon without being able to explore why it occurs. This limitation is often the result of use of available data that is gathered for broad rather than specific purposes. To truly understand the impacts and significance of self-efficacy among at-risk youth, either a qualitative component could be
valuable or developing additional survey questions focused on the topic of interest. However, I argue that quantitative results produced by my analysis demonstrate the magnitude of the problem and quantitative data allow to test some possible explanations of the at-risk phenomenon.

Another limitation of the study is related to the definition of the educational term ‘at risk’ that encompasses a broad number of eligibilities following the ELS:2002 proposition. As discussed in the introductory chapters, this definition is different than those adopted by school practitioners. Therefore, findings are limited to the at-risk student population that is identified by specific academic and social characteristics.

Another limitation may be caused by attrition and non-response in the ELS:2002 follow-up surveys. Students who dropped out prior to subsequent data collection and/or who did not respond to the survey(s) or even those who failed to respond to questions within the survey(s) could be at-risk students who experience more hardship. Study findings could be biased by not including some of the most problematic cases, so results likely represent a best case scenario.

Finally, this study looks at the number of at-risk factors present to determine level of risk, but it does not look at the individual risk factors within the ELS:2002 data. In other words, this study considers level of risk as a quantitative indicator but does not explore any differences in outcomes (e.g., self-efficacy, educational expectations, educational attainment) due to specific types of risk factors (e.g., academic versus social at-risk factors) or due to each individual risk factor. It is possible that a more nuanced analysis could reveal which of these at-risk factors or combination of them would have a greater effect on outcomes, as to support practitioners and policy makers in developing action plans for interventions.
Significance of the Study

The primary strength of this study is the use of ELS:2002 data which is gathered from a nationally representative sample which contributes to the generalizability of the study’s findings. There are many studies based on ELS:2002, but most of the previous research is limited to only ELS:2002 data for the years 2002-2006. This study uses the most recent publicly available data from ELS:2002 that includes the third follow-up (final wave) survey from 2012 to examine educational attainment in at-risk youth.

This study is designed to assess how the profiles of at-risk students differ by the level of risk present, how English and math self-efficacies are affected by varying levels of risk, and finally to determine which variables are significant predictors of the level of educational attainment at-risk youth will achieve by age 26. Studies that focus on at-risk youth and self-efficacy outcomes indicate that at-risk students are at greater risk for school dropout and less likely to participate in post-secondary education and graduate from college; however, research suggests that self-efficacy is one factor associated with alleviating the presence of risk and producing more positive academic outcomes. These studies also suggest that at-risk students with higher levels of self-efficacy are more likely to set specific educational goals tied to post-secondary participation and completion.

The use of ELS:2002 data allows for a longitudinal analysis of at-risk students’ post-secondary pathways through age 26. Survey data is collected from a cohort of tenth grade students in 2002 and follow-up surveys are administered to the same cohort of students in 2004, 2006, and 2012 thus covering 10 years of the respondents’ life course. This allows the researcher to assess the predictive value of student academic self-efficacy, level of risk, level of academic effort and persistence the student applied to his or her academics during high school, and the student’s educational expectations manifested in high school on the actual level of educational attainment by age 26 in at-risk youth.
Therefore, this study is especially relevant as it provides quantitative findings which support the literature on at-risk youth, student self-beliefs, and educational attainment among at-risk youth, while also making its own contribution by drawing attention to the importance of level of risk in differentiating the at-risk youth population. Specifically, this study adds to current literature by providing quantitative findings on the impact of level of risk on student self-beliefs and educational attainment and identifies specific predictors of educational attainment for at-risk youth.

The notions of being at-risk and self-efficacy are employed in this study to better understand the at-risk group and the effects of both being at different levels of risk and self-efficacy on students’ educational outcomes. A significant finding is that self-efficacy can improve outcomes despite the presence of risk and the level of risk. According to Bandura (1994, 1997), academic self-efficacy, or the personal judgment of one’s performance capabilities, influences the ways in which students behave and motivate themselves toward desired outcomes. Self-efficacy can be influenced by observing others similar to oneself, as well as others using persuasion to convince the student of his or her own capability to reach desired performance and attainment goals (Bandura, 1977a; Bandura, 1994). Students who exhibit higher levels of self-efficacy typically have specific academic goals often tied to post-secondary participation and completion. Both the literature and this current study indicate that increased self-efficacy can produce more positive academic outcomes among at-risk youth. The literature also suggests that schools and educators could help to develop self-efficacy in students by allowing them to observe the accomplishments of others they can relate to and reassuring them of their own capability to succeed. By providing quantitative information that supports the importance of academic self-efficacy, this study promotes the same message to schools and the educational system.
This study is based on the assumption that level of risk and academic self-beliefs influence educational attainment among at-risk youth. With increasing concern over the rates at which students drop out of school, this research study has relevant implications to support academic success in at-risk youth. It illustrates the effects of varying levels of risk and the importance of student self-beliefs. Based on the study’s results, the researcher offers recommendations to increase educational attainment among at-risk youth by developing self-efficacy and supporting higher levels of educational expectations among the group that could associate with higher levels of actual attainment thus reducing the rate at which at-risk students drop out of the race for higher attainments. It is imperative that studies such as this are conducted in order to better understand the effects of risk and identify potential factors which could help to alleviate these effects. This study helps to identify the issue and leads to future research which could help to decrease the occurrence of school dropout and increase the likelihood of post-secondary education and completion among at-risk students. Especially since post-secondary participation and a college degree(s) are associated with more positive life trajectories, it is important that educators be aware of the effects of varying levels of risk and the potential variables which could support higher levels of attainment among at-risk youth who are often exposed to hardship they cannot control (e.g., poverty, single parents, high student mobility) to ensure their role as productive, contributive adults.

Implications for Future Research

This study’s findings contribute to the literature greatly. Rather than lumping all at-risk students into a homogenous group, this study differentiates the at-risk group by level of risk. In doing so, this study produces findings which suggest that the level of risk influences the ways in which at-risk students identify, aspire, and attain. The study
contributes to the literature by demonstrating that level of risk should be included among the factors used in studying the at-risk student population.

The study’s findings also assert that student self-beliefs play a primary role in educational attainment among at-risk youth. Although there is an abundance of research literature supporting this claim, there is little research providing quantitative data on the significance of these factors. This study helps to fill this gap.

However, neither research literature nor this study provide information on specific curriculum and program implementation aimed at developing self-efficacy and promoting high levels of educational expectations among at-risk youth. Certainly, there is a large amount of research that demonstrates the importance of student self-beliefs and educational behaviors in promoting achievement among at-risk and traditionally marginalized youth, but there is need for more applied research focused on interventions and programs.

The literature features specific studies regarding programs which have been implemented for these purposes; however, none of these programs have been widespread and lasting. Therefore, future research should focus on the development and implementation of data-driven programs which increase academic self-efficacy among at-risk youth. Future research should also focus on the ways in which students establish their educational expectations and how this goal can be supported within the school system. Future research investigating the effects of such programs will contribute significantly to enhancing and guiding school policy and practice.

Implications for Practice

Study findings highlight the effects of risk and more importantly the effects of varying levels of risk on the educational outcomes of at-risk youth. The study’s findings support that it is necessary for educators to be aware of the risk factors to which students
are exposed and its impacts on educational performance and outcomes, with the understanding that varying levels of risk impact outcomes differently. Also, the study’s results indicate that student self-beliefs matter. Therefore, educators should be aware that academic self-efficacy and student educational expectations are two factors which can help at-risk students to overcome their at-risk circumstances and achieve higher levels of educational attainment. This information is particularly relevant to the development of teacher preparation programs and teacher professional development programs that should include these ideas and train teachers in actively supporting their students.

Recommendations for Policy

As discussed, the literature suggests that schools are not providing sufficient intervention and supports to reduce the rate at which at-risk students drop out. Although my study does not look at interventions or supports aimed at reducing risk and increasing self-efficacy, it does illustrate that level of risk and self-efficacy affect student outcomes. Therefore, I use these findings to make recommendations for policies which might be effective at increasing educational attainment among at-risk youth. In order to address the dropout problem, researchers indicate that school policies should focus on the development of protective factors rather than simply working to alleviate risk, especially since schools have little control over the at-risk factors students experience outside of school. Previous research suggests that at-risk students who possess greater levels of self-efficacy are more likely to pursue post-secondary education, while my study shows that level of risk matters and perhaps specific at-risk factors require specific interventions. Therefore, the researcher recommends that school policies focus their attention toward allocating budgets to create and implement programs by using personnel to oversee
curriculum writing and implementation for at-risk students, being aware that high-risk students require more support.

The researcher also suggests that educational policies prioritize high school completion and promote the pursuit of post-secondary education. The intent of these programs would be to increase educational expectations among at-risk youth while cultivating the belief within these students that their educational expectations are within reach. If an increase in student self-beliefs would reduce the likelihood of school dropout and increase the likelihood of post-secondary participation and completion, then it may also break the cyclical nature of negative outcomes associated with at-risk factors and reduce the effects of these at-risk factors in the lives of at-risk youth. The potential of such policies is far reaching.

Research literature indicates that the wide variance in at-risk factors contributes to the ineffectiveness of intervention efforts. This study’s findings indicate that the development of higher levels of student self-beliefs among at-risk youth could be more effective at reducing drop-out rates and promoting post-secondary education for the group. Additionally, this study’s findings indicate that student self-beliefs remain significant regardless of the level of risk present which is an important factor to be considered in school policy and development.

Although this current study, does not explore or evaluate policies and practices aimed at decreasing risk and increasing self-efficacy and educational expectations among at-risk youth, it does indicate that these are three factors affecting the educational outcomes of at-risk youth. Therefore, the researcher makes several recommendations for practice and policy which lead to future investigations and research.
Recommendations for Practice

Higher levels of student self-beliefs are found to affect post-secondary participation and completion among at-risk youth. The results of this study suggest that greater self-beliefs result in higher levels of educational attainment. While this current study does not look at or evaluate practices to reduce risk and/or increase academic self-efficacy, it does illustrate that the level of risk present and student self-beliefs impact student educational outcomes. The literature suggests that academic self-efficacy can (and should) be developed among at-risk youth through school programs. Results from this study support the idea that greater student self-beliefs among at-risk youth may decrease the rates at which these students drop out and increase the rates at which they pursue post-secondary education. Therefore, study findings suggest a need to develop and implement school programs designed to increase academic self-efficacy and foster greater educational expectations among at-risk youth in order to increase levels of educational attainment for the group.

Based on this understanding, the researcher recommends that program administrators have a duty to foster higher levels of academic self-efficacy among at-risk youth and also to inform these students of their post-secondary options and support higher levels of educational expectations among at-risk youth therefore promoting higher levels of post-secondary attainment. While the assumption is that educators work to make all students academically successful and promote college for all students, are these efforts data driven and systematic? The researcher recommends that these programs involve targeted intervention that is based on data-driven analysis of student needs. Although research literature suggests that interventions for at-risk students often remain largely ineffective due to a broad definition of the term ‘at risk,’ both the literature and this study’s findings suggest that the development of self-efficacy could be an
effective intervention increasing academic attainment for the group. Therefore, the researcher suggests that program administrators should work to create and implement curriculum-based lessons which enable students to be successful on academic tasks thus building their academic self-efficacy. Additionally, the researcher recommends that program administrators inform at-risk students of the connection between high school performance and college prerequisites as it is essential that students are aware of the relationship between high school programs and post-secondary pathways. The researcher also suggests that program administrators have the duty of informing at-risk students of their post-secondary options, detailing criteria for admittance to various levels of post-secondary institutions and/or specific colleges, and implementing practices within the classroom that support high educational expectations and prepare at-risk students to pursue post-secondary pathways.

Although this study does not offer an intervention model for the development of self-efficacy in at-risk youth and its implementation in schools, it demonstrates there is a relationship between self-beliefs and outcomes which would support such initiatives. The research literature indicates that schools can be an effective mode of intervention delivery. As school dropout is a concern among educational systems, it is highly recommended that schools consider the implementation of such practices to reduce this outcome.

Conclusion

In summary, this study explores one outcome, the educational attainment of at-risk youth by age 26. The study’s findings indicate that the majority of at-risk youth will receive some post-secondary schooling. Next, the study explores how various socio-demographic factors, English and math self-efficacy, level of risk, level of academic effort and persistence in grade 10, and educational expectations predict educational attainment...
by age 26 in at-risk youth. Based on these results, it appears that level of risk, certain socio-demographic attributes, English self-efficacy, and student educational expectations have a significant impact on educational attainment, while math self-efficacy and the level of academic effort and persistence are the least important variables in predicting educational attainment. These results suggest that increasing self-efficacy and promoting high educational expectations among at-risk youth are associated with higher levels of educational attainment for the group.

As an educator, I am able to take these results, although they possess limitations, and see their value in the educational system. In recent years, school systems have begun to adopt business models which feature data-driven analysis used to inform action(s). I believe this study’s quantitative findings are instrumental in identifying and illustrating the problem. The problem being at-risk factors are affecting the educational attainment of our students with higher levels of risk being more detrimental to outcomes. Sadly, certain groups are more likely to be exposed to higher levels of risk and suffer the negative effects associated with the presence of greater risk. However, this study’s quantitative findings also point to the possible solution of increasing student self-beliefs for these students. This study is valuable in that it produces results which help educators to understand the effects of risk and the possible solutions for overcoming risk and being more successful academically.

In conclusion, risk matters, but ultimately it does not dictate students’ educational outcomes. At-risk students want to succeed academically, and often they report high educational expectations that support their journeys toward high achievements. As educators, it is our duty to help these students overcome their at-risk circumstances, realize their potential, and take full advantage of the educational opportunities that could shape more positive life course trajectories. Academic success is available to the at-risk
student, and it carries the potential to move students beyond their at-risk circumstances. Education, and essentially life is there for the taking. It would be unforgivable on the part of educators to not give attention to these students and the obstacles they face, while knowing the negative effects associated with at-risk factors. Ultimately, at-risk students want academic success, and it is our job as educators to be aware of the obstacles they face and the potential solutions which support the attainment of this endeavor.
Candice Leigh Cooper  
Educational Leadership & Policy Studies  University of Texas at Arlington

IRB Approval Inquiry

Ms. Cooper,  

Thank you for contacting the Office of Research Administration; Regulatory Services regarding a study to be conducted on the impacts of self-efficacy and risk factors on academic achievement. Upon reviewing the procedures involved with the study, it appears they would not meet the definition of, “research with human subjects” as defined by the Office for Human Research Protections (OHRP) and would therefore not be subject to review or approval by the Institutional Review Board (IRB) at UT Arlington. OHRP defines research as:

- A systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge. A human subject in research is defined as, “A living individual about whom an investigator conducting research obtains data through intervention or interaction with the individual, or identifiable private information.

It appears from the description of procedures that the data being collected are not from a private database. The information that you will collect is from a publically available resource, specifically, you plan to use data from the Educational Longitudinal Study of 2002, available on the Institute of Education Sciences (U.S. Department of Education) website.

I have included the link for decision charts provided from OHRP from which this determination is made for your reference. If the procedures that have been outlined and
provided to our office change such that IRB approval might be necessary or you have any questions regarding this determination please do not hesitate to contact me at marycolette.lybrand@uta.edu.

Thank You,

Mary-Colette Lybrand, MS,
CCRP Regulatory Services
Manager Office of Research Administration; Regulatory Services

Appendix B

Study Tables
Table B-1 Chi-square Tests of Association Between the Number of At-Risk Factors Present and Various Individual Factors

<table>
<thead>
<tr>
<th>Variables</th>
<th>Value</th>
<th>Df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>6.367</td>
<td>2</td>
<td>.041*</td>
</tr>
<tr>
<td>Race</td>
<td>178.770</td>
<td>8</td>
<td>.000***</td>
</tr>
<tr>
<td>SES</td>
<td>558.475</td>
<td>6</td>
<td>.000***</td>
</tr>
<tr>
<td>Student Educational Expectations in Grade 10</td>
<td>99.262</td>
<td>4</td>
<td>.000***</td>
</tr>
</tbody>
</table>

*p < 0.05; **p < 0.01; ***p < 0.001

Table B-2 English Self-Efficacy and Math Self-Efficacy by Number of At-risk Factors -- Levene’s Test of Homogeneity of Variances

<table>
<thead>
<tr>
<th></th>
<th>Levene Statistics</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>English self-efficacy</td>
<td>.523</td>
<td>2</td>
<td>3999</td>
<td>.593</td>
</tr>
<tr>
<td>Math self-efficacy</td>
<td>8.680</td>
<td>2</td>
<td>3999</td>
<td>.000</td>
</tr>
</tbody>
</table>

Table B-3 Table English Self-Efficacy and Math Self-Efficacy by Number of At-risk Factors -- ANOVA Tests

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>English self-efficacy (ANOVA F-ratio)</td>
<td>Between Groups</td>
<td>2</td>
<td>19.057</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>3998</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>4000</td>
<td></td>
</tr>
<tr>
<td>Math self-efficacy (Welch’s F-ratio)</td>
<td>df1</td>
<td>2</td>
<td>20.082</td>
</tr>
<tr>
<td></td>
<td>df2</td>
<td>1591.779</td>
<td></td>
</tr>
</tbody>
</table>

*p < 0.05; **p < 0.01; ***p < 0.001
References


Biographical Information

Candice L. Cooper began her professional teaching career as an elementary English second language teacher for the Hurst-Euless-Bedford Independent School District. She is currently a fourth grade teacher for the district at Meadow Creek Elementary in Bedford, Texas.

Dr. Cooper began her post-secondary schooling at Baylor University in Waco, Texas earning a Bachelor of Arts in History. She went on to earn both a Masters of Education in Teaching and a Doctor of Philosophy from the University of Texas at Arlington. As an undergraduate student, Dr. Cooper focused primarily on women’s and minority history which led to her interest in at-risk populations. During her graduate work, Dr. Cooper focused on various aspects of risk and their effects on student learning and achievement. She presented papers at both the National Network for Educational Renewal Conference and the Rocky Mountain Educational Research Association Conference involving youth offenders and educational pathways. She continues to be interested in research involving at-risk students and educational policies and practices which support higher levels of student learning and achievement.

Dr. Cooper’s future plans include investing in her fourth grade students and promoting high academic performance and achievement goals for each of them. Dr. Cooper will also continue to look for ways to serve students and support higher levels of attainment for all.