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A QUANTITATIVE STUDY OF FACTORS THAT CONTRIBUTE TO HIGH SCHOOL STUDENTS' NON-COMPLETION

A Dissertation

Submitted to the School of Graduate Studies and Research

in Partial Fulfillment of the

Requirements for the Degree

Doctor of Education

Peter Hipple

Indiana University of Pennsylvania

May 2019

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The purpose of this quantitative study was to identify contributing factors that can predict high school non-completion. Data were collected through an online survey, which 261 adult participants completed. In order to accomplish a comparative analysis, both high school non-completers and high school graduates from Southwest Pennsylvania were invited to complete the survey. Of the 261 adult participants who completed the study's survey, 46 participants were high school non-completers and 215 participants were high school graduates. The survey measured the influence that peers, family, and school exerted on students to not complete high school. The survey instrument included four subscales on family and friends (peer activity, trouble, familiarity with parents, and conventional involvement), and three sub-scales on self (self-esteem, environment, and school satisfaction). The research data suggested that of the three independent variables (peer influence, parental relationship, and school experience), the strongest predictor of high school non-completion was peer influence. The next strongest predictor of high non-completion was parental relationship, followed by school experience.

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To my children who cheered me on as I continued my education. It is my desire that this educational journey will serve as a positive example for each of you. Remember…do not be afraid to accomplish worthwhile things that are difficult!

TABLE OF CONTENTS

Chapter		Page
I	DESCRIPTION OF THE STUDY	1
	Introduction	1
	Statement of the Problem	1
	Background of the Study	4
	Purpose of the Study	7
	Theoretical Framework	7
	Research Questions	9
	Null Hypotheses	10
	Definition of Terms	10
	Assumptions	11
	Limitations	11
	Delimitations	11
	Significance of the Study	12
	Summary	12
II	REVIEW OF THE LITERATURE	14
	Introduction	14
	Ecological Systems Theory	15
	Non-Completion Influences	21
	Individual Influences	22
	Self-esteem	22
	Positive identity	24
	Self-efficacy	25
	Locus of control	26
	Peer group	27
	Family Influences	27
	Stable families	29
	Supportive families	31
	Literate families	32
	School Influences	33
	Welcoming environment	33
	Engaging environment	34
	Safe environment	35
	Community Influences	36
	Expanded learning opportunities	37
	Non-Completion Indicators	38
	Early Predictors	38
	Student attendance	39

Chapter Page

Student behavior 43
Course failure 44
Risk Factors 45
Push-out 46
Pull-out 47
Fade-out 48
Student Resilience 48
Student Engagement 51
Student Retention Practices 57
Integrated Retention Programs 58
A Three-Level Retention Model 59
The primary stage 59
The secondary stage 60
The tertiary stage 60
Summary 60

III DESIGN AND METHODOLOGY 62

Introduction 62
Method 62
Design 62
Research Questions 63
Null Hypotheses 64
Participants and Setting 64
Vulnerable Participants 65
Sample 65
Research Instrument 66
Data Collection Plan 68
Data Analysis Plan 69
Internal and External Validity 70
Ethical Considerations 70
Summary 71

IV ANALYSIS AND RESULTS 72

Introduction 72
Data Analysis 72
Descriptive and Frequency Statistics 73
Aggregate Frequencies 75
Inferential Statistics 85
Hypothesis Testing 91
A Note on the Normality of Scales 94
Main Independent Sample T-Tests for Analysis 95
Auxiliary T-Tests With Correlation Matrices 99

Chapter Page

Correlations for Scales and Dropout Status 109
Logistic Regression Analyses 111
Full Model 114
Summary 115

V SUMMARY, FINDINGS, AND RECOMMENDATIONS 117

Introduction 117
Summary of the Findings 118
Summary of Demographic Data 118
Findings Pertaining to Research Questions 120
Research Question 1 121
Data analysis 121
Supporting literature 122
Research Question 2 122
Data analysis 122
Supporting literature 125
Research Question 3 126
Data analysis 126
Supporting literature 127
Limitations of the Study 129
Implications of Findings 131
First Implication 131
Second Implication 132
Third Implication 133
Fourth Implication 134
Recommendations for Future Research 135
Conclusion 138

REFERENCES 140

APPENDICES 180

Appendix A - IRB Approval Letter 180
Appendix B - Site Approval Letter 182
Appendix C - Survey Invitation Flyer 183
Appendix D - Voluntary Informed Consent 184
Appendix E - Permission to Use Survey 186
Appendix F - Survey 187

LIST OF TABLES

Table		Page
1	Aggregate Means of the Independent Variables	75
2	Annual Income	76
3	Educational Status	76
4	Education Level	77
5	Age of Dropout	77
6	Last Grade Attended	78
7	Dropout Reason	79
8	Mother's High School Graduation Status	80
9	Father's High School Graduation Status	80
10	Siblings' High School Graduation Status	81
11	High School Living Situation	82
12	High School Description	83
13	High School Area Description	83
14	High School Size	84
15	Internal Consistency of the Variable Items	84
16	Chi-Square Output for Annual Income	85
17	Chi-Square Output for Mother Graduated From High School	86
18	Chi-Square Output for Father Graduated From High School	87
19	Chi-Square Output for Sibling Dropout From High School	88
20	Chi-Square Output for Living Situation	89
21	Chi-Square Output for Description of High School	90

Table Page

22 Chi-Square Output for Location of High School 90

23 Chi-Square Output for Size of High School 91

24 Aggregate Mean Scales 94

25 Group Mean Scores for Peer Influence on High School Graduates and High School Non-Completers 96

26 T-Test Comparing Scores for Peer Influence Between High School Graduates and High School Non-Completers 96

27 Group Mean Scores for Parental Relationship Between High School Graduates and High School Non-Completers 97

28 T-Test Comparing Scores for Parental Relationship Between High School Graduates and High School Non-Completers 97

29 Group Mean Scores for School Experience Between High School Graduates and High School Non-Completers 98

30 T-Test Comparing Scores for School Experience Between High School Graduates and High School Non-Completers 98

31 Correlation Matrix for Domains of Peer Influence 100

32 Comparing High School Graduates and High School Non-Completers on Factors of Peer Influence 101

33 T-Test Comparing High School Non-Completers on Factors of Peer Influence 102

34 Correlation Matrix for Domains of Parental Relationship 103

35 Comparing High School Graduates and High School Non-Completers on Factors of Parental Relationship 104

36 T-Test Comparing High School Non-Completers on Factors of Parental Relationship 105

37 Correlation Matrix for Domains of School Experience 106

38 Comparing High School Graduates and High School Non-Completers on Factors of School Experience 108

Table Page

39 T-Test Comparing High School Non-Completers on Factors of School Experience 109

40 Correlation Matrix for Scales 110

41 Binomial Logistic Regression for Peer Influence and Dropout 112

42 Binomial Logistic Regression for Parental Relationship and Dropout 113

43 Binomial Logistic Regression for School Experience and Dropout 114

44 Logistic Regression Predicting Dropout 115

LIST OF FIGURES

Figure Page

1 Theoretical framework of Ecological Systems Theory 16

CHAPTER I

DESCRIPTION OF THE STUDY

Introduction

High school graduation is a significant rite of passage for many students. However, many students do not complete high school and participate in that traditional passage into adulthood (Zaff, Donlan, Gunning, Anderson, McDermott, & Sedaca, 2016). Low high school graduation rates continue to gain attention and remain a priority issue at the state and national levels. The multiple factors attributed to this societal problem make the high school non-completion phenomenon a complex challenge for researchers, policy-makers, and educators (Balfanz, Bridgeland, Bruce, & Fox, 2013).

High school non-completion is a problem that calls for our society's best ideas and practices (DePaoli, Fox, Ingram, Maushard, Bridgeland, & Balfanz, 2015). Policy-makers and educators continue to implement research-based best practices to encourage students to remain in school and graduate (Freeman & Simonsen, 2015). Early identification, timely intervention, and sustained support are essential strategies for keeping students in school through graduation (Balfanz et al., 2013; Mac Iver, 2011). Even though the high school graduation rate is gradually increasing in the United States, the dilemma of non-completion persists (DePaoli, Balfanz, & Bridgeland, 2016). To better understand the high school non-completion issue, this study's central focus is to identify contributing factors that lead to high school non-completion.

Statement of the Problem

The significant percentage of students who do not complete high school is a societal problem (DePaoli et al., 2015). Despite efforts to deter high school non-completion, the U.S. Department of Education (2016) indicated that approximately 18% of students who begin high school would not graduate (DePaoli et al., 2016). This social problem has disproportionately

affected students with disabilities, from low-income households, English language learners, and students of color (Grad Nation, 2016). Although, affected students suffer directly from an incomplete education, society also feels the negative repercussions. Belfield and Levin (2007) highlighted the adverse effects that inadequately educated citizens have on society in the areas of incarceration, health care, literacy, political participation, and dependence on social assistance.

Conversely, there are life-long benefits to graduating from high school. Heckman, Humphries, and Mader (2010) reported that high school graduates tend to have higher incomes, a more positive outlook on life, and lower incidents of depression when compared to those who do not graduate from high school. The evidence supports the position that a person's quality of life is affected by the quality of educational attainment (Zath, Aasland, McDermott, Carvalho, Joseph, & Pufall Jones, 2016).

The issue of high school non-completion is often exacerbated by the inequities found within society where status and privilege are often based upon a student's socioeconomic class, race, or gender (Lee, Cornell, Gregory, & Xitao, 2011). The ideals of democracy should be mirrored in the functioning of public schools. Public schools should serve as examples of democracy and equity to their students, but too often, they mirror the engrained prejudices and inequities found in society (Ford, 2014; Palardy, 2013). However, studies have shown that some students possess a resiliency that enables them to overcome social and economic challenges and graduate from high school (Ungar, Ghazinour, & Richter, 2013; Ungar, Russell, & Connelly, 2014).

Compared to other developed nations, the United States ranks 17th in the rate of high school graduations (Organization for Economic Co-Operation and Development, 2016). These statistics show the importance of identifying and mitigating the difficulties that cause students to

academically disengage and leave high school before graduating. The evidence also indicates that many students face personal obstacles to graduation that they may not be able to surmount on their own.

High school non-completion rarely occurs in isolation; certain factors contribute to a student's failure to graduate. Typically, failure to graduate does not result from the occurrence of an abrupt and isolated event (DePaoli et al., 2016). Contributing circumstances generally consist of a series of connected events over time culminating with the student disengaging and abandoning school (Archambault, Janosz, Fallu, & Pagani, 2009). For example, students who are chronically absent from school, exhibit disruptive classroom behavior, or experience academic failure are demonstrating early warning indicators that they are academically disengaging and in danger of abandoning school (Balfanz et al., 2013; Balfanz, 2016; Kieffer, Marinell, & Neugebauer, 2014). Students are at an increased risk for disengaging academically when they transition from middle school to high school (Neild, Stoner-Eby, & Furstenberg, 2008). The persistent problem of high school non-completion highlights the need to identify those students who are in danger of dropping out and reconnect them to school.

A possible contributing factor for high school non-completion is that students lack caring and supportive relationships among their peers, parents, and school. Hence, it is necessary to identify those students who are at risk of not completing school and connect them to a support system that can help them stay in school and graduate. Therefore, this quantitative study will investigate the effect that peer relationships, parental relationships, and the school experience have on the student to remain academically engaged and graduate from high school.

Background of the Study

Without a high school degree, people may struggle in the post-secondary world. The consequences of not completing high school can be dramatic, potentially having life-long negative effects on a person's future economic well-being, personal health, and social inclusion (Chaudry & Wimer, 2016; Rumberger, 2011; Sagatun, Wentzel-Larsen, Heyerdahl, & Lien, 2016). The costs to society are equally dramatic. Belfield and Levin (2007) compared high school non-completers to high school graduates and found the average non-completer cost the economy $240,000 over a lifetime. This economic loss is the result of lower taxes paid, increased dependence on Medicare and Medicaid, higher incidences of criminal behavior, and an increased dependence on social welfare programs (Belfield & Levin, 2007; Rumberger, 2011).

The reasons students prematurely leave school are complex and varied. Fortin, Marcotte, Diallo, Potvin, and Royer (2013) found that certain students suffer from emotional turmoil, unstable home life, social exclusion, poor academic achievement, unsafe school environment, and conflict with teachers and school administrators. On the positive side, studies indicate that a supportive peer group, family, school, and community each play an essential role in encouraging students to stay in school and graduate on time (Chaudry & Wimer, 2016). Similarly, Fall and Roberts (2012) argued that a student's happiness and achievement of educational goals is realized by an active connection with peers, home, school, and community. Supportive relationships, a safe and welcoming school environment, high academic expectations, and an engaging curriculum all contribute to a student's success (Gietz & McIntosh, 2014; Protivnak, Mechling, & Smrek, 2016).

Many factors contribute to whether a student completes high school. Research indicates that early identification of potential non-completers, timely intervention, and sustained support

are essential in retaining students who are being pulled or pushed from high school (Iachini, Rogelberg, Terry, & Lutz, 2016). Schools that fail to provide a safe, engaging, and nurturing environment increase the probability that students will abandon high school (Cornell, 2015). Ananga (2011) contended that students who feel unsafe or disconnected from their peer group, home, school, or community are often pushed or pulled out of school. Williams and Whannell (2011) asserted that students are susceptible to non-completion based on factors that are often beyond their ability to understand or control. These contributing factors can be experienced both while in school as well as outside of school and often lead to emotional turmoil and duress (Bowers, Sprott, & Taff, 2013). For these reasons, students require relationships with adults who genuinely care about them and encourage them to make good life choices (Zaff et al., 2016).

Public schools' function as a subset of democracy, and as in the larger society, citizens may be grouped, or labeled. Though public schools are still the primary public institutions of democracy and opportunity, they often place labels on students and exile them to the fringes of society based upon behavior or economic and ethnic groupings (Balfanz et al., 2013). Fine (1991) argued that the bulk of current literature on high school non-completion focuses on the student instead of the educational system. This bias, of focusing on the student rather than on society and the educational system, is diminishing as scholars and practitioners move toward a more expansive view of the issue (DePaoli et al., 2015; Hynes, 2014).

Sometimes educational policies can drive students from schools. The enactment of harmful policies and practices that serve to alienate and push students out is another obstacle to high school completion (Ortega, Lyubansky, Nettles, & Espelage, 2016; Jia, Konold, & Cornell, 2016). Educational policies designed to fix one problem, may in fact contribute to a new set of problems. One example is the passage of the No Child Left Behind Act (NCLB) in 2002, which,

in effect, exacerbated the economic and social inequities found in society (Hursh, 2007). An unintended consequence of this law was to incentivize school teachers and administrators to push out the very students that the Act was intended to help. This practice occurred because school administrators viewed low-achieving students as threats to a school's academic ranking (Hursh, 2007). Another example of an educational policy that can hurt students is high-stakes testing, which can serve to widen racial inequality in our education system (Au, 2016).

To reverse this trend, the NCLB was replaced in 2015 with the Every Student Succeeds Act (ESSA). The ESSA significantly reduced the federal government's authority in education and ceded most decision-making powers to the states and school districts (Camera, 2015). The ESSA was passed with the belief that it would correct many of the harmful policies and practices enacted under the NCLB. These efforts have had positive effects on the graduation rate overall (DePaoli et al., 2015). Pro-active steps are being taken at all levels of government and by educational organizations to further this positive trend with a goal of increasing the nation's high school graduation rate to 90% by 2020 (DePaoli et al., 2016). This goal was set in the belief that students deserve an excellent education regardless of race, ethnicity, or socioeconomic status (DePaoli et al., 2016).

Education, especially in the form of high school completion, is paramount to disrupting the cycle of poverty. Educational policymakers know that a quality education coupled with a high school diploma is crucial in breaking the cycle of poverty and providing economic opportunity for each of our nation's citizens (Chaudry & Wimer, 2016). To that extent, early identification of potential high school non-completers, timely intervention, and sustained support are essential to assist students who are being pulled or pushed from school (Balfanz et al., 2013).

Without a high school diploma, a young adult has fewer opportunities in life. This significantly increases the likelihood of suffering hardships and challenges (DePaoli et al., 2015).

In summary, a high school diploma is an important starting point for all students as they transition into adulthood and seek the skills and opportunities needed for a healthy and productive life. In schools across the United States, students are disengaging from school and dropping out (DePaoli et al., 2015). Identifying policies and practices that effectively keep high school students on the path to high school graduation is critical as they transition from adolescence into adulthood (Leebens & Williamson, 2017).

Purpose of the Study

The purpose of this quantitative study is to identify contributing factors that can predict high school non-completion. If contributing factors for high school non-completion can be identified, then a strategy to reduce high school non-completion can be developed.

Theoretical Framework

Bronfenbrenner's (1979) Ecological Systems Theory will serve as the theoretical framework for this study. Relationships, and subsequently, their characteristics, whether positive or negative, can determine a student's development. By the late twentieth century, researchers and sociologists concluded that the type and quality of relationships between students and their social environment have profound effects on their personal development (Bronfenbrenner, 1977; Bronfenbrenner & Ceci, 1994). Bronfenbrenner (1977) developed Ecological Systems Theory in the field of developmental psychology and described his theory in a book entitled *The Ecology of Human Development: Experiments by Nature and Design* (1979). This theory has application to the study of human development and attributes growth and development to a student's social environment (Bronfenbrenner, 1979; Bronfenbrenner & Ceci, 1994).

For example, students' interactions with their social environment influence their development and future choices, such as the decision to not complete high school (Vollet, Kindermann, & Skinner, 2017). To reduce the rate of high school non-completion it is critical to first identify the factors that lead to this behavior. Bronfenbrenner's Ecological Systems Theory is a model that facilitates examination of interactions and relationships and provides a framework for this research.

Students' environment may shape their adolescent and adult years. Ecological Systems Theory is a human developmental model that explains how a student's environment affects development into adulthood (Bronfenbrenner, 1979). There are two key propositions in this theory. The first proposition states that human development occurs in progressively more complex and reciprocal interactions between individuals and their environment (Bronfenbrenner & Ceci, 1994). Bronfenbrenner called these reciprocal interactions *proximal processes*. The second proposition states that the influence or developmental effects of the proximal processes can vary greatly from person to person. This variance is the result of the uniqueness of each person, the environment, and the developmental aspects under consideration (Bronfenbrenner & Ceci, 1994).

Ecological Systems Theory focuses on interconnected influences and processes within five environmental subsystems. These five subsystems are the microsystem, the mesosystem, the exosystem, the macrosystem, and the chronosystem (Bronfenbrenner, 1977). This theory describes how the five subsystems interact with one another to influence a student's development.

A brief description of Bronfenbrenner's ecological subsystems follows (Bronfenbrenner, 1977; 1979; 1986). The microsystem is closest to the student and can include the student's

peers, family, church, school, and neighborhood. The mesosystem describes the interactions and overlapping of the microsystems and their impact on the student's development. The exosystem is the larger social system that the student inhabits. This system affects the student's microsystems without direct interaction by the student. The macrosystem is the primary culture in which the individual lives. Finally, the chronosystem is composed of all the events that occur within the individual's lifespan.

Genetics also shape human development. As Bronfenbrenner (1986) continued to develop and enlarge upon Ecological Systems Theory, it became clear that genetic factors also contributed to an accurate understanding of a person's development. As a result, Bronfenbrenner integrated genetic concepts into the original theory and redefined it as a Bioecological Theory (Bronfenbrenner & Ceci, 1994). Bronfenbrenner continued to study the role that nurture, and nature have in a person's development (Bronfenbrenner & Ceci, 1994).

In summary, the relationships that students have with others influence school engagement, behavior, and academic success (Balfanz et al., 2013). Therefore, helping students establish positive relationships with peers, parents, school, and community is an important element in the effort to increase the high school graduation rate (Henderson & Guy, 2017). Bronfenbrenner's (1979) Ecological Systems Theory is an appropriate model to use to identify various factors that influence high school non-completion.

Research Questions

The following questions will guide the research on high school non-completion:

Q1. To what extent is peer influence predictive of high school non-completion?

Q2. To what extent is the parental relationship predictive of high school non-completion?

Q3. To what extent is the school experience predictive of high school non-completion?

Null Hypotheses

The following null hypotheses will inform this study:

$H_0$1. Peer influence is not predictive of high school non-completion.

$H_0$2. The parental relationship is not predictive of high school non-completion.

$H_0$3. The school experience is not predictive of high school non-completion.

Definition of Terms

The following terms are used throughout this study:

Chronic absenteeism: A student missing 15 days or more of the school year for any reason (Balfanz, 2016).

Family: A social unit that lives together, shares economic resources, and cares for one another (Powell, 2017).

High school non-completer: A student who leaves high school without earning a diploma or its equivalent (Hynes, 2014).

Pull-out: A student who has been drawn away from his or her education and not completed high school because of factors occurring outside the school environment (Doll, Eslami, & Walters, 2013).

Push-out: A student who has been pushed-out of school prior to graduation because of disruptive behavior within the school environment (Doll et al., 2013; Owens, Rosch, Muschkin, Alexander, & Wyant, 2008).

SPSS: Statistical Package for the Social Sciences is a software program that accomplishes data analysis.

Student engagement: The process of students involved in their own learning, which increases their academic motivation and achievement (Sinatra, Heddy, & Lombardi, 2015).

Assumptions

Creswell and Creswell (2018) defined an assumption as a statement held by the investigator to be true. The following assumptions were made about this study. First, it was assumed that the participants would easily understand the survey questions used for data collection. Second, the participants would accurately answer the survey questions. Third, the non-profit organization would help identify and recruit research participants who met the study's inclusion criteria. Fourth, the researcher assumed there would be a sufficient number of participants to complete the research questionnaire.

Limitations

A study's limitations in quantitative research are those factors or challenges that cannot be controlled (Creswell & Creswell, 2018). Limiting factors can influence a study's validity and reliability (Simon & Goes, 2013). The first limitation in this study is that the quantitative data will be collected from a small sample of adults made up of both high school graduates and non-graduates. Therefore, the results are limited to those individuals who volunteer to be a part of this study. The second limitation is that the researcher made no attempt to survey participants with a specific age, gender, or socioeconomic status. Third, there are potential risk factors that can lead to high school non-completion that were not considered in this study. The fourth limitation is that each of the participants was surveyed only once. The fifth limitation of this study is that data were collected through a self-reporting survey.

Delimitations

Delimitations in research are the limits or boundaries that are set to control the range of the study (Simon & Goes, 2013). This process involves the decision to either include or exclude certain items as the study is developed. The first delimitation is that the sample population is

composed of adults who are at least 20 years old. This population was purposefully selected based upon their experience, perceived availability, and ease of consent to the study. The second delimitation is that of transferability attributed to the use of a single geographical region. The region studied was a mid-Atlantic state that has limited ethnic and racial diversity.

Significance of the Study

The findings of this study will benefit society because of the importance of high school graduation for providing greater opportunities to students. The ongoing need for an educated and skilled work force justifies the effort to increase the high school graduation rate. An informed understanding of why students do not graduate from high school will enable educators to develop more effective retention programs that increase the graduation rate. The results of this study may also be useful to policymakers who are endeavoring to understand and address the problem of high school non-completion. Additionally, these findings may contribute to the work of other researchers who are studying the high school non-completion issue.

Summary

Chapter I describes the problem of high school non-completion in the United States and highlights studies that indicate students of color, students from low-income families, students with disabilities, and English language learners tend to graduate at disproportionately lower rates than do other students (Grad Nation, 2016). Chapter I also discusses the importance of developing effective retention efforts to increase the graduation rate. A description of Ecological Systems Theory follows and provides the theoretical framework for this research. This theoretical framework assists in understanding why students do not graduate from high school. Next, the research questions and null hypotheses are provided. The research assumptions, limitations, and delimitations are discussed, followed by the significance of this study.

Chapter II begins with an overview of the non-completion problem in the United States, followed by a literature review that examines the demographics and characteristics of students who are vulnerable to not graduating from high school. The overarching theory underpinning this study is Bronfenbrenner's (1979) Ecological Systems Theory, which explores the various factors acting upon a student's life and educational opportunities. Chapter II also focuses on the roles that personal issues, peers, home life, school environment, and the community contribute to the development of a student. It examines how these developmental factors affect a student's decision to remain academically engaged and graduate from high school.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The purpose of this quantitative study is to identify contributing factors that can predict high school non-completion. The investigator seeks to gain a deeper understanding of the personal and relational factors that contribute to high school non-completion. If contributing factors that lead to high school non-completion are identified, then effective strategies to reduce non-completion rates can be designed.

There are many reasons why students do not graduate from high school. According to Rumberger (2011), it is a challenging task to attempt to prove that any one factor has a causal effect. Rumberger (2011) stated that leaving high school prior to graduation is the last phase of a cumulative and complex process of school disengagement. Toren and Seginer (2015) noted that the social influences and characteristics affecting students, their families, schools, and communities are interwoven and work together to produce a given outcome in a student's life.

This chapter is a review of the literature on factors related to high school non-completion, identification of potential early school leavers, and intervention practices designed to re-engage students in school. Chapter II is organized by topic to align with Bronfenbrenner's (1979) Ecological Systems Theory, which serves as the theoretical framework of this study. The chapter begins with a description of this study's theoretical framework, then explains the factors that influence high school non-completion, and concludes with the concepts of student resilience, engagement, and retention.

Ecological Systems Theory

Theoretical frameworks serve to inform studies. Bronfenbrenner's (1979) Ecological Systems Theory is the theoretical framework used to study the problem of high school non-completion. This theory is valuable for understanding the influence that peers, parents, school, and community have on a student's development (Hammond, Linton, Smink, & Drew, 2007; Williams & Portman, 2014). The theory is also important in studying how these various environmental influences can affect the student's resilience (Benard, 1993; Nicoll, 2014) and motivation (McLean, 2009; Michou, Vansteenkiste, Mouratidis, & Lens, 2014) to remain engaged in school and graduate.

The Ecological Systems Theory is deeply rooted in both developmental and social psychology. Bronfenbrenner (1979) studied society and its impact on students with a desire to understand human development. Bronfenbrenner's ecology of human development, also known as Ecological Systems Theory, emerged from blending the part that environmental factors contribute to human development with developmental and social psychology (Bronfenbrenner, 1979). Several scholars, among them Vygotsky and Lewin, influenced Bronfenbrenner's early work (Rosa & Tudge, 2013). Vygotsky's social theory focused on the important role that social interaction had in a student's cognitive development (Vygotsky, 1962). Kurt Lewin's dynamic theory of personality observed people's daily lives and how they behaved based on the interaction that occurred between their perception of self and their surrounding environment (Lewin, 1997). Building upon Lewin's ideas of environmental influences on behavior and Vygotsky's thoughts on social interaction, Bronfenbrenner designed his Ecological Systems Theory around five environmental systems: the microsystem, the mesosystem, the exosystem, the macrosystem, and the chronosystem (Figure 1).

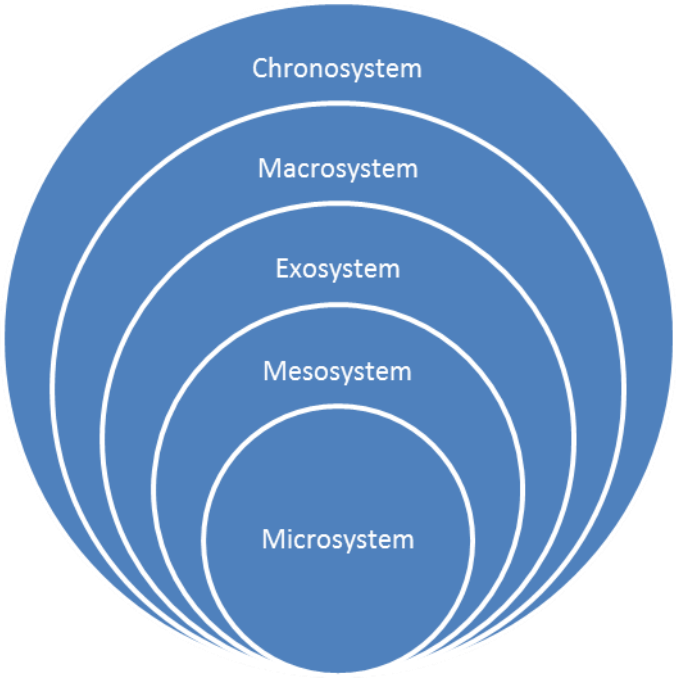

Figure 1. Theoretical framework of Ecological Systems Theory. Designed from "Toward an experimental ecology of human development," by U. Bronfenbrenner, 1977, *American Psychologist*, *32*(7), 513-531.

At the core, the microsystem includes the people who are closest to the student and may include the student's peers, family, church, school, and neighborhood (Bronfenbrenner, 1979). The microsystem is composed of the people and groups with whom the individual interacts directly in daily life and influences the student's beliefs and behaviors. Bronfenbrenner argued that the most important part of this microsystem is the home, followed by the school.

Next, the mesosystem incorporates the interactions between the various microsystems and considers how they affect the person (Bronfenbrenner, 1979). An example of a positive interaction within the microsystems would be parents who take an active interest in their student's education by participating in school meetings to learn how their student is progressing in academic subjects, as well as assisting their student with homework assignments. An illustration of negative interaction among microsystems might be a situation in which peers bully

a fellow student at school, and the student displaces the internalized feelings of hurt and anger on a family member.

Following the mesosystem, the exosystem is the larger social system in which the individual lives. This system affects the student's microsystems without direct interaction by the student and outside the individual's control (Bronfenbrenner, 1979). An example of an event in the system might include a move from a family's existing home to another state when a parent gets a new job. This action disrupts the student's microsystems by creating new relational dynamics in every area of the student's life, including the following: home, school, friends, and community.

The macrosystem is the primary culture in which the individual lives. This system is composed of societal cultures, customs, and values that constitute the human environment affecting the student's development (Bronfenbrenner, 1979). The macrosystem might include religious practices, local and national government, patriotism, heritage, and cultural status. Also included in this system are the human rights and freedoms permitted in an individual's country, along with the methods in which food is produced, distributed, and consumed. The macrosystem is also composed of particular styles of dress, education, music, art, and other expressions of creativity. The economy and job market are also considered parts of the macrosystem.

Encompassing all systems is the chronosystem, or the sum of all happenings within an individual's life. The chronosystem is composed of all the events that occur within the individual's lifespan (Bronfenbrenner, 1979). Examples would be events such as: an economic collapse, wars, space exploration, scientific discoveries, technological advances, climate change, protests, social upheaval, new counter-cultures, political figures, and natural disasters. In

Bronfenbrenner's theoretical model, the five ecological systems interact with one another to influence who we become.

Instead of looking at a narrow spectrum of behavior, Bronfenbrenner (1979) took a broad approach to studying the influences that contribute to a student's development. He stated that peers, family, school, and community are interwoven in a student's life and focused on how relationships and life events affect a student's developmental growth (Bronfenbrenner, 1977). Bronfenbrenner (1979) examined the environmental effects, or circles of influence, on students through what he called Proximal Processes. These may affect a student's behavior both negatively and positively through interactions between these circles of influence. It is the investigator's intent to study how these circles of influence can affect high school non-completion.

Bronfenbrenner's Ecological Systems Theory applies to the high school non-completion phenomenon to the extent that peers, families, schools, and communities all contribute to providing the kind of supportive relationships that students need. Ecological Systems Theory suggests that when seeking to understand why students academically disengage and do not complete high school, researchers must expand their focus beyond the school environment, to include the students themselves, their peers, family, and community (Main & Whatman, 2016). Bronfenbrenner proposed that supportive adult relationships within a student's microsystem and mesosystem are important for student engagement and high school graduation (Bronfenbrenner, 1986; Main & Whatman, 2016).

Parental support in the forms of affirmation and support, help students overcome difficult challenges as they mature into adulthood. Ecological Systems Theory promotes the idea that students need to feel loved and accepted by their parents, along with other significant adults in

their lives (Fivush & Merrill, 2016). Bronfenbrenner (1979) contended that a key aspect in the emotional development of students is the need for close relationships with their parents who affirm and support them. High quality parental relationships enable a student to persevere and accomplish challenging tasks even amid hardships and difficult experiences (Skinner, Pitzer, & Steele, 2016).

Good parental relationships are important predictors of a student's social relationships and academic successes (Wang, Deng, & Yang, 2016). Research findings show the strong influence that parental relationships have on students' overall development (Bronfenbrenner, 1986). Ruholt, Gore, and Dukes (2015) described a supportive parental relationship as a behavior in which parents praise their children, show them affection, listen to them, and are attentive to their physical, emotional, and academic needs. Students identified as having positive relationships with their parents tend to be more engaged in school and have higher high school graduation rates (Amato, Patterson, & Beattie, 2015).

Bronfenbrenner's theory has far-reaching implications for high school non-completers. Other researchers used Bronfenbrenner's Ecological Systems Theory to identify various contributing factors associated with high school non-completion (Main & Whatman, 2016). Among these factors are chronic absenteeism, disruptive student behavior, and academic course failure (Balfanz, 2016; Balfanz et al., 2013; Doll et al., 2013). Fortin et al. (2013) also suggested that students might not graduate from high school because of influences experienced within their larger environmental systems. Reasons may include peer influence, poverty, home life, recent immigration from another country, feeling socially unconnected, and conflict with teachers (Chaudry & Wimer, 2016).

Peer influence may be a predictive factor of high school non-completion. Research revealed both the negative and positive influences that peers have on students and how peer interactions can serve as an indicator of high school non-completion (Vollet et al., 2017). Laursen, Hafen, Kerr, and Stattin (2012) defined peer influence as the social influence exerted by peers, which causes the adolescent to behave differently. Ananga (2011) suggested that students who do not feel accepted by their peers are at an increased risk for academic disengagement and non-completion of high school. Likewise, studies indicate that positive peer influence is an important component for encouraging students to remain in school and graduate (Chaudry & Wimer, 2016). Additionally, Fall and Roberts (2012) maintained that a student's educational achievement can be related to peer influence.

Connections exist between a student's relationships at school and academic achievement. The seminal writings of Bronfenbrenner (1979) revealed a connection between student-teacher interactions and academic attainment. Additional research specifically examining relationships between students, their teachers, and school administrators, supports Bronfenbrenner's findings (Furrer, Skinner, & Pitzer, 2014). Research indicates that positive school relationships result in increased academic engagement and high school graduation rates (Summers, Davis, & Hoy, 2017).

A student's school experience may be a predictor of high school non-completion. The negative and positive school experience that students have while attending school serves to influence their decisions whether to academically engage and graduate from high school. Groves and Welsh (2010) characterized school experience as the student's viewpoint, opinions, and insights about the experiences they had while attending school. Zath et al. (2016) held that a more compassionate and informed effort must be made to intervene and quickly re-engage each

student who shows signs of academic withdrawal. Schools can encourage students to remain in school by providing school environments that are welcoming, engaging, and safe (Gietz & McIntosh, 2014).

Non-Completion Influences

Education affects many areas in a person's life. Quality and length of life is linked to the quality and length of an individual's educational experience (Hahn et al., 2015). Research is clear on the effects that inadequately educated citizens have on a society in the areas of crime, health, literacy, political participation, and need for social assistance (Belfield & Levin, 2007). The adverse effects of not completing high school can negatively impact a student's health, income, and societal inclusion (Levin, Belfield, Muennig, & Rouse, 2007; Pleis, Lucas, & Ward, 2010; Rumberger, 2011). Belfield and Levin (2007) compared high school graduates with non-completers and found that the average non-completer negatively affected the economy over the long term. The societal impact of high school non-completion is related to a greater use of Medicaid, increased criminal behavior, less taxes generated, and substantial use of social welfare programs (Belfield & Levin, 2007).

Conversely, research suggests that those who complete high school fare better emotionally, physically, and economically throughout their lives (Belfield & Levin, 2007). Heckman, Humphries, and Mader (2010) reported that, on average, high school graduates experienced higher future earnings, increased satisfaction with life, decreased depression, and less substance abuse when compared to those who leave school early. Graduating from high school is a determining factor in the overall quality of a person's life.

Individual Influences

Students leave school before graduating for reasons that are numerous and complex. Reasons for non-completion may include emotional turmoil, chaotic home lives, a sense of social rejection, poor academic achievement, being bullied, and conflict with teachers and school administrators (Fortin et al., 2013). Scholarly studies on high school non-completion indicate that the peer group, family, school, and community all have an important part in helping students remain engaged and graduate (Dynarski, Clarke, Cobb, Finn, Rumburger, & Smink, 2008; Metzger, Fowler, Anderson, & Lindsay, 2015; Rumberger, 2011). Supportive relationships, high academic expectations, and an engaging curriculum are among the elements that contribute to a student remaining in school, advancing and graduating.

Dupéré, Leventhal, Dion, Crosnoe, Archambault, and Janosz (2015) suggested that leaving school is not generally due to early and prolonged difficulties, but is a reaction to events such as bullying, family instabilities, or health problems, that arise late in a student's academic career. It should be noted that some students with long-term challenges appeared to persevere and graduate from high school. Therefore, a better understanding of why and when students leave school prematurely is required, with consideration given to both long-term and recent disruptive events students may face. As a society, we should avoid laying the responsibility or blame for high school non-completion on the student, but instead address the reasons that impede students from graduating (Balfanz et al., 2013).

Self-esteem. According to Vygotsky (1962), spoken words are a powerful influence on a student's emotional and cognitive development; it is incumbent upon adults to speak to students in thoughtful and caring ways. Specifically, Balfanz et al. (2013) asserted that labeling a student as a dropout is demeaning and hurtful and implies that the non-completer is a quitter. Former

President Obama (2009) stated that "dropping out is quitting on yourself, it is quitting on your country, and it is not an option, not anymore" (para 34). Although President Obama's leadership on the issue of high school non-completion is applauded and important for stemming the tide of this phenomenon, his comment reflected the subconscious belief held by many that the student is at fault for not completing high school. The message conveyed to these students is that they are failures, and in some way, deficient in character (Balfanz et al., 2013; Fine, 1991). This type of labeling is damaging to self-esteem and counterproductive to solving the non-completion problem (Zuffiano et al., 2013). Placing the blame on the student perpetuates the societal error of laying the primary responsibility on the student. This practice only serves to shame, marginalize, and isolate a vulnerable segment of society (Fine, 1991).

Feelings of low self-worth sometimes manifest in a student's life in the form of negative feelings which can result in problematic behavior and discipline issues (Flannery, Sugai, & Anderson, 2009). Such characteristics may include low motivation, a difficult disposition, a sense of inferiority, and discouragement (Callan, Kay, & Dawtry, 2014). Im, Hughes, Kwok, Puckett, and Cerda (2013) noted that a student with low self-esteem might struggle with a variety of concerns such as lack of resilience in overcoming adversity, behavior problems including hostility, excessive worry, discipline issues, school suspensions, truancy, and difficulties with law enforcement.

Finishing school on time may be viewed as important to completers. Balfanz et al. (2013) maintained that a connection exists between students completing their grade level on time and high school completion rates. Students' struggles with low self-worth can be exacerbated by failing course work or being held back to repeat the grade with younger students (Bandura, 1977; Usher & Pajares, 2008). The negative impact on students and their peer groups may range from

feelings of shame and embarrassment to senses of failure (Fine, 1991). Research showed that when students are held back in their grade level, a frequent result is high school non-completion (Andrew, 2014; Goldstein, Boxer, & Rudolph, 2015). Grade retention can have a corrosive effect on a student's sense of empowerment, enthusiasm, and optimism concerning future educational goals.

Achievement motivation theory informs the concept of student empowerment. This theory believes that people respond to various tasks based upon on a decision-making process that is connected to three areas: motive (i.e., the ability to feel shame and pride), probability (i.e., the expectation of receiving a reward), and incentive (i.e., the benefit failure and success) (Michou, Vansteenkiste, Mouratidis, & Lens, 2014). The achievement motivation theory encompasses an intellectual process in which feelings and thoughts influence behavior. The achievement motivation theory can help educators and policy makers understand why students who are held back in their grade level have an increased rate of high school non-completion (Goldstein et al., 2015; Michou et al., 2014).

Positive identity. In the field of human personality, social psychologists and researchers are interested in how people perceive themselves. Jansena, Schererb, and Schroedersc (2015) claimed that individuals who are similar in many ways might, nonetheless, view themselves differently and take various courses of action. A person's view of self is often contingent upon self-perceptions which include personal attributes that they believe themselves to have, the roles they think they are expected to play, the capabilities they believe themselves to possess, comparisons to others, and how they believe others perceive them.

Perceptions and beliefs about oneself are deep-seated and reinforced by past accomplishments and experiences. These beliefs have an influence on a person's emotional and

intellectual development, affecting the choices people make throughout life (Bandura, 1997). Theories of self-efficacy and self-concept add to the understanding of personal identity.

Crocetti, Rubini, Branje, Koot, and Meeus (2016) defined self-concept as the idea people have of themselves. Self-concept is shaped by the influences and events in a person's environment and can influence behavior and affect self-perception (Orth & Robins, 2014). Understanding the idea of self-concept or identity is helpful in knowing how a student might respond to various situations.

Self-efficacy. Self-efficacy is an important aspect of academic success and is a vital component in the growth of a person's self-concept (Jansena et al., 2015). Bandura (1997) stated that self-efficacy is the confidence to accomplish tasks and achieve goals. Maddux's (2012) definition of self-efficacy involved a person's confidence to achieve goals set within particular circumstances and domains. Self-efficacy can develop as a person experiences mastery in particular tasks or actions, including prior successful experiences accomplished through perseverance (Bandura, 1997).

The terms *self-efficacy* and *self-esteem* are easily confused (Bandura, 2006). Self-esteem is understood to be a belief in one's self-worth, which is different from having self-confidence (i.e., self-efficacy). However, opinion of self can affect a person's sense of self-confidence (Zuffiano et al., 2013). Therefore, self-esteem can affect self-confidence. For example, a student's academic success can be influenced by the degree of self-esteem the student possesses, thus affecting the student's sense of self-efficacy.

Many factors influence self-efficacy. A person's past failures and successes contribute to the development of self-efficacy (Schunk & Meece, 2006). Bandura (1977) maintained that performance accomplishments have the greatest effect on a person's self-efficacy because

recurring failures or successes lower or increase a person's confidence level. Usher and Pajares (2008) noted that students draw conclusions and make determinations about their ability to master new concepts based on their past academic performance and accomplishments. The students' beliefs are reinforced by comparing personal academic performance with peers (Putwain, Sander, & Larkin, 2013). Usher and Pajares (2008) also believed that successes or failures in the various domains of life could affect the student's sense of self-efficacy for many years.

Positive interactions with caring adults appear to strengthen a student's academic self-efficacy (Putwain, Sander, & Larkin, 2013). Verbal praise and encouragement from trusted adults can increase a student's self-efficacy (Usher & Pajares, 2008). Usher and Pajares (2008) further suggested that observing emotional responses to academic tasks offer clues to future academic failure or success.

Locus of control. The challenge for parents and teachers is to strengthen students' belief in their ability to succeed while simultaneously helping them gain the academic skills required to achieve their goals. A part of this process is assisting students to develop their locus of control. Lefcourt (2014) described locus of control as the belief that occurrences in life are primarily the result of one's own actions (i.e., internal control), or of external events (i.e., external control). An understanding of the internal and external influences acting upon an individual can affect behavior, attitude, outcomes, and self-efficacy beliefs (Tully, Gray, Goodman, & Nowicki Jr., 2016). Individuals possessing a strong sense of internal control often believe they are primarily responsible for their achievements (Lefcourt, 2014). Conversely, those who have a strong sense of external control do not believe they are in control of their lives and attribute their situations primarily to others, events, or fate.

Peer group. Research indicates that students are highly influenced by their peer groups (Goldstein et al., 2015). Erikson (1968) affirmed the benefit of positive peer relationships during the teenage years, and Ananga (2011) noted that students who do not connect socially with their peer groups are at higher risk for high school non-completion. Positive relationships between students and their social groups can contribute to students' senses of well-being and to the accomplishment of educational goals (Fall & Roberts, 2012). Healthy relationships help students develop the skills of goal-setting, conflict resolution, and cooperation (Roeser & Pinela, 2014). Conversely, peer pressure can cause students to react to situations in unfavorable ways. Laursen, Hafen, Kerr, and Stattin (2012) defined peer pressure as influence exerted by peers which causes the adolescent to behave differently. Peers exert a high degree of influence over each other in ways that can be positive and helpful, as well as negative and hurtful (Goldstein et al., 2015).

Social activities are also important to a student. In school, researchers note that students find their social interactions with peers to be more important than their academic endeavors (Goldstein et al., 2015). Positive peer relationships lead to reduced violence, an increase in academic engagement, and better school outcomes (Chapman, Buckley, Reveruzzi, & Sheehan, 2014). Such positive relationships can also help students to overcome adversity. For students who have suffered substantial childhood adversity, peer acceptance and friendship can serve as a buffer against destructive behavior and low self-worth (Birkeland, Breivik, & Wold, 2014; Oshri, Carlson, Kwon, Zeichner, & Wickrama, 2017). Caring adults can also help students connect with positive peer relationships and activities.

Family Influences

The family's characteristics may be central to the development of a student. Research indicates the strong influence that the family exerts on the personal development of students

(Bronfenbrenner, 1986). Furthermore, the socioeconomic status (SES) of the family is prominent in the high school non-completion literature (Kelly, 2008). Typically, SES is calculated by the occupational status, level of education, and income of a parent or guardian, which can be contributing factors to high school non-completion (Hahn et al., 2015). Some researchers stress the importance of a family's SES as an indicator of high school non-completion, while others argue, conversely, that it is critical only when family income is beneath the poverty line (De Wittea, Cabusa, Thyssena, Groota, & Van den Brinka, 2013). Other scholars consider SES to be a reliable indicator only when low income is considered in combination with other characteristics such as family disruptions (Lundberg, Pollak, & Stearns, 2016).

Family income levels are considered a consistent indicator for the likelihood of high school non-completion (Rumberger, 2011). Families that experience financial hardships often suffer from food insecurity; food insecurity means that there is insufficient food available to sustain a healthy and active life (Bernal, Frongillo, Herrera, & Rivera, 2014). As a result, students from these families are often enrolled in a reduced price or free lunch programs (Wight, Kaushal, Waldfogel, & Garfinkel, 2014). The school non-completion literature indicates that students on reduced price or free lunch programs are at an increased risk for leaving school before graduation (Suh & Suh, 2007). Thus, supplemental food programs can serve as indicators for students at risk of detaching from school and not graduating.

There is conflicting data in the research concerning high school completion rates when comparing students' characteristics, demographics, and family background. Research findings show that high school completion rates in the United States are significantly lower for economically poor students and minority students than for wealthier white students (Hahn et al.,

2015). However, other researchers indicate that when contributing influences such as family background and student characteristics are considered, a student's race and/or ethnicity does not seem to have as much of an influence on early school leaving as some researchers claimed (Balfanz et al. 2013).

Nevertheless, the increased rate of high school non-completion among immigrant students is a serious problem for the U.S. educational system. Some findings attribute the increase in high school non-completion rates to difficulties associated with immigrant students transitioning into a foreign culture and adjusting to a new language and school environment (Makarova & Birman, 2015). Hispanic English Language Learner (ELL) students had the highest non-completion rate when compared to white and black students (Kim, Chang, Singh, & Allen, 2015). Regarding student support, immigrant students who experienced positive parental support achieved better school outcomes academically and behaviorally (Garcia-Reid, Peterson, & Reid, 2015).

Stable families. Research supports the notion that a student's home life directly affects well-being. Studies have identified the need for students to have stability in their lives, especially at home (McCoy & Raver, 2014). Students living in safe, stable, and nurturing families experienced the lowest risk of high school non-completion, teen pregnancy, and poverty in adulthood (Amato, Patterson, & Beattie, 2015; McCoy & Raver, 2014). By comparison, students living in unstable families appeared to experience negative outcomes at a higher rate (Schmeer, 2011; Waldfogel, Craigie & Brooks-Gunn, 2010). However, students from stable families did not have uniformly positive outcomes (Blondal & Adalbjarnardottir 2014).

Family composition has been found to affect a student's academic success. Studies indicate that unmarried and cohabiting parents experienced higher rates of negative family

conditions, which can have traumatic emotional and physical effects on the students (Goldberg, & Carlson, 2014). In contrast to cohabiting couples, blended families typically experienced an elevated SES, but struggled with the adverse effects of instability (Tach, 2015). Unmarried parents on average earned lower incomes and had less education compared to married parents (Ryan & Claessens, 2013). Further, unmarried cohabiting mothers often suffered from higher rates of depression than mothers who were married (Metsä-Simola & Martikainen, 2014; Urquia, O'Campo, & Ray, 2013), which was linked to negative behavior and emotional problems in their children (Leis, Heron, Stuart, & Mendelson, 2014).

Changes in the structure of a family can also have ramifications on the children within the family. Research has been accomplished on structural changes within the family and their effects on student development (Acs, 2007; Cavanagh & Huston, 2008; Steele, Sigle-Rushton & Kravdal, 2009; Waldfogel, Craigie & Brooks-Gunn, 2010). Some notable changes can also come from outside of the family structure. Other areas of research include analysis of the frequency of caregiver changes during the student's life and the consequences these changes have on the student (Casanueva et al., 2014). Researchers found that married couples who have children experienced a lower risk of family instability, as compared to unmarried cohabiting couples and single parents (Brown, Manning, & Stykes, 2015; Mitchell, McLanahan, Notterman, Hobcraft, Brooks-Gunn, & Garfinkel, 2015; Tach, 2015).

Further instability may come from circumstances that are beyond a family's immediate control, such as changes in SES or community instability. Social stress theory contends that changes to the structure of families are often attributed to a change in their SES, leading to significant stress on families and negative outcomes for their children. Family instability can be exacerbated by community instability, disturbances to a family's socio-emotional needs, and

disruptions to their social networks (Magnuson & Berger, 2009; Tach, 2015; Waldfogel et al., 2010). Family and community instability tend to produce negative effects on the emotional health of the parents and the well-being of their children (Meadows, McLanahan, & Brooks-Gunn, 2008).

Supportive families. Familial involvement leads to increased student engagement. Students are more engaged in school and diligent about their academic success when they have parents who are involved and supportive (Bowers, Sprott, & Taff, 2013). Furthermore, students with engaged parents typically demonstrate positive behavior and constructive relationships with their peer group. Conversely, a lack of parental support or involvement reliably predicted high school non-completion regardless of income and ethnicity (Wang & Sheikh-Khalil, 2014). The benefits of parental support to the student may be the most significant factor on which researchers agree.

The parent-student relationship is foundational to the student's academic success. Within the family relationship, the educational attainment of the parents and their academic aspirations for their children are better predictors of academic success than family income (Saunders, Kraus, Barone, & Biringen, 2015). Students from large families, defined as having five or more siblings, proved to have lower high school graduation rates (Downey, Condron, & Yucel, 2015). The lower graduation rates in some large families can be attributed to the difficulty that some students have in developing meaningful and supportive relationships with their parents (Downey et al., 2015). Students from single-parent and stepparent families appeared to be at increased risk for high school non-completion because of uninvolved caregivers (Bridgeland, Dilulio, & Morison, 2006). Regardless of the family makeup, supportive parents and caregivers have an important role in helping students to flourish socially and academically (Raby et al., 2015).

Literate families. Literacy is a factor to non-completion, as well. A family's access to age appropriate reading materials is considered a reliable predictor of high school non-completion across racial and gender groups. Lynch (2009) contended that print literacy for parents and children from low-income backgrounds is necessary to break the generational chain of family illiteracy. According to Neuman and Moland (2016), a single child from a middle-income neighborhood has access to an average of 13 books, whereas 300 children share one book in a low-income neighborhood.

Also important to a student's academic progress is the practice of parents reading to their children from the earliest age (Kuo, 2016). Parents who tell stories, read aloud to their children, and plan family trips to the library can strengthen literacy among family members in their home (Allington, 2013). Parents can strengthen reading skills by regularly reading books with their child, providing time for their child to read independently, and intervening when they see their child struggling with vocabulary or reading comprehension (Kim & Quinn, 2013).

Students from poor families may require assistance in preventing academic backsliding during long summer breaks. Researchers contend that a family library can aid in knowledge retention and have a significant impact on a student's academic success (Evans, Kelley, Sikora, & Treiman, 2010; Rumberger, 2011). In some instances, parents may be unwilling or unable to develop their own family library. In those cases, educators can encourage them to use the school library or community public library to enhance their child's literacy level (Kuo, 2016). Educators can also help parents to find suitable children's literature and reading programs through community-based organizations like Reading is Fundamental (RIF) (Reading is Fundamental, 2016). The ideal is for the family, school, and community to partner together and provide a literature-rich experience for students (Baker, 2013).

School Influences

Current research reveals a common belief that places the onus for high school non-completion primarily upon the student (Hynes, 2014). Blaming the student for not completing high school is a belief among some in academia and society (Balfanz et al., 2013; Fine, 1991). DePaoli et al. (2015) noted that this bias against the high school non-completer appeared to be diminishing, moving in a direction that favored a more balanced, and helpful view of non-completion.

Schools that marginalize struggling students serve to alienate and isolate them socially, educationally, and economically (Fine, 1991). It is important for students to remain engaged in school and graduate. By staying in school, the student is more likely to receive counseling, academic, and social support (Oreopoulos, Brown, & Lavecchia, 2017).

Welcoming environment. School environment is a factor that contributes to high school completion. Gietz and McIntosh (2014) found that students do better academically and socially in schools where they perceive a welcoming environment. Public schools serve as institutions of democracy and opportunity for students. Therefore, public schools have a responsibility to welcome and educate every student regardless of social, economic, or ethnic background (Hughes, Newkirk, & Stenhgem, 2007; Jackson & Howard, 2014). High school non-completion often fixates on the attributes of the students who leave prior to graduating, instead of the characteristics of the schools the students leave (Fine, 1991; Lee, Cornell, Gregory, & Xitao, 2011). Schools that create environments where students feel safe, welcomed, and nurtured tend to see an increase in academic success and a decrease in high school non-completion (Gietz & McIntosh, 2014).

Engaging environment. Schools that foster engaging environments with strong rapport between students and teachers have lower rates of non-completion. For example, the student-teacher relationship is vital in supporting a student's social functioning, behavior, learning activities, and academic achievement (Drake, Belsky, & Fearon, 2014; Flannery, Sugai, & Anderson, 2009; Graziano, Reavis, Keane, & Calkins, 2007; Valiente, Lemery-Chalfant, Swanson, & Reiser, 2008). Cornelius-White (2007) completed an analysis of student-teacher relationships and discovered that the positive effects of student interactions with the classroom teacher – experiences that included encouragement, kindness, and caring – were linked to an increase in improved student outcomes. A positive relationship between the student and teacher is necessary for students to cope with the demands of school, believe they are in a safe learning environment, and engage in learning (Elledge, Elledge, Newgent, & Cavell, 2016). Positive relationships between students and their teachers are vital for keeping students connected to school.

Teachers' expectations, experience, instructional quality, and support for students are all factors affecting a student's choice to remain in school and graduate. Researchers suggest that students' views of their teachers contribute to whether they choose to remain in school (Bridgeland et al., 2006; Rumberger, 2011). Furrer, Skinner and Pitzer (2014) highlighted the direct influence that a skilled and caring teacher can have on a student's decision to remain in school and graduate. Teachers who are harsh and disrespectful tend to alienate their students and create a resistance to learning and academic disengagement (Lessard et al., 2008). However, it was found that increased graduation rates were associated with students who experienced positive relationships with their teachers (Kim, Chang, Singh, & Allen, 2015).

Conflict between students, schoolteachers, and administrators serve to disengage students from school and thereby increase the non-completion rate (Wang, Brinkworth, & Eccles, 2013). Some school studies report that the adverse effects of conflict between students and teachers have a greater impact on a student's adjustment to school than the positive aspects of relational closeness to peers (McCormick & O'Connor, 2015). Research indicates that the nature of the student-teacher relationship could predict behavioral outcomes even after controlling for the student's academic and behavioral characteristics (Flannery, Sugai, & Anderson, 2009). McCormick and O'Connor (2015) concluded that student-teacher conflict is harmful to students who have not developed a positive relationship with their teachers. Such conflicts discourage the student from engaging academically, inhibiting learning, and the confidence to seek adult support.

Research findings further indicate that positive student-teacher relationships tended to mitigate negative behavior among students (Wang, Brinkworth, & Eccles, 2013). Roorda, Koomen, Spilt, and Oort (2011) offered that good teacher relationships are essential for students as they progress through school and face increasing academic and social expectations. The positive influence of student-teacher relationships is important for student engagement and motivational resilience, especially as students age and advance through each grade level (Furrer, Skinner, & Pitzer, 2014; Murray, 2009; National Society for the Study of Education, 2014).

Safe environment. Studies suggest that safe and welcoming schools have higher student engagement and graduation rates (Gietz & McIntosh, 2014; Finn, 1993). Cornell (2015) maintained that students remain in school and graduate when the social and academic environments feel safe, welcoming, and engaging, and when the school offers a wide array of activities and a culturally relevant curriculum. Research indicates that smaller class sizes

improve scores on exams and increase graduation rates, especially for underprivileged students (Balfanz et al., 2013).

Researchers, though, have disagreed on the impact that school size has on high school non-completion rates. Many people believe that larger schools are less safe, caring, and engaging than smaller schools (Schwartz, Stiefel, & Wiswall, 2013). However, Kahne, Sporte, De La Torre, and Easton (2008) found that smaller high schools do not generally have the expected positive attributes. For example, they did not find higher completion rates, stronger teaching, or higher achievement levels when comparing high schools by size of enrollment.

Some research findings suggest that small high schools are more likely to have engaging cultures and report higher graduation rates than schools with larger student populations (Schwartz, Stiefel, & Wiswall, 2013). Other studies, however, indicate that a school's size is less important than the social, cultural, and academic environment (Balfanz et al., 2013; Humlum & Smith, 2015). School sizes and school cultures are complex issues that require further study and discussion.

Community Influences

Partnerships between communities and schools may prove to be vital to student retention. Community groups, and local businesses and organizations can collaborate with schools to share resources that support student learning and keep students in school (Henderson & Guy, 2017; Kasman, Owen, & Hayward, 2017). The students, their families, and schools are helped when resources, information, and services are provided by businesses, health clinics, social agencies, colleges and universities, community organizations, civic and cultural organizations, and faith-based organizations (Lewallen, Hunt, Potts- Datema, Zaza, & Giles, 2015). Likewise, schools

can share their services, resources, and facilities to benefit the community; families and students can invest in their communities by volunteering.

Expanded learning opportunities. After-school and summer programs are expanded learning opportunities that can help reinforce the reading and math skills that students receive in the classroom (Anderson-Butcher et al., 2008; Little, 2009). Studies suggest that these types of enrichment programs may steer students away from negative behaviors by replacing them with more constructive ones (Vandell, Reisner, & Pierce, 2007). Khanlou and Wray (2014) suggested that expanded learning opportunities could strengthen the positive interactions between a student, adults, and peers in the community while also increasing student resilience. While academic outcomes are positive where expanded learning opportunities are offered, it is critical that community-based service providers inform and educate the community of the available services and resources. If parents and caregivers are unaware of the programs, students are unable to enroll and benefit from them.

Students who live in poor communities often have limited access to expanded learning opportunities when compared to wealthier, resource-rich communities. This economic disparity increases the educational and opportunity gap for students from poor communities (Duncan & Murnane, 2014). Vandell et al. (2007) asserted that providing educational help to families, especially in poor communities, could improve literacy and math skills among family members. Research by Redd et al. (2012) emphasized the valuable role that schools, and communities have in providing families with quality learning opportunities and differentiated instruction. Communities must provide expanded learning opportunities for their economically disadvantaged families if they wish to narrow the achievement gap and reduce high school non-completion rates (Huang, Kim, Cho, Marshall, & Perez, 2011; Porowski & Passa, 2011).

Non-Completion Indicators

In this section, the literature is reviewed on indicators connected to the failure to complete high school. The focus is on two dichotomous phenomena: students pulled out of school by influences outside the school building and students pushed from school by forces within the school building. In addition, student attendance, behavior, and course failure are reviewed. Student attendance, behavior, and course failure are often referred to as the ABCs and are believed to be accurate indicators for high school non-completion (Balfanz, Herzog, & MacIver, 2007).

Early Predictors

School culture may serve as a determining factor to retention. Bradley and Renzulli (2011) studied characteristics of early school leavers by analyzing the overlooked predictors of being pulled or pushed from school prior to high school graduation. Bradley and Renzulli (2011) examined the significance of oppositional culture, also known as caste theory of education, and blocked opportunities theory, and its relevance to explaining differences in educational achievement among black and Latino students. Likewise, Sugai, O'Keeffe, and Fallon (2012) asserted that school culture plays an important role in student behavior, and therefore, schools must provide positive behavioral support to students.

Bowers (2010) used the Longitudinal Study dataset to measure the predictive ability of such factors as family SES, student grade point average, gender, and race for high school non-completion. The findings show that family SES provides the strongest predictive capacity for indicating which students are most at peril for not graduating by either being pushed or pulled from school (Bowers, Sprott, & Taff, 2013; Lee, Cornell, Gregory, & Xitao, 2011).

Bradley and Renzulli (2011) also reported that economic and social position is the predominant factors influencing high school non-completion. According to their research, oppositional culture is not the major contributing factor in the school pushout/pullout phenomenon. Furthermore, specific patterns of pushout/pullout exist for various population groups, but the phenomenon can be minimized when family, community, and school work together to support students.

Although high school non-completers do not typically follow a single path out of school, they often share common patterns, crisis points, and indicators. Three consistent factors that indicate a high likelihood for leaving school early are chronic absenteeism, behavioral problems, and course failure (Jerald, 2006). Balfanz et al. (2013) referred to these same three factors as the ABCs of high school non-completion.

Student attendance. School attendance problems garnered little interest from researchers compared to other non-completion factors (Gottfried, 2014). A higher awareness of absenteeism and a host of other non-completion factors can enable schools to proactively identify and help students who are in peril of not completing their high school education. Measuring student absenteeism is a common method used by researchers in determining academic engagement (Kieffer, Marinell, & Neugebauer, 2014). Research indicates that chronic absenteeism in the United States is a pervasive problem (Van Eck, Johnson, Bettencourt, & Johnson, 2017). Approximately 14% of the total student population in the United States (6,521,000 students) was absent from school for three weeks or more in 2013-14 (U.S. Department of Education, 2016). A chronically absent student is defined as one who has been absent from school for 15 or more days in a year (U.S. Department of Education, 2016). Research shows that the reasons for chronic absenteeism are as diverse as the difficulties that

students and their families face. Student absenteeism can occur because of health issues, poor transportation, and unsafe environments, which are often associated with underprivileged communities (Green, 2011; Rumberger, 2011).

School policies to encourage students to attend school range from various positive incentives to threats of jail time for parents of persistently truant students. In many cases, the decision to use these types of procedures is based on circumstantial evidence, rather than on research-based practices (Green, 2011). Counterproductive school policies may be a result of the scarcity of research literature available on school programs and policies that improve school attendance (Benner & Wang, 2014). The dearth of available research on school practices for reducing absenteeism is interesting because truancy, particularly in middle school, is linked to academic failure and high school non-completion (Kieffer, Marinell, & Neugebauer, 2014). Studies on high school non-completion indicate that not completing high school is simply the last step in a protracted withdrawal from school that can be predicted based on chronic absenteeism in the earlier grade levels (Balfanz, 2016; Finn, 1989; Chang, Russell-Tucker, & Sullivan, 2016; Rumberger, 2011).

Heradstveit, Skogen, Hetland, and Hysing (2017) found links between school absenteeism and certain outcomes and behaviors, such as: the use of tobacco, alcohol, and drugs by students. In contrast, researchers have connected good school attendance to higher scores on achievement tests (Rocque, Jennings, Piquero, Ozkan, & Farrington, 2017). Schools with low absenteeism saw an increase in passing rates on standardized achievement tests (Aucejo & Romano, 2016). Taken together, the studies indicate that teachers and school administrators need to use research-based practices to mitigate the problem of chronic absenteeism.

For student attendance to improve, schools must take a comprehensive approach addressing causal factors both within and outside the school (Kieffer, Marinell, & Neugebauer, 2014). Studies indicate that family and community involvement diminish rates of chronic absenteeism (Gottfried, 2014). Various school characteristics and practices influence attendance rates. For example, Finn and Voelkl (1993) determined that large schools have more attendance problems than schools with smaller student populations. When students view their classroom as chaotic or their teacher as unprepared, uncaring, or boring, student absenteeism and truancy increase (Gase, DeFosset, Perry, & 2016). However, attendance tends to be better, even in economically disadvantaged schools, when teachers, academic courses, and extracurricular activities are viewed as being high quality and well prepared (Hair, Hanson, Wolfe, & Pollak, 2015).

Though few schools and families work together in an organized effort to reduce chronic absenteeism, research indicates that it is a key factor in solving the problem of high school non-completion (Maynard, McCrea, Pigott, & Kelly, 2013). McConnell and Kubina Jr. (2014) noted that when schools are proactive in developing research-based practices that collaborate with the family and community, absenteeism is reduced. Parents should know the whereabouts of their child, regularly engage their child in positive discussions about the child's academic progress, support their child's extracurricular-events, and be involved in their child's school by volunteering in organizations such as the Parent-Teacher-Student Association (Kearney & Graczyk, 2014).

Collaboration among families, schools, and community institutions helps to improve student performance and expand resources and opportunities. Students do better academically when there is collaboration between the school, family, and community (Epstein, 2013). This

collaboration can include classes and support for parenting, nutrition, decision-making skills, and volunteering in the community (Epstein, 2010). Additional ideas for school, home, and community partnership programs designed to improve student attendance include rewards for good attendance and developing programs for collaboration between schools, parents, and caregivers. Epstein (2013) emphasized the importance to both school and community of providing families with resources, including the names of school officials to contact for assistance, workshops on school attendance, and after-school activities for students.

Other researchers have reported that attendance improved when schools used a comprehensive approach that supported good student attendance by fostering effective family, school, and community relations, and remained focused on the goals of improving student attendance (Goodman-Scott, Betters-Bubon, & Donohue, 2015; Kearney & Graczyk, 2014). Quality partnership programs grounded in research-based data can help families and community organizations achieve specific goals to increase the number of students who pass standardized tests and decrease student behavior problems (Gottfried, 2014).

Chronic absenteeism highlights the importance of maintaining open lines of communication between parents and the school. Research shows that contacting parents and caregivers concerning absent students is an important policy to help improve student attendance (McConnell & Kubina, Jr., 2014). This practice and information empower parents to supervise and monitor their children's attendance more effectively and results in increased levels of attendance among those students (McNeal Jr., 2014).

Along with improving school attendance by decreasing chronic absenteeism, educators and policy-makers initiated policies that increased the age for mandatory school attendance to 18 (Anderson, 2014; Messacar & Oreopoulos, 2013). Supporting this idea, Bridgeland, DiIulio, and

Streeter (2007) asserted that by increasing the compulsory school attendance age, affected states should experience a decrease in high school non-completion rates. However, Landis and Reschly (2011) argued that this initiative would have little effect on increasing the high school graduation rate, given the lack of observable change in high school graduation rates for those states that have instituted the policy. Research indicates that a punitive approach to improving school attendance is ineffective at best and harmful at worst.

Student behavior. The period of adolescence is an awkward time in human development as the student traverses the gap from childhood to adulthood. Monahan, Rhew, Hawkins, and Brown (2014) characterized this phase as a time of rapid physical and cognitive growth, acceptance of new roles and expectations from others, and development for personal future aspirations. It is during these often-turbulent years that many students begin to act out in negative ways and may make their decisions to leave school before graduating.

Substance abuse is a strong behavioral factor in high school non-completion (Terry-McElrath, O'Malley, & Johnston, 2014). Researchers discovered that students who regularly use cannabis are at greater risk of not completing high school, even though nothing in their prior school history would indicate such an outcome (Silins et al., 2014; Verweij, Huizink, Agrawal, Martin, & Lynskey, 2013). Students who use cannabis, alcohol, or tobacco appear to be more likely to not graduate from high school than non-drug users (Kelly et al., 2015).

Mentoring is useful for understanding the needs of individual students regarding school and family and endeavoring to meet those needs. Research suggests a connection between mentoring and a student's academic progress (Rhodes, 2008; Rhodes & DuBois, 2008). Studies show that students who are mentored by caring adults experienced positive outcomes in their emotional, social, and cognitive development (Mega, Ronconi, & De Beni, 2014). Their

likelihood of staying in school and graduating also increased (Bridgeland et al., 2006). Mentoring partnerships enable students to understand their emotions and regulate their behavior through a mentor's modeling and guidance, while redirecting their focus toward more productive efforts such as academic achievement. Effective mentors work to resolve negative and counterproductive self-concepts of the individual, of their peer group, and parents (Bridgeland et al., 2006; Mega, Ronconi, & De Beni, 2014; Rhodes, 2008).

Course failure. Researchers found that course failure in elementary and secondary school is indicative of high school non-completion, and a stronger predictor of high school non-completion is grade retention (Bowers, 2010; Rumberger, 2011). Researchers suggest that students who pass the average age for a grade level are significantly more likely to leave school early (Rumberger, 2011). Grade retention can overshadow other risk factors, including academic ability or achievement (Andrew, 2014).

While many educators still consider grade retention necessary, some researchers have argued that it provides only a temporary solution at best (Huang, 2014). Grade retention in an age-based school system is linked to the stigma of low intelligence, failure, and lagging behind (Andrew, 2014; Hughes et al., 2007). Coupled with a lack of academic engagement in elementary and middle school, grade retention is a forecaster of high school non-completion (Andrew, 2014; Goldstein et al., 2015). Likewise, Hughes et al. (2007) asserted that grade retention significantly increases the probability of the student not graduating from high school. The consensus among educators and researchers is that early identification and strategic support is necessary for reengaging and keeping students in school (Bowers & Sprott, 2012; Fall & Roberts, 2012).

Risk Factors

Students who have positive and meaningful school relationships remain engaged in school (Rumberger, 2011; Zepke & Leach, 2010). In contrast, students who are susceptible to the risk of being pushed or pulled out of school prior to graduation are often unable to understand or control the reasons for their precarious situations. Factors contributing to obstacles in their schooling may have occurred early, leading to emotional turmoil and negative behaviors (Chen, Ingels, & Rosen, 2015; Orpinas, Raczynski, Peters, Colman, & Bandalos, 2015; William & Whannell, 2011). Far too often, students who leave school do not have adults in their lives who can guide, support, and encourage them to persevere and work through the obstacles that confront them (Rumberger, 2011). As a result, in schools across the United States, many students do not complete high school, falling short of their potential and leaving before graduation (DePaoli et al., 2015).

Certain high schools in the United States have such high non-completion rates that they are identified as dropout factories for students (Carlson, 2014; DePaoli et al., 2015). Schools can contribute to students not completing high school by enacting harmful policies and practices that serve to alienate and push students out (Johnston-Goodstar & VeLure Roholt, 2017). In some instances, educational policies designed to fix one problem may contribute to other problems (Hardy & Woodcock, 2015).

An example of a problematic educational policy was the No Child Left Behind Act (NCLB) of 2002 that incentivized schoolteachers and administrators to push out the very students who the act was designed to help. NCLB unintentionally characterized low-performing students as impediments to the school's academic competitiveness and proficiency (McNeil, Coppola, Radigan, & Vasquez Heilig, 2008; The No Child Left Behind Act, 2002). NCLB was

replaced in December 2015, with the Every Student Succeeds Act (ESSA) which reduced the federal government's authority in education and ceded much of the decision-making authority to the states and local school districts (Camera, 2015; ESSA, 2015). The hope of many educators is that ESSA will provide the regulatory relief needed to better use educational resources to help students learn and graduate.

Push-out. Push-out theorists assert that students disengage from school for complex reasons but leave primarily due to the school environment. Researchers who study the push-out phenomenon focus on student socioeconomic backgrounds coupled with reasons inside the school environment that serve to dishearten students and influence them to not complete high school (Bradley & Renzulli, 2011). Internal school factors such as conflicts with teachers, students, and harsh disciplinary procedures work together to push students from schools (Kotok, Ikoma, & Bodovski, 2016). Studies have found that school disciplinary practices disproportionately focus on students of color and students from low-income families (Peguero, Ovink, & Li, 2016; Peguero, Shekarkhar, Popp, & Koo, 2015). These factors within the school cause students to feel threatened, leading them to disengage and reject their educations.

These internal negative school factors are attributed to environmental or structural issues that cause certain students to see school as an unsafe and an unwelcoming place (Boylan & Renzulli, 2017; Doll et al., 2013). Another example of push-out policies involves expelling students who are chronically absent or involved in anti-social or disruptive behavior (Ananga, 2011). Doll et al. (2013) suggested that these punitive practices serve to further alienate, penalize, and isolate offending students, thereby pushing them out of school. When dealing with students struggling to make sense of their environment, these practices take a simplistic approach to managing a complex, multi-dimensional problem. Removing a disruptive student from school

may provide a short-term solution, but the long-term issues confronting the student and society remain.

Pull-out. According to researchers, personal and school issues offer another explanation as to why students leave school early (Ananga, 2011; Doll et al., 2013). Research suggests that factors such as high school employment and teenage pregnancy have a higher chance of occurring among older high school students (Allensworth & Easton, 2007). Doll et al. (2013) noted that students who must work might find themselves in pull-out situations that result in high school non-completion and other students might have significant family responsibilities that also result in school pull-out.

School pull-out theorists asserted that students from low socioeconomic backgrounds may decide to stay or to leave school based on a cost–benefit analysis (Doll et al., 2013). The student often weighs the perceived opportunity cost of remaining in school against the lost earning potential of not working. Research shows a connection between a student's level of work intensity and the susceptibility to leaving high school early (Hovdhaugen, 2015; Lee & Staff, 2007). The researchers who hold this theory consider the student's social context, in which school is just one aspect of the student's life, along with family, peers, and community organizations (Hovdhaugen, 2015). According to Hovdhaugen (2015), students should be dissuaded from working more than 20 hours a week as a precautionary measure.

When the economy is strong and the unemployment rate is low, an unskilled high school student is in a favorable position to enter the job market. Even though the weekly wage for an unskilled worker without a high school diploma is the lowest of all educational categories, the prospect of earning an income and becoming independent is appealing to some students (U.S.

Bureau of Labor Statistics, 2017). These low-paying jobs have more appeal to high school students than to older adults (Warren & Hamrock, 2010).

Other researchers have focused on school pull-out connected to responsibilities in the home, family structure, and caretaker responsibilities. Home factors that pull students out of school may include: an ill family member, childcare needs, or family pressure to not complete high school. These factors have a greater impact on female and minority students (De Wittea, Cabusa, Thyssena, Groota, & Van den Brinka, 2013; Doll et al., 2013).

Fade-out. Doll et al. (2013) described students who fade out of the classroom as those who experience disruptive life issues that lead to a subtle and gradual disengagement from school. Other than poor attendance, these students do not typically trigger the indicators used to identify students at risk for high school non-completion. Examples of life issues that can cause students to disengage and quietly fade from the classroom include frequent family moves, personal long-term illness, and insufficient school or social connections (Owens et al., 2008). The students who fade-out fall through the cracks of the system and go unnoticed; they are then described as being disconnected.

Student Resilience

Students face various degrees of adversity, all of which can be met with various degrees of resilience. Resilience is the ability to adapt to various challenges or extremely threatening circumstances (Ungar et al., 2013; Ungar, Russell, & Connelly, 2014). Resilient students develop protective responses during times of uncertainty, threat, and surprise. It is an active managing of vulnerability, risk, and protective mechanisms (Benard, 2004). Resilient students experience positive results in their development despite the extreme challenges they encounter (Martin, 2013).

Individuals become resilient in response to internal and external factors that they have, which are called protective factors. These protective mechanisms are developed in students by having good role models and sufficient home, school, and community support (Im, Hughes, Kwok, Puckett, & Cerda, 2013; Ungar et al., 2013). These protective factors help to buffer adversity. The greater the protective factors, the more probable a person will persevere through the difficulties of life (Ungar, Russell, & Connelly, 2014). Various protective factors were found among students who were anticipated to struggle, yet experienced positive outcomes (Benard, 1993). Ungar et al. (2013) observed that a large percentage of students who grow up in adverse environments displayed resilience by overcoming the challenges that confront them.

Various models help refine the components of resilience theory, such as the universal strengths model, the strengths model, and the protective capacities model (Ungar et al., 2013). The universal strengths model explains that people have varying degrees of resilience to manage adversity (Benard, 2004; Martin, 2013). The strengths model emphasizes personal, family, and community strengths that help to support and equip a person for adversity (Benard, 2004; Martin, 2013). The protective capacities model maintains that certain people possess innate abilities to adapt positively to adversity (Benard, 2004; Nicoll, 2014).

Resilience theory describes three phases of resilience, each phase occurring in response to a question (Khanlou & Wray, 2014; Nicoll, 2014). The question guiding the first phase focuses on identifying the resilience quality that allows individuals to thrive despite adversity: what characteristics enable a person to overcome adversity? The question for the second phase concentrates on the development of a process for coping with stressors, and the individual's acquisition of qualities that promote resilience: how can an individual attain resilient

characteristics? The question of the third phase addresses the theory of innate resilience in every individual: what and where is the motivational force within individuals that fosters resiliency?

Resilience is a characteristic that differs widely among people and can increase or decrease over time (Brown, 2015; Khanlou & Wray, 2014). Benard (2004) noted that there are differing beliefs on whether resilience is a learned behavior for students who endure hardships, or if it is an innate ability to manage adversity. Ungar, Russell, and Connelly (2014) offered that resilience is not an innate quality but is nurtured and developed over a life span. Studies reported that students experience fluctuating amounts of resilience during various phases of their lives (Ungar et al., 2013) and every student responds differently to hardships (Im, Hughes, Kwok, Puckett, & Cerda, 2013). Students are not resilient in every situation. A student might respond positively to certain environmental stressors at a specific time and yet respond negatively to other stressors at a different time (Furrer, Skinner, & Pitzer, 2014).

A 20-year study on competence and resilience in primary and secondary students, called Project Competence, took place in Minneapolis with the participation of 205 students (114 girls, 91 boys) with data collected at 7, 10, and 20 years of age (Masten, 2007). Twenty-seven percent of the participants of Project Competence were minorities, and all students attended urban city schools. The study collected extensive data on the students, including adversity, competence, and environmental influences. An important insight gained from the research was that the students who successfully overcame adversity demonstrated increased internal and external protective factors.

Masten (2007) reported that resilient individuals were problem solvers and critical thinkers. They had close relationships with the adults who nurtured and led them. They obeyed rules, participated in a wide range of activities, cultivated healthy relationships, and had strong

self-esteem. In contrast to resilient students, the non-resilient individuals did not possess the internal and external protective factors necessary to cope with adversity. They possessed poor self-esteem and had no close relationships. The study discovered that after 20 years, some of the students who had originally been identified as non-resilient made changes as they grew and matured, enabling them to become more resilient and competent members of society.

The concept of resilience is supported by Ecological Systems Theory because specific environmental factors can help an individual develop resiliency (Ungar et al., 2013). Bronfenbrenner (1979) held that the components of an ecological system (i.e., microsystem, mesosystem, exosystem, macrosystem, and chronosystem) interact with each other and, over time, shape a student's development. Researchers have confirmed that the dynamic relationship between an ecological system and the developing student has a significant influence on the student's development. Resilience and emotional development occur within the student's ecological systems (Ungar et al., 2013). Protective mechanisms within a student's ecological environment can work together to develop stronger resilience (Benard, 2004).

Student Engagement

Student engagement conveys the idea that schools have an obligation to inspire and engage students as learners, and that learners have a responsibility to engage in their learning. Academically engaged students remain in school, continue their education, and graduate from high school (Zepke & Leach, 2010). Student engagement is an attractive concept for a study on educational achievement. The concept of student engagement suggests that all students can learn and develop in a conducive learning environment. In contrast, academically labeling students according to ethnicity and socioeconomic status is counterproductive to student engagement (Bowers, Sprott, & Taff, 2013; Sinatra, Heddy, & Lombardi, 2015).

The research literature indicates that public schools understand the importance of student engagement and its role in reducing the non-completion rate. In recent years, interest in the engagement of students at school has increased (Lawson & Lawson, 2013). Research has connected student engagement to academic performance and behavior in school (Appleton, Christenson, & Furlong, 2008). Positive societal effects can be expected from applying effective research-based practices to engaging students in becoming lifetime learners in an information-based society (Monge & Frisicaro-Pawlowski, 2014). However, while student engagement is of academic interest, the research and theoretical literature reveals little agreement on the correct way to measure academic engagement (Lam et al., 2014; Sinatra, Heddy, & Lombardi, 2015).

Early studies assessed student engagement through observable behaviors. Researchers designed various measurements, such as time-on-task indicators, to assess student engagement (Sinatra, Heddy, & Lombardi, 2015). Lawson and Lawson (2013) tracked student engagement by observing student involvement in school activities. The methods used in the early research reflected the challenges confronting researchers.

In a discussion about motivation, McLean (2009) suggested that the idea of non-motivation was a fallacy. McLean asserted that a student can show motivation by avoiding a specific task, or choose to accomplish a different task, which might not conform to a school administrator's perception of motivated behavior. McLean further proposed that motivation could not be identified in a student through observation, because motivation can only be experienced and known from the perspective of the student. This approach to studying student motivation can help researchers better understand student engagement. McLean's work also casts doubt on the accuracy of earlier behavioral techniques (Bundick, Quaglia, Corso, & Haywood, 2014). From this viewpoint, only students can determine their level of academic

engagement that is occurring in their lives. This perspective advances the prospect of understanding the experiences that engage students and then using that knowledge to help them direct their energies into constructive academic pursuits.

Views about student engagement are steadily evolving. Past research explored student engagement through on-task behavior, persistence, and participation in school activities (Tyler & Boelter, 2008). The study of student engagement is moving towards a multi-dimensional perspective to gain a better understanding of the issue.

However, some researchers continue to explore engagement through a one-dimensional perspective (Daly, Shin, Thakral, Selders & Vera, 2009; Perry, Liu, & Pabian, 2010); although, multi-dimensional ideas linking two or more characteristics of engagement are also being studied (Yonezawa, Makeba & Joselowsky, 2009). The benefit of using a multi-dimensional method in an interconnected approach is that the student, environment, and context can be fully studied together. A multi-dimensional perspective of student engagement includes four components: academic, cognitive, affective, and behavioral engagement. A definition and discussion for each student engagement sub-type is provided in the following paragraphs.

Student engagement focuses on variables such as time on task and completion of homework (Reschly & Christenson, 2006). A study of the latest student engagement literature indicates that little research has been focused on the affective and cognitive aspects of the students (Sinatra, Heddy, & Lombardi, 2015). Appleton et al. (2008) argued that a more robust understanding of the different types of student engagement could improve the rate of effective interventions to help students. These observations are relevant for unengaged and indifferent students who do not see the importance of school, or who experienced academic failure and lack confidence in academic pursuits (Appleton et al., 2008).

Cognitive engagement focuses on the student's intellect engagement in learning. This concept includes being intentional in approaching school assignments, along with a willingness to put forth the needed intellectual effort to grasp difficult ideas or master complex skills (Lawson & Lawson, 2013; Sinatra, Heddy, & Lombardi, 2015). A student who is cognitively engaged will choose to persist in a difficult assignment by regulating their attitude and behavior toward successfully achieving the task (Bundick, Quaglia, Corso, & Haywood, 2014). This description is closely aligned with the concept of resilience. The development of resilience in a person does not occur from avoiding stress but rather from managing and mastering stress in a manner that strengthens social competence and self-confidence (Rutter, 2013). Likewise, cognitive engagement is a learned skill that builds emotional well-being, resilience, and academic success in students (Pietarinen, Soini, & Pyhältö, 2014).

Affective engagement focuses on the student's emotional engagement in learning. This idea studies the importance of personal relationships in the learning environment and claims that humans have a fundamental need to belong to a group and to believe that they are accepted members of a group (Lambert et al., 2013). Affective engagement is described as incorporating both negative and positive responses to classmates, teachers, activity, and school (Bishop, Berryman, Cavanagh, & Teddy, 2007; Hulleman, Durik, Schweigert, & Harackiewicz, 2008; Johnson, 2008; Patrick, Ryan, & Kaplan, 2007; Tyler and Boelter, 2008; Walker & Greene, 2009). Research findings support the idea that meaningful emotional connections with others in school help support and enhance a student's academic engagement (Bishop, Berryman, Cavanagh, & Teddy, 2007).

The concepts of cognitive and affective engagement can help researchers and educators understand a student's response to learning (Cheon & Reeve, 2015; Lawson & Lawson, 2013;

Wang & Eccles, 2013). However, the relationship between cognitive and affective engagement continues to be a subject for ongoing research and debate. Gibbs and Poskitt (2010) proposed that affective engagement is a precondition for cognitive engagement. In contrast, Green, Rhodes, Hirsch, Suarez-Orozco, and Camie (2008) suggested that the process is cyclical, with cognitive and affective engagement acting as prerequisites for other forms of engagement.

An additional concept to consider is behavioral engagement, which occurs when students feel connected to their teachers and engage independently in positive school behavior (Gregory, Allen, Mikami, Hafen, & Pianta, 2014). Behavioral engagement includes factors such as goal setting, study skills, persistence, and supportive adult relationships (Green, Nelson, Martin, & Marsh, 2006).

Researchers are studying the developmental effects that early life experiences have on adolescent and adult behavior (Haller, Harold, Sandi, & Neumann, 2014). Studies indicate that the developing cortex in an adolescent's brain provides the adolescent with the ability to self-regulate behavior based on experience (Fuhrmann, Knoll, & Blakemore, 2015). For example, students who do not observe self-restraint in the adults around them find it difficult to control their own impulses and behaviors (Flannery, Sugai, & Anderson, 2009).

Self-regulation is a term used to explain the interaction between the environment and the student (Morrison, 2015) and is one aspect of cognitive student engagement (Greene, 2015). According to Bandura (1977), self-regulation describes the ability to evaluate and regulate one's own behavior. Adolescent students who cannot control their impulses are believed to be suffering from a disruption in their brain's cortex (Perry, 2009). A lack of behavioral control may lead to future difficulty in managing their behavior and relationships, an important aspect of affective engagement.

Research on intrinsic motivation has found that restrictive control of the learning environment results in reduced student interest, persistence, and preference for challenges (Furrer, Skinner, & Pitzer, 2014). Similar findings were replicated in limited classroom case studies (Lesaux, Jones, Bock, & Harris, 2015). The intrinsic motivation for autonomy is a central element in the self-determination model proposed by Wehmeyer (2015). In this model, cognitive engagement is understood in relation to how effectively a student's basic need for autonomy is met while at school. Wehmeyer's self-determination model is comprised of four components: the ability to work independently; the capacity to set goals and self-regulate; the belief that each person has control over his or her life; and the realistic estimation of personal strengths and weaknesses (Wehmeyer, Palmer, Shogren, Williams-Diehm, & Soukup, 2013).

The concept of self-determination is also central to the work of McLean (2009). McLean argued that self-determination is initially achieved through a system of external rewards, with a slow transition to an internal motive derived from personal satisfaction. Kohn (1993) asserted that external reward ideas, such as gold stars and prizes, appear to initially work but quickly lead to less intrinsic motivation in students to learn. Studies show that students who are self-determined and apply themselves to learn are intrinsically motivated and more resilient to setbacks (Dweck, 1999). Conversely, Dweck (1999) held that students who require external rewards are more focused on extrinsic outcomes and social standing than on personal growth and mastery of skills. These students appear to be more extrinsically motivated and less resilient to setbacks.

Another area of research is the study of gender differences, and specifically, how gender contributes to the high school non-completion rate. Kessels, Heyder, Latsch, and Hannover (2014) noted gender differences among middle school students with reference to the types of

goals they set. Research findings concluded that middle school males, when compared to their female peers, were more likely to hold performance-oriented goals (Figlio, Karbownik, Roth, & Wasserman, 2016; Kessels, Heyder, Latsch, & Hannover, 2014). However, middle school females exhibited more persistence in academics, were more likely to set academic goals than their male peers were and appeared to place a higher value on school (Figlio et al., 2016; Gestsdottir, Arnarsson, Magnusson, Arngrimsson, Sveinsson, & Johannsson, 2015; Martin, 2007).

Research findings indicate that adolescent females were predisposed to being more apprehensive toward new situations and toward risk-taking than adolescent males (Figlio et al., 2016; Kessels, Heyder, Latsch, & Hannover, 2014). However, in general, the individual characteristics that contributed to high school non-completion did not differ significantly across the sexes (Cataldi & KewalRamani, 2009). Additionally, gender research is inconclusive as to disparities between males and females in the area of student engagement.

Additional research has examined other factors relating to student engagement. For example, various studies suggest that research-based methods designed to strengthen student engagement are useful for helping apathetic learners understand the importance of applying themselves academically (Green et al., 2008). Fuhrmann, Knoll, and Blakemore (2015) studied early childhood experiences of self-regulation and its beneficial effect on student engagement. Also, studies show that positive peer relationships are beneficial to students and create a buffer to counteract negative childhood experiences (Kessels, Heyder, Latsch, & Hannover, 2014).

Student Retention Practices

Identifying research-based approaches for keeping students in school is critical (Kennelly & Monrad, 2007). When compared to their peers who graduate from high school, students who

do not complete high school are at greater risk for not attaining a healthy, productive adulthood (Belfield & Levin, 2007). Therefore, early identification of student non-completion risk factors and implementation of effective school retention programs are essential (Freeman & Simonsen, 2015). Dynarski et al. (2008) explained that the ideal student retention program must address three outcomes: remaining in school, continuing in school, and graduating from school.

Integrated Retention Programs

A piecemeal approach using unconnected retention practices is ineffective in reducing the high school non-completion rate (Freeman & Simonsen, 2015; Neild, 2009). Balfanz et al. (2013) asserted that all non-completion factors must be resolved using a simultaneous, integrated, and systematic approach. Programs designed to intervene and help students stay in school usually focus on either comprehensive school reform or individual student programs. Freeman and Simonsen (2015) asserted that despite the findings that demonstrate the necessity to resolve risk factors simultaneously, and the need to intervene early, the majority of studies still focus on either school reform or student support methods. However, other studies indicate that the most effective approach to student retention is to simultaneously combine both school-wide reform with individual support methods (Freeman, Simonsen, McCoach, Sugai, Lombardi, & Horner, 2016; Mac Iver, 2011).

Mac Iver and Mac Iver (2009) stated that a research-based retention program offered in a cohesive manner should include three components: identification of students at risk, creation and implementation of an early warning system, and creation and implementation of an intervention system integrated into an early warning system. The strongest identifiers of students who are at risk for not completing high school are absenteeism, behavior problems, and course failure (Mac Iver & Messel, 2013; Neild, 2009). An effective approach to keeping students in school involves

an integrated approach that uses the ABCs as a means of identifying and tracking students who are at risk for not completing high school, along with a combination of comprehensive school reform and student-level individualized interventions (Mac Iver & Messel, 2013; Allensworth & Easton, 2007).

A Three-Level Retention Model

Various retention models and approaches have been designed to reduce the high school non-completion rate. Neild (2009) designed a student retention model that provides a three-level intervention approach, with comprehensive reforms made both at the district and school level. The three-level retention model focuses on identifying, intervening, and preventing high school non-completion for every student. This model is used to identify and assist students who are at risk for not completing high school, as well as offering more individualized intervention methods for students requiring additional support (Freeman & Simonsen, 2015; Mac Iver & Mac Iver, 2010; Neild, 2009). This three-level retention model integrates a system that identifies students experiencing chronic absenteeism, disruptive behavior, or course failure and helps them get back on track to graduate from high school.

The primary stage. The primary stage of the three-level retention model includes comprehensive reform at the district and school level (Freeman, Simonsen, McCoach, Sugai, Lombardi, & Horner, 2016; Neild, 2009). The purpose of the reforms at this stage is to provide students with high-quality curriculum and instruction that facilitates effective learning, successful course completion, and high school graduation for every student (Balfanz et al., 2013; Freeman & Simonsen, 2015). In addition, this stage incorporates an in-depth school-wide approach to boosting consistent attendance and positive school behavior (Neild, 2009).

The secondary stage. In the secondary stage of the three-level retention model, the school gathers students who are at risk for not graduating into small groups for more focused support and guidance (Mac Iver & Mac Iver, 2010). Caring and knowledgeable adults lead these small groups, assisting students who are struggling in the areas of chronic absenteeism, disruptive behavior, or academic failure (Balfanz et al., 2013; Freeman & Simonsen, 2015).

The tertiary stage. The last and most intensive stage of the three-level retention model is the tertiary stage. Neild (2009) stated that if the primary and secondary interventions are not working to improve a student's attendance, behavior, and academics, then the student should be given one-on-one support with an academic or clinical specialist in mental health and social work. This research-based approach is an example of how to reduce the non-completion rate by assisting students at multiple points to re-engage academically and graduate.

In summary, dropout prevention models require multiple stages to be effective in identifying and re-engaging students at-risk for not graduating high school (Freeman & Simonsen, 2015; Freeman et al., 2016).

Summary

Chapter II reviews factors related to high school non-completion. A description of Bronfenbrenner's Ecological Systems Theory is presented first, which serves as the theoretical framework for this study. This chapter then reviews the scholarly literature on the following topics: non-completion influences, non-completion indicators, student resilience, student engagement, and student retention practices.

Chapter III provides a description of the quantitative method for studying factors that contribute to high school non-completion and describes this study's methodology and design.

Chapter III also discusses the setting and selection of participants, the survey instrument, the data collection process, and data analysis.

CHAPTER III

DESIGN AND METHODOLOGY

Introduction

The purpose of this quantitative study was to identify contributing factors that can predict high school non-completion. The number of students in the United States who do not graduate from high school continues to be a concern (DePaoli et al., 2016). If contributing factors for high school non-completion are identified, then a strategy to reduce high school non-completion can be developed. Chapter III provides an overview of this study's design and methodology and addresses the setting, selection of participants, the survey instrument, data collection, and data analysis.

Method

A quantitative method was selected to study the high school non-completion problem. Quantitative research looks at patterns and trends in numerical data by analyzing variables (Creswell & Creswell, 2018). This method measures the quantity or frequency of relationships between variables within a phenomenon. According to Creswell and Creswell (2018), the quantitative researcher seeks to understand a given phenomenon by using a wide-angle lens from a distance in an objective way.

Design

A non-experimental study was conducted to answer the research questions. In a non-experimental design, observations, measurements, and descriptions are made about a specific phenomenon (Creswell & Creswell, 2018). The type of non-experimental research used in this study was a cross-sectional, retrospective, correlational design. The design was cross-sectional because data were collected through a survey at a single point in time to answer the research

questions. The study was retrospective because data were gathered to assess if there was a connection between the phenomenon of high school non-completion and past influences. In addition, the design was correlational because the study explored the relationship between a variable of interest without manipulating the independent variable. For this study, correlational research was used to explore whether the variables of peer influence, parental support, or school experience, contributed to high school non-completion.

Research Questions

Quantitative research involves variables known as independent variables and dependent variables. The independent variables for this study were peer influence, parental support, and school experience. The dependent variable in this study was high school non-completion.

The terms used in the research questions and null hypotheses are defined as follows for accuracy. Laursen, Hafen, Kerr, and Stattin (2012) defined *peer influence* as the social influence exerted by peers, which causes the adolescent to behave differently. Ruholt, Gore, and Dukes (2015) described a supportive *parental relationship* as a behavior in which parents praise their children, show them affection, listen to them, and are attentive to physical, emotional, and academic needs. Groves and Welsh (2010) characterized *school experience* as the student's viewpoint, opinions, and insights about the experience they had while attending school.

These research questions guided the research on high school non-completion:

Q1. To what extent is peer influence predictive of high school non-completion?

Q2. To what extent is the parental relationship predictive of high school non-completion?

Q3. To what extent is the school experience predictive of high school non-completion?

Null Hypotheses

These null hypotheses informed this study:

$H_0$1. Peer influence is not predictive of high school non-completion.

$H_0$2. The parental relationship is not predictive of high school non-completion.

$H_0$3. The school experience is not predictive of high school non-completion.

Participants and Setting

The sample population for this study came from the Southwest region of Pennsylvania with participants living in urban, suburban, and rural communities. Upon receiving Indiana University of Pennsylvania's Institutional Review Board approval to begin data collection (see Appendix A), both high school graduates and high school non-completers were recruited to participate in this study. The sample was selected from a population of adults who were at least 20 years old and willing to participate in this study. The desire was to reflect the national data with a similar percentage mix of high school graduates and high school non-completers.

No preference was given to a gender or ethnicity for participation in this study. Participants were invited to take part in this study through several avenues. The primary source of participants came through the Westmoreland County Food Bank (WCFB), a 501(c) (3) nonprofit organization. WCFB agreed to assist (see Appendix B) in identifying a population of adults who receive monthly food boxes through WCFB's food pantries. WCFB provided access to invite potential candidates to take the online survey (see Appendix F) by placing an invitation flyer (see Appendix C) in each of the 5,345 food boxes distributed monthly.

In addition, prospective research participants who were not connected with an organization were asked to complete the study's survey. Personal invitations to participate in this study were issued through face-to-face invitations, phone calls, texts, emails, and a Facebook post. The technique of snowballing was also used to increase the number of respondents by

asking participants to recommend other potential candidates to take part in the study. All participants were provided either a paper or digital invitation flyer that invited them to take the online survey and informed them of the $50 Gift Card drawing.

Vulnerable Participants

The Department of Health and Human Services acknowledges that certain populations require additional protection because they are economically or educationally disadvantaged. Some of the participants in this study were high school non-completers. High school non-completers may be considered economically or educationally disadvantaged. Therefore, high school non-completers were considered vulnerable subjects. Also, many of the participants recruited for this study receive food aid to supplement nutritional needs. As a result, those who receive food from WCFB were considered economically disadvantaged and regarded as vulnerable subjects.

It was important to survey adults who did not complete high school for accurate data on the contributing factors that led them to not graduate. As a result, participation was sought from this vulnerable population, and each participant's rights and welfare were protected by eliminating any coercion or undue influence that could cause risk, discomfort, or inconvenience to the participant throughout the study.

Sample

Nonprobability sampling was utilized based on participant availability and the inclusion criteria for this study. There were two criteria required to participate in this study: the sample participants had to be willing to participate in the study and be at least 20 years of age. The population for this study included a cross-section of adults who were 20 years of age or older. The U.S. Department of Education (2016) statistics indicate that approximately 18% of students

who began high school would not graduate. Therefore, the investigator sought to obtain a sample that mirrored the U.S. population of high school non-completers by inviting both high school graduates and non-completers to participate in the study.

For the purpose of this study, 261 participants were considered adequate to provide a sufficient and manageable volume of data to answer the research questions. The sample size of 261 participants was based on a population of 5,500 participants available through the WCFB flyer, word of mouth, and social media invitations. For a population of 5,500 potential participants, 261 participants were within the recommended sample size, with a confidence level of 95%, and a margin of error of 5%.

Research Instrument

The research instrument used to collect data for this quantitative study was a survey. The survey (see Appendix F) was designed to answer the research questions about factors that contributed to high school non-completion. A survey was used because of the efficiency in administering the instrument to a large sample population. This approach provided confidential and relevant data in a timely manner at minimal financial cost.

Study participants completed a survey that included participant demographic information and measurement items to gather data on predictor variables. A modified Prevention Management and Evaluation System on Family, Friends, and Self survey (TCU/PMES-FFS) was used to collect data on family, friends, self, and school. The TCU/PMES-FFS survey was designed and validated as a reliable instrument for collecting data by Texas Christian University.

This study's modified survey was adapted to measure the influence that peers, family, and school exerted on students to not complete high school. The instrument included four subscales on family and friends (peer activity, trouble, familiarity with parents, and conventional involvement), and three sub-scales on self (self-esteem, environment, and school satisfaction).

The survey's owner, Texas Christian University, granted permission to adapt and use the validated survey to meet the needs of this study (see Appendix E).

The original survey was designed to be administered to students attending middle school and high school. Because the participants for this study were adults and no longer attending high school, the questions were modified to past tense for accuracy and applicability. Other than changing the tense of the questions to past tense, the content of the questions remained the same.

There were 27 measurement items in this study's survey instrument, and the estimated time to complete the survey was three minutes. The instrument was divided into four sections. Demographic questions included items that gathered information about the participant's annual income, educational attainment, family, and school experience. Part A had four items that measured responses concerning the participant's parents. Part B's three items measured responses concerning the participant's peers, and the five items in Part C measured responses concerning the participant's school experience.

The demographic section used a multiple-choice format to gather data about the participant. The response items in Parts A-C were constructed in a Likert style format to enable the participant to answer by choosing from a range of degrees. Response scales for items in Part A were (0) never, (1) rarely, (2) sometimes, (3) often, and (4) almost always; for Part B (0) none, (1) a few, (2) some, (3) most, and (4) all; and for Part C, (0) very unhappy, (1) mostly unhappy, (2) neither happy nor unhappy, (3) mostly happy, and (4) very happy.

The proposed survey instrument was beta tested to determine if the survey was clear and understandable for this study. The Indiana University of Pennsylvania (IUP) Applied Research Lab (ARL) assisted in beta testing the study's survey. Upon completion of the beta test, minor

wording changes were made to clarify and strengthen the survey. As a result of the beta test, a determination was made that the average time to complete the survey was three minutes.

Data Collection Plan

Data were collected at a single point in time using a cross-sectional survey design. There was no intervention or treatment provided in this study. For convenience, the survey instrument was administered online.

For the online survey (see Appendix F), WCFB gave their permission to place an invitational flyer (see Appendix C) in 5,345 food boxes during the monthly food distribution. The invitational flyer provided the survey's web address, and invited people to complete the online survey. The informed consent information (see Appendix D) and survey were hosted online by Qualtrics and linked to a valid IUP email address.

Instructions for completing the online survey were provided when the survey site was accessed. An online statement of informed consent was provided for the participant to read and then select "Next" to indicate they consented to take the survey. The participant was not able to proceed to the online survey until "Next" was selected.

The invitational flyer sought to incentivize people to take the survey by offering a chance for participants to win one of four $50 Amazon gift cards. Participants were asked in the online survey to provide an email address if they wanted to enter for a chance to win a $50 Amazon gift card. The email addresses were used for selecting and notifying the winning participants. After the close of data collection, the Applied Research Lab randomly selected four winning email addresses. The four winning participants were then notified by email that they had each won a $50 gift card and requested their USPS address to mail them their gift cards. In the email, each winner was given an option to receive a $50 Amazon gift card or a $50 local grocery store gift card. Two winners chose the Amazon gift card and two chose the local grocery store gift card.

The email addresses and mailing addresses will be kept confidential and secure in a locked filing cabinet in the researcher's home. Participants were able to complete the survey regardless of whether they chose to provide an email address.

There was no mechanism in the online survey hosted on Qualtrics to prevent a participant from taking the study's survey more than once. For example, there was the potential for a participant to take the online survey multiple times. The researcher had no ability to prevent this behavior.

Data Analysis Plan

This quantitative study utilized a correlational approach with a predictive design. The data analysis was based on the research questions and design chosen for this study. Survey responses were collected and entered as raw data into a software program known as Statistical Package for the Social Sciences 24 (SPSS 24) for analysis. Data analyses included summary descriptive statistics and inferential statistical tests.

Descriptive statistical analyses were conducted on the sample to describe the distribution of variables between and within participants. These included measures of central tendency (means, medians, and other percentiles) and dispersion (standard deviations and ranges). Then, bivariate correlational analysis was conducted to assess the relationship between the independent variables.

Spearman and Pearson correlations were conducted on the collected data to determine the magnitude, direction, and statistical significance of the association between the independent variables. Specifically, the investigator assessed if there was a relationship between the level and type of the independent and dependent variables. Chi-square tests of independence were performed to assess if the association between the independent variables and dependent variable

were statistically significant. Logistic regression tests were also performed to determine which independent variables were significant in influencing the odds of completing or not completing high school.

Internal and External Validity

Validity is the criteria required in research to ensure the soundness of a study's design and methods. Validity answers the question of how accurately the research measured what the study intended to measure. The two types of validity considered for this study were internal and external validity.

Internal validity is the level to which the outcome is attributed to the independent variable (Creswell & Creswell, 2018). Internal validity is a validation of the study's design correctness. Non-experimental studies have low internal validity. Non-experimental studies are not able to conclude that the differences between groups are caused by the independent variables. Therefore, this non-experimental study had low internal validity. External validity is the degree to which the outcomes of the study can replicate similar results elsewhere, and if the outcomes can be generalized to other situations or populations (Creswell & Creswell, 2018). For this quantitative study, a validated instrument was used to collect data.

Ethical Considerations

This study was compliant with the U.S. Department of Health and Human Services Code of Federal Regulations, 45 CFR § 46.102. The confidentiality of all collected data will be maintained, and the identification of participants will not be made available. The researcher ensured that all participants fully understood the nature of this study. Participants were informed that they could withdraw from this study at any time without repercussions or questions asked.

There was minimal risk to participants and the probability and magnitude of harm or discomfort anticipated in this study was not greater than any ordinarily encountered in daily life, or during the performance of routine psychological examinations or tests. However, there was the risk that a participant could find some of the survey questions to be distressing as they thought about past events. The researcher was not qualified to provide counseling services and did not follow up with the participants after the study. If any participant felt upset after completing the survey or found that some questions or aspects of the survey triggered emotional distress, they were told in the informed consent letter that talking with a qualified emotional health clinician could help. If the participant needed assistance, the Informed Consent information directed the participant to contact the U.S. Department of Health & Human Services Helpline at 1-877-726-4727 (Monday-Friday 8am-8pm EST) or go online to MentalHealth.gov. In case of an emergency, the participant was encouraged to call 911.

Summary

Chapter III outlined and discussed the research design and methodology for this quantitative study on identifying factors that contribute to high school students' non-completion. The setting and selection of participants, the adapted survey instrument, data collection, and data analysis were described. In addition, internal and external validity were defined. And last, a discussion of the ethical considerations that were upheld by the researcher throughout the study. Chapter IV presents the study's results and answers the research questions.

CHAPTER IV

ANALYSIS AND RESULTS

Introduction

The purpose of this quantitative study was to identify contributing factors that can predict high school non-completion. Research-based programs can be implemented to reduce high school non-completion if contributing causes are identified. Chapter IV reports on the results of this research and provides an overview of the study's survey instrument items, data collection, and data analysis. Bronfenbrenner's (1977) Ecological Systems Theory informed the research questions for this study.

The following research questions guided this study:

RQ1. To what extent is peer influence predictive of high school non-completion?

RQ2. To what extent is the parental relationship predictive of high school non-completion?

RQ3. To what extent is the school experience predictive of high school non-completion?

The following null hypotheses guided this study:

$H_0$1. Peer influence is not predictive of high school non-completion.

$H_0$2. The parental relationship is not predictive of high school non-completion.

$H_0$3. The school experience is not predictive of high school non-completion.

Data Analysis

This quantitative study utilized a correlational approach with a predictive design. The following data analysis was designed to answer the research questions. Survey responses were collected via Qualtrics online survey platform between February 22, 2018 and May 7, 2018. Upon completion of survey administration, all data were uploaded into the Statistical Package for

the Social Sciences 24 (SPSS 24) for analysis. A total of 280 participants took the survey. While reviewing the data, it became clear that several participants skipped questions that affected the analysis. This discovery is discussed in further detail in Chapter V under limitations. After cleaning the data for abnormalities and removing missing cases, the final sample consisted of 261 participants, 93% of the total group of participants.

Analysis of the data began with descriptive and frequency statistics designed to describe the distribution of the variables that included assessing measures of central tendency (i.e., means, medians, and other percentiles) and measures of dispersion (i.e., standard deviations and ranges). Next, to evaluate the relationship between the independent variables of peer influence, parental support, and school experience, bivariate correlational analyses were calculated. Given the nature of the key variables of interest, both Spearman's Rho and Pearson's Product-Moment correlations were conducted on the collected data to determine the magnitude, direction, and statistical significance of the association between independent variables.

In addition, this study sought to determine if there was a predictive relationship between the dependent variable of high school non-completion and the three independent variables of peer influence, parental support, and school experience. To accomplish this, chi-square tests of independence were performed to measure associations between categorical variables. Lastly, a series of logistic regression tests were conducted to calculate the predictability of the three independent variables influencing students to not complete high school.

Descriptive and Frequency Statistics

Table 1 presents results from the analysis of all continuous variables in the aggregate. The range of the following mean scores is based on a 5-point scale. The term 'moderate' is used to describe a measurement reported within the middle range of the 5-point scale. Table 1

indicates that participants reported moderate scores for peer influence (M = 2.66), parental relationships (M = 3.44), and school experience (M = 3.27). In terms of individual domains within the scales, scores were moderate, except for "How many of your friends had been in trouble with the police because of alcohol or drugs?" (M = 1.90) and "How many of your friends dropped out or wanted to drop out of school?" (M = 1.95) within the "Peers Influence" scale. Low scores on these two questions suggested that most participants had few friends who were in trouble with the police because of alcohol or drug related issues, and most participants had few friends who dropped out or wanted to drop out of school.

Table 1

Aggregate Means of the Independent Variables

Independent variables (5-point scale)	*n*	*M*	*SD*
Peer-influence	258	2.66	1.090
Did you spend time hanging out with your friends?	259	3.81	1.048
How many of your friends liked school?	258	2.98	1.131
How many of your friends had been in trouble with the police because of alcohol or drugs?	258	1.90	1.063
How many of your friends dropped out or wanted to drop out of school?	257	1.95	1.119
Parental relationship	258	3.44	1.271
Did you make more decisions than your parents about the things you did and the places you went?	257	3.32	1.299
How often did your parents really listen to your problems?	258	3.22	1.265
How often did your parents make you feel they loved you?	258	3.83	1.272
How did you feel about the way you got along with your parents?	259	3.38	1.256
School experience	258	3.27	1.179
How did you feel about your school?	258	3.19	1.252
How did you feel about your teachers at school?	258	3.36	1.179
How did you feel about the courses you were taking at school?	258	3.29	1.145
How did you feel about your school principal?	258	3.22	1.172

Aggregate Frequencies

Table 2 presents the distribution of annual income for participants. The largest number of participants, 59 (22.8%), reported an annual income between $10,000 and $20,000. A data point of interest is that 52 participants (20.1%) earned an annual income greater than $50,000

which approached the 2016 U.S. median household income of $59,039 (U.S. Census Bureau, 2017).

Table 2

Annual Income

What is your annual income?	Frequency	Percent	Cumulative percent
Less than $10,000	43	16.6	16.6
$10,000 - $20,000	59	22.8	39.4
$20,001 - $30,000	49	18.9	58.3
$30,001 - $50,000	36	13.9	72.2
Greater than $50,000	52	20.1	92.3
Prefer not to answer	20	7.7	100.0

Note. $n = 259$.

Table 3 shows the number of participants who graduated from high school and those who dropped out of high school. The sample was comprised of 261 participants of which 215 participants (82.4%) reported they were high school graduates. Forty-six participants (17.6%) reported they had dropped out of high school.

Table 3

Educational Status

	Frequency	Percent	Cumulative percent
Graduated	215	82.4	82.4
Dropped out	46	17.6	100.0

Note. $n = 261$.

Table 4 illustrates the educational breakdown of the sample in detail. Of the reported high school graduates, the highest level of education attained by 121 participants (46.5%) was an Associate's degree or higher. Two participants did not respond to this question.

Table 4

Education Level

What is your highest level of education attained?	Frequency	Percent	Cumulative percent
High school non-graduate	46	17.7	17.7
High school degree or GED	93	35.8	53.5
Associate's degree	24	9.2	62.7
Bachelor's degree or higher	97	37.3	100.0

Note. $n = 259$.

Table 5 shows the distribution of ages for dropping out of high school. The data shows that of the 44 high school non-completers who answered this question, 21 participants (47.7%) dropped out of high school at the age of 17. The next largest group, 20 participants (45.5%), dropped out of high school at the age of 16.

Table 5

Age of Dropout

At what age did you drop out of school?	Frequency	Percent	Cumulative percent
15	1	2.3	2.3
16	20	45.5	47.7
17	21	47.7	95.5
18	2	4.5	100.0

Note. $n = 44$.

Table 6 shows the grade at which participants dropped out of high school. Twenty-four participants (58.5%) dropped out of high school in the 10th grade, followed by 10 participants (24.4%) who dropped out in the 11th grade.

Table 6

Last Grade Attended

What was the highest grade you attended before dropping out of school?	Frequency	Percent	Cumulative percent
9th grade	4	9.8	9.8
10th grade	24	58.5	68.3
11th grade	10	24.4	92.7
12th grade	3	7.3	100.0

Note. $n = 41$.

Table 7 presents reasons for dropping out of high school. The most common reason given by 12 participants (27.7%) for dropping out of high school was "I was bored with school and wanted a change." The least reported reason for leaving school was "I became a parent" given by 1 participant (2.3%).

Table 7

Dropout Reason

Why did you drop out of school?	Frequency	Percent	Cumulative percent
I wanted to work instead of being in school.	7	15.9	15.9
My grades were too low.	8	18.2	34.1
I was absent too many days from school.	6	13.6	47.7
I had drug and/or alcohol related problems.	3	6.8	54.5
I became a parent.	1	2.3	56.8
I was expelled from school because of behavior issues.	5	11.4	68.2
I was bored with school and wanted a change.	12	27.3	95.5
Other	2	4.5	100.0

Note. $n = 44$.

Table 8 presents results from participants' mothers' dropout status. The majority of participants (204 or 78.8%) mothers were high school graduates. However, 52 participants (20.1%) reported that their mothers did not graduate from high school.

Table 8

Mother's High School Graduation Status

Did your mother graduate from high school?	Frequency	Percent	Cumulative percent
Yes	204	78.8	78.8
No	52	20.1	98.8
I don't know	3	1.2	100.0

Note. $n = 259$.

Table 9 depicts results for participants' fathers' dropout status. Overall, 185 participants (71.4%) had fathers who graduated from school. However, 60 participants (23.2%) reported that their fathers did not graduate from high school.

Table 9

Father's High School Graduation Status

Did your father graduate from high school?	Frequency	Percent	Cumulative percent
Yes	185	71.4	71.4
No	60	23.2	94.6
I don't know	14	5.4	100.0

Note. $n = 259$.

Table 10 presents results for participants' siblings' dropout status. One hundred and seventy-nine participants' siblings (68.8%) graduated from high school. However, 64 participants (24.6%) had siblings that did not graduate from high school.

Table 10

Siblings' High School Graduation Status

Did your siblings graduate from high school?	Frequency	Percent	Cumulative percent
Yes	179	68.8	93.5
No	64	24.6	24.6
I don't know	1	0.4	93.8
I don't have any siblings	16	6.2	100.0

Note. $n = 260$.

Table 11 presents results for the high school living situation of participants in the study. Overall, 161 participants (62.2%) lived with both their mother and father. However, 48 participants (18.5%) lived with only their mother and 7 participants (2.7%) lived with only their father.

Table 11

High School Living Situation

Who did you live with most of the time while you were in high school?	Frequency	Percent	Cumulative percent
Mother only	48	18.5	18.5
Father only	7	2.7	21.2
Both mother and father	161	62.2	83.4
Both mother and stepfather	16	6.2	89.6
Both father and stepmother	6	2.3	91.9
Grandparent(s) or other family member	17	6.6	98.5
Foster care families	3	1.2	99.6
Other caregiver	1	0.4	100.0

Note. $n = 259$.

Table 12 shows results for the participants' description of the physical maintenance of their high schools. Overall, 166 participants (64.1%) described their high school as being "Well-kept." However, 70 participants (27%) reported their high schools' condition as "Ok, but needed repairs." An additional 23 participants (8.9%) described their high school as "Run down."

Table 12

High School Description

How would you describe your high school?	Frequency	Percent	Cumulative percent
Well kept	166	64.1	64.1
Ok, but needed repairs	70	27.0	91.1
Run down	23	8.9	100.0

Note. $n = 259$.

Table 13 presents results from a question asking participants to describe the location of their high school. Responses indicated that 116 participants (44.8%) came from suburban high schools, followed by 87 participants (33.6%) from rural highs schools, and 56 participants (21.6%) from urban/city high schools.

Table 13

High School Area Description

How would you describe the area in which your high school was located?	Frequency	Percent	Cumulative percent
Urban/city	56	21.6	21.6
Suburban	116	44.8	66.4
Rural	87	33.6	100.0

Note. $n = 259$.

Table 14 describes the size of participants' high schools. Similar numbers were reflected in the data as 68 participants (26.3%) came from schools with student body populations of 500 or less, 60 participants (23.2%) came from schools with student body populations between 501 and 1,000, and 67 participants (25.9%) came from schools that had student body populations between 1,001 and 2,000.

Table 14

High School Size

How many students were in your high school?	Frequency	Percent	Cumulative percent
0-500	68	26.3	26.3
501-1,000	60	23.2	49.4
1,001-2,000	67	25.9	75.3
2,001-3,000	33	12.7	88.0
3,001 or more	11	4.2	92.3
I don't know	20	7.7	100.0

Note. n = 259.

Table 15 shows the internal consistency of the items that make up the study's three independent variables: peer influence, parental support, and school experience. Cronbach's Alpha for school experience was highly reliable (5 items; $\alpha = 0.921$). Whereas, Cronbach's Alpha for the four peer influence items and the three parental relationship items were 0.640 and 0.586 respectively, which indicated less reliability.

Table 15

Internal Consistency of the Variable Items

Independent variables	n	M (SD)	α
Parental relationship	257	3.44 (0.85)	0.586
School experience	256	3.27 (1.07)	0.921
Peer influence	256	2.55 (0.82)	0.640

Note. α = Cronbach's Alpha; SD = Standard Deviation.

Inferential Statistics

The following section presents results from chi-square analysis testing for association among key categorical variables between high school non-completers and high school graduates.

Table 16 presents the results of the chi-square output for annual income. A chi-square test for independence indicated a statistically significant association between high school non-completion status and income (χ^2 [5, n = 259] = 25.906, p = 0.000). Of the participants who graduated from high school, 50 participants (23.5%) reported an annual income greater than $50,000, as compared to two participants (4.3%) who dropped out of high school.

Table 16

Chi-Square Output for Annual Income

Annual income	Graduated		Dropped out					
	n	%	*n*	%	Total	χ^2	*df*	*p*
Less than $10,000	38	17.8	5	10.9	43	25.906	5	0.000
$10,000-$20,000	45	21.1	14	30.4	59	-	-	-
$20,001-$30,000	31	14.6	18	39.1	49	-	-	-
$30,001-$50,000	29	13.6	7	15.2	36	-	-	-
Greater than $50,000	50	23.5	2	4.3	52	-	-	-
Total	213	-	46	-	259	-	-	-

Note. % reflect within variable percentages.

Table 17 presents the results of the chi-square output for mothers who graduated from high school. A chi-square test for independence indicated a statistically significant association between a respondent's high school dropout status and the mother's high school dropout status

(χ^2 [2, n = 259] = 20.462, p = 0.000). Twenty participants (44.4%) who dropped out of high school reported that their mother did not graduate high school.

Table 17

Chi-Square Output for Mother Graduated From High School

Did your mother graduate high school?	Participants graduated		Participants dropped out					
	n	%	*n*	%	Total	χ^2	*df*	*p*
Yes	179	83.6	25	55.6	204	20.462	2	0.000
No	32	15.0	20	44.4	52	-	-	-
Don't know	3	1.4	0	0	3	-	-	-
Total	214	-	45	-	259	-	-	-

Note. % reflect within variable percentages.

Table 18 presents the results of the chi-square output for fathers who graduated from high school. A chi-square test for independence indicated a statistically significant association between a respondent's high school dropout status and the father's high school dropout status (χ^2 [2, n = 259] = 21.647, p = 0.000). Twenty-two participants (48.9%) who dropped out of high school reported that their father did not graduate high school.

Table 18

Chi-Square Output for Father Graduated From High School

Did your father graduate high school?	Participants graduated		Participants dropped out					
	n	%	*n*	%	Total	χ^2	*df*	*p*
Yes	162	75.7	23	51.1	185	21.647	2	0.000
No	38	17.8	22	48.9	60	-	-	-
Don't know	14	6.5	0	0	14	-	-	-
Total	214	-	45	-	259	-	-	-

Note. % reflect within variable percentages.

Table 19 presents the results of the chi-square output for sibling dropout from high school. A chi-square test for independence indicated a statistically significant association between high school dropout status and sibling high school dropout status (χ^2 [3, n = 260] = 94.112, p = 0.000). Table 19 shows that 37 participants (80.4%) who dropped out of high school reported they had a sibling who also dropped out of high school, as compared to 27 participants (12.6%) who graduated high school.

Table 19

Chi-Square Output for Sibling Dropout From High School

Did your sibling(s) graduate high school?	Participants graduated		Participants dropped out					
	n	%	*n*	%	Total	χ^2	*df*	*p*
Yes	27	12.6	37	80.4	64	94.112	3	0.000
No	170	79.4	9	19.6	179	-	-	-
Don't know	1	0.5	0	0	1	-	-	-
Don't have any siblings	16	7.5	0	0	16	-	-	-
Total	214	-	46	-	260	-	-	-

Note. % reflect within variable percentages.

Table 20 presents the results of the chi-square output for living situation. A chi-square test for independence indicated a statistically significant association between high school dropout status and living situation (χ^2 [7, n = 259] = 35.063, p = 0.000). Table 20 shows that 142 participants (66.7%) who graduated high school reported they lived with both their mother and father, as compared to 19 participants (41.3%) who dropped out of high school.

Table 20

Chi-Square Output for Living Situation

Cohabitants	Graduated		Dropped out					
	n	%	*n*	%	Total	χ^2	*df*	*p*
Mother	40	18.8	8	17.4	48	35.063	7	0.000
Father	7	3.3	0	0	7	-	-	-
Both mother & father	142	66.7	19	41.3	161	-	-	-
Both mother & stepfather	12	5.6	4	8.7	16	-	-	-
Both father & stepmother	3	1.4	3	6.5	6	-	-	-
Total	213	-	46	-	259	-	-	-

Note. % reflect within variable percentages.

Table 21 presents the results of the chi-square output for description of high school. A chi-square test for independence indicated a statistically significant association between high school dropout status and description of high school (χ^2 [2, n = 259] = 60.567, p = 0.000). Table 21 shows that 155 participants (72.8%) who graduated high school perceived their high school as being "Well-kept," as compared to 11 participants (23.9%) who dropped out of high school who perceived their school as "Well-kept."

Table 21

Chi-Square Output for Description of High School

School condition	Graduated		Dropped out					
	n	%	*n*	%	Total	χ^2	*df*	*p*
Well-kept	155	72.8	11	23.9	166	60.567	2	0.000
Okay, but needed repairs	51	23.9	19	41.3	70	-	-	-
Run down	7	3.3	16	34.8	23	-	-	-
Total	213	-	46	-	259	-	-	-

Note. % reflect within variable percentages.

Table 22 presents the results of the chi-square output for location of high school. A chi-square test for independence indicated no statistically significant association between high school dropout status and location of high school (χ^2 [2, n = 259] = 2.277, p = 0.320).

Table 22

Chi-Square Output for Location of High School

School location	Graduated		Dropped out					
	n	%	*n*	%	Total	χ^2	*df*	*p*
Urban/City	44	20.7	12	26.1	56	2.277	2	0.320
Suburban	100	46.9	16	34.8	116	-	-	-
Rural	69	32.4	18	39.1	87	-	-	-
Total	213	-	46	-	259	-	-	-

Note. % reflect within variable percentages.

Table 23 presents the results of the chi-square output for size of high school. A chi-square test for independence indicated a statistically significant association between high school dropout status and size of high school (χ^2 [5, n = 259] = 14.213, p = 0.014). Thirteen participants

(28.3%) who dropped out attended high schools with between 2,001-3,000 students, as compared to 20 participants (9.4%) who graduated from high schools of the same size.

Table 23

Chi-Square Output for Size of High School

High school size	Graduated		Dropped out					
	n	%	*n*	%	Total	χ^2	*df*	*p*
0 - 500	60	28.2	8	17.4	68	14.213	5	0.014
501 - 1000	48	22.5	12	26.1	60	-	-	-
1001 - 2000	57	26.8	10	21.7	67	-	-	-
2001 - 3000	20	9.4	13	28.3	33	-	-	-
3001 or more	10	4.7	1	2.2	11	-	-	-
Total	213	-	46	-	259	-	-	-

Note. % reflect within variable percentages.

Hypothesis Testing

To assess the relationship between peer influence, parental relationship, and school experience on high school non-completion, three scales were created. The first scale, a peer influence scale, was initially made by combining responses to the following four questions:

1. Did you spend time hanging out with your friends?
2. How many of your friends had been in trouble with the police because of alcohol or drugs?
3. How many of your friends dropped out or wanted to drop out of school?
4. How many of your friends liked school?

However, the inclusion of the fourth question in the scale produced a negative Cronbach's Alpha. Further analysis of the fourth question suggested that the item was

negatively correlated with the other measures in the scale. Therefore, the item was removed. The final version of the scale included the remaining three questions. A composite score was created by combining response scores (1 to 5). The composite score was then divided by the number of items (three) to average the results for ease of interpretation. The final scale ranged from 1 to 5 with higher numbers reflecting stronger ties to peers. The mean for the peer influence scale was 2.55, indicating that most participants reported a moderately strong relationship with their peers. While the reliability of the peer influence scale ($\alpha = 0.640$) was slightly lower than the widely accepted standard ($\alpha = 0.70$) (DeVellis, 2012), this alpha was likely sensitive to the small number of items in the scale. Briggs and Cheek (1986) suggested that because the mean inter-item correlation (0.368) for the items is above 0.2, this scale can be regarded as reliable.

To assess the influence of the parental relationship on high school non-completion, a second scale was created that combined four questions:

1. Did you make more decisions than your parents about things you did and places you went?
2. How often did your parents really listen to your problems?
3. How often did your parents make you feel they loved you?
4. How did you feel about the way you got along with your parents?

A composite score was made by combining response scores (1 to 5). Then, the composite score was divided by the number of items (four) to average the results for ease of interpretation. Scores ranged from 1 to 5 with higher numbers indicating stronger ties to parents. The mean score for the parental relationship scale was 3.44, indicating that most participants reported a moderately strong relationship with their parents. While the reliability of the parental

relationship scale (α = 0.586) was slightly lower than the widely accepted standard (α = 0.70) (DeVellis, 2012), this alpha was also likely sensitive to the small number of items in the scale. Briggs and Cheek (1986) suggested that because the mean inter-item correlation (0.268) for the items is above 0.2, this scale can be regarded as reliable.

To assess the influence of school experience on high school non-completion, a third scale was designed. This third scale was designed by combining the responses from the following four questions:

1. How did you feel about your school?
2. How did you feel about your teachers at school?
3. How did you feel about the courses you were taking at school?
4. How did you feel about your school principal?

A composite score was created by combining response scores (1 to 5). This composite score was then divided by the number of items (four) to average the results for ease of interpretation. The final scale ranged from 1 to 5 with higher numbers reflecting a more positive outlook on school. The mean score for school experience was 3.27, suggesting that most participants had a moderately positive perception of their school experience. Reliability analysis suggested good internal consistency (α = 0.921). Table 24 reflects the mean scores for all items within each scale.

Table 24

Aggregate Mean Scales

Independent variables	*n*	*M*	*SD*
Peer influence	256	2.55	0.82
Did you spend time hanging out with your friends?	259	3.81	1.048
How many of your friends liked school?	258	2.98	1.131
How many of your friends had been in trouble with the police because of alcohol or drugs?	258	1.90	1.063
How many of your friends dropped out or wanted to drop out of school?	257	1.95	1.119
Parental relationship	257	3.44	0.85
Did you make more decisions than your parents about the things you did and places you went?	257	3.32	1.299
How often did your parents really listen to your problems?	258	3.22	1.265
How often did your parents make you feel they loved you?	258	3.83	1.272
How did you feel about the way you got along with your parents?	259	3.38	1.256
School experience	256	3.27	1.07
How did you feel about your school?	258	3.19	1.252
How did you feel about your teachers at school?	258	3.36	1.179
How did you feel about the courses you were taking at school?	258	3.29	1.145
How did you feel about your school principal?	258	3.22	1.172

Note. SD = Standard Deviation.

A Note on the Normality of Scales

The Kolmogorov-Smirnov and Shipiro-Wilk tests were statistically significant for all three scales (peer influence, parental relationship, and school experience), indicating that the data

is not normally distributed. Visual inspection of histograms and Normal Q-Q plots confirmed this finding as data points were not clustered in a solid linear line and data did not fall on the normal curve. The peer influence scale was positively skewed (Skewness = 0.683; *M* = 2.55, Median = 2.33). The parental relationship scale was negatively skewed (Skewness = - 0.489; *M* = 3.44, Median = 3.50). The school experience scale was also negatively skewed (Skewness = - 0.633; *M* = 3.27, Median = 3.50). This collection of results indicated that non-parametric statistics should be used (Mann-Whitney U instead of T-Test) and that medians should be reported instead of means as the mean can be distorted when data is skewed.

Main Independent Sample T-Tests for Analysis

RQ1. To what extent is peer influence predictive of high school non-completion?

$H_0$1.There is no group mean difference in scores for peer influence between high school graduates and high school non-completers.

Research Hypothesis 1: There is a statistically significant group mean difference in score for peer influence between high school graduates and high school non-completers.

Tables 25 and 26 show the results of an independent sample t-test conducted to compare peer influence scores for high school graduates and high school non-completers. There was a statistically significant group mean difference in scores for graduates (*M* = 2.365, *SD*= 0.668) and non-completers (*M* = 3.470, *SD* = 0.870; *t* = - 7.956, *p* = 0.000). Therefore, the null hypothesis is rejected and there is a statistically significant group mean difference in peer influence between graduates and non-completers in the population. On average, graduates scored 1.105 units lower in peer influence than non-completers. The magnitude of the difference in the means (mean difference = - 1.105, 95% C.I. = - 1.383, -0.826) was large (Cohen's *d* = - 1.318).

Table 25

Group Mean Scores for Peer Influence on High School Graduates and High School Non-Completers

Group	*n*	*M*	*SD*	*SE*
Graduate	212	2.365	0.668	0.046
Dropout	44	3.470	0.870	0.131

Note. SD = Standard Deviation; *SE* = Standard Error.

Table 26

T-Test Comparing Scores for Peer Influence Between High School Graduates and High School Non-Completers

	t	*df*	*p*	Mean difference	95% C.I.	*d*
Total peer influence	- 7.956	53.996*	0.000	- 1.105	- 1.383, - 0.826	- 1.318

Note. * Assumption of homogeneity of variance violated; results are from a two-tailed analysis.

RQ2. To what extent is the parental relationship predictive of high school non-completion?

$H_0$2. There is no statistically significant group mean difference in parental relationship between high school graduates and high school non-completers.

Research Hypothesis 2: There is a statistically significant group mean difference in score for parental influence between high school graduates and high school non-completers.

Tables 27 and 28 show the results of an independent sample t-test conducted to compare parental relationship scores between high school graduates and high school non-completers. There was a statistically significant group mean difference in scores for high school graduates (M = 3.600, SD = 0.809) and high school non-completers (M = 2.700, SD = 0.621; t = 7.032, p = 0.000). Therefore, the null hypothesis is rejected and there is a statistically significant group

mean difference in parental relationship between high school graduates and high school non-completers in the population. On average, high school graduates scored 0.900 units higher in parental relationships than high school non-completers. The magnitude of the difference in the means (mean difference = 0.900, 95% C.I. = 0.648, 1.15) was large (Cohen's *d* = 1.15).

Table 27

Group Mean Scores for Parental Relationship Between High School Graduates and High School Non-Completers

Group	*n*	*M*	*SD*	*SE*
Graduate	212	3.600	0.809	0.056
Non-completer	45	2.700	0.621	0.093

Note. SD = Standard Deviation; *SE* = Standard Error.

Table 28

T-Test Comparing Scores for Parental Relationship Between High School Graduates and High School Non-Completers

	t	*df*	*p*	Mean difference	95% C.I.	*d*
Total parental relationship	7.032	255	0.000	0.900	0.648, 1.15	1.15

Note. Results are from a two-tailed analysis.

RQ3. To what extent is the school experience predictive of high school non-completion?

$H_0$3.There is no statistically significant group mean difference in scores for school experience between high school graduates and high school non-completers.

Research Hypothesis 3: There is a statistically significant group mean difference in score for school experience between high school graduates and high school non-completers.

Tables 29 and 30 show the results of an independent sample t-test conducted to compare school experience scores for high school graduates and high school non-completers. There was a

statistically significant group mean difference in scores for graduates (M = 3.532, SD = 0.900) and non-completers (M = 2.023, SD = 0.908; t = 10.104, p = 0.000). Therefore, the null hypothesis is rejected and there is a statistically significant group mean difference in school experience between graduates and non-completers in the population. On average, graduates scored 1.509 units higher in school experience than non-completers. The magnitude of the difference in the means (mean difference = 1.509, 95% C.I. = 1.215, 1.209) was large (Cohen's d = 1.674).

Table 29

Group Mean Scores for School Experience Between High School Graduates and High School Non-Completers

Group	*n*	*M*	*SD*	*SE*
Graduate	212	3.532	0.900	0.062
Non-completer	44	2.023	0.908	0.137

Note. SD = Standard Deviation; *SE* = Standard Error.

Table 30

T-Test Comparing Scores for School Experience Between High School Graduates and High School Non-Completers

	t	*df*	*p*	Mean difference	95% C.I.	*d*
Total school experience	10.104	254	0.000	1.509	1.215, 1.209	1.674

Note. Results are from a two-tailed analysis.

Auxiliary T-Tests With Correlation Matrices

Table 31 reflects a series of correlations that were run to assess the strength of relationship between key variables of interest. Results indicated a number of statistically significant correlations existed.

A significant positive correlation existed between "Did you spend time hanging out with your friends?" and "How many of your friends had been in trouble with the police because of alcohol or drugs?" ($r = 0.213$, $p < 0.01$). Using Cohen's (1988) benchmarks for this relationship, it would be classified as a weak effect size.

A significant negative correlation was found between "How many of your friends liked school?" and "How many of your friends had been in trouble with the police because of alcohol or drugs?" ($r = - 0.536$, $p < 0.01$). This relationship would be classified as a strong effect size (Cohen, 1988).

A weak positive correlation was found to exist between "Did you spend time hanging out with your friends?" and "How many of your friends dropped out or wanted to drop out of school?" ($r = 0.164$, $p < 0.01$).

A strong positive correlation was found to exist between "How many of your friends had been in trouble with the police because of alcohol or drugs?" and "How many of your friends dropped out or wanted to drop out of school?" ($r = 0.736$, $p < 0.01$).

A strong negative correlation was found to exist between "How many of your friends liked school?" and "How many of your friends dropped out or wanted to drop out of school?" ($r = - 0.568$, $p < 0.01$).

Table 31

Correlation Matrix for Domains of Peer Influence

	1	2	3	4
Did you spend time hanging out with your friends? (1)	1	-	-	-
How many of your friends liked school? (2)	- 0.037	1	-	-
How many of your friends had been in trouble with the police because of alcohol or drugs? (3)	0.213*	- 0.536*	1	-
How many of your friends dropped out or wanted to drop out of school? (4)	0.164*	- 0.568*	0.736*	1

Note. * $p < 0.01$.

A series of independent sample t-tests were run to compare factors of peer influence by dropout status. Tables 32 and 33 present results from this analysis. There was a statistically significant group mean difference in scores for "Did you spend time hanging out with your friends?" between high school graduates ($M = 3.73$, $SD = 1.027$) and high school non-completers ($M = 4.20$, $SD = 1.067$; $t = -2.755$, $p = 0.006$). There was a statistically significant group mean difference in scores for "How many of your friends liked school?" between graduates ($M = 3.22$, $SD = 1.033$) and non-completers ($M = 1.87$, $SD = 0.894$; $t = 8.141$, $p = 0.000$). There was a statistically significant group mean difference in scores for "How many of your friends had been in trouble with the police because of alcohol or drugs?" between graduates ($M = 1.66$, $SD = 0.895$) and non-completers ($M = 3.02$, $SD = 1.076$; $t = -7.946$, $p = 0.000$). There was a statistically significant group mean difference in scores for "How many of your friends dropped out or wanted to drop out of school?" between graduates ($M = 1.69$, $SD = 0.974$) and non-completers ($M = 3.18$, $SD = 0.947$; $t = -9.262$, $p = 0.000$). Therefore, the null hypotheses is

rejected in every case and there is a group mean difference in the population for all the above variables.

Table 32

Comparing High School Graduates and High School Non-Completers on Factors of Peer Influence

	Status	*n*	*M*	*SD*	Std. error
Did you spend time hanging out with your friends?	Graduated	213	3.73	1.027	0.070
	Dropped out	46	4.20	1.067	0.157
How many of your friends liked school?	Graduated	213	3.22	1.033	0.071
	Dropped out	45	1.87	0.894	0.133
How many of your friends had been in trouble with the police because of alcohol or drugs?	Graduated	213	1.66	0.895	0.061
	Dropped out	45	3.02	1.076	0.160
How many of your friends dropped out or wanted to drop out of school?	Graduated	213	1.69	0.974	0.067
	Dropped out	44	3.18	0.947	0.143

Note. SD = Standard Deviation.

Table 33

T-Test Comparing High School Non-Completers on Factors of Peer Influence

	t	*df*	Mean difference	95% C.I.	*p*
Did you spend time hanging out with your friends?	- 2.755	257	- 0.463	- 0.794, - 0.132	0.006
How many of your friends liked school?	8.141	256	1.349	1.023, 1.676	0.000
How many of your friends had been in trouble with the police because of alcohol or drugs?	- 7.946	57.551*	- 1.365	- 1.709, - 1.021	0.000
How many of your friends dropped out or wanted to drop out of school?	- 9.262	255	- 1.487	- 1.803, - 1.171	0.000

Note. * Assumption of homogeneity of variance violated.

The results in Table 34 indicate a significant negative correlation existed between "Did you make more decisions than your parents about things you did and places you went?" and "How often did your parents really listen to your problems?" (r = - 0.220, $p < 0.01$). Using Cohen's (1988) benchmarks, this relationship would be classified as a weak effect size. A significant negative correlation was found between "Did you make more decisions than your parents about things you did and places you went?" and "How often did your parents make you feel they loved you?" (r = - 0.194, $p < 0.01$). Cohen's (1988) benchmarks indicated this relationship would be classified as a weak effect size.

A strong positive correlation was found to exist between "How often did your parents really listen to your problems?" and "How often did your parents make you feel they loved you?" (r = 0.812, $p < 0.01$). A strong positive correlation was found to exist between "How often did your parents really listen to your problems?" and "How did you feel about the way you

got along with your parents?" ($r = 0.704$, $p < 0.01$). A strong positive correlation was found to exist between "How often did your parents make you feel they loved you?" and "How did you feel about the way you got along with your parents?" ($r = 0.779$, $p < 0.01$). A weak negative correlation was found to exist between "Did you make more decisions than your parents about things you did and places you went?" and "How did you feel about the way you got along with your parents?" ($r = -0.274$, $p < 0.01$).

Table 34

Correlation Matrix for Domains of Parental Relationship

	1	2	3	4
Did you make more decisions than your parents about things you did and places you went? (1)	1	-	-	-
How often did your parents really listen to your problems? (2)	- 0.220*	1	-	-
How often did your parents make you feel they loved you? (3)	- 0.194*	0.812*	1	-
How did you feel about the way you got along with your parents? (4)	- 0.274*	0.704*	0.779*	1

Note. * $p < 0.01$.

Table 35

Comparing High School Graduates and High School Non-Completers on Factors of Parental Relationship

	Status	*n*	*M*	*SD*	Std. Error
Did you make more decisions than your parents about things you did and places you went?	Graduated	212	3.13	1.251	0.086
	Dropped out	45	4.20	1.160	0.173
How often did your parents really listen to your problems?	Graduated	213	3.47	1.184	0.081
	Dropped out	45	2.04	0.928	0.138
How often did your parents make you feel they loved you?	Graduated	213	4.12	1.133	0.078
	Dropped out	45	2.49	1.014	0.151
How did you feel about the way you got along with your parents?	Graduated	214	3.65	1.110	0.076
	Dropped out	45	2.07	1.074	0.160

Note. SD = Standard Deviation.

Table 36 shows the results of a series of independent sample t-tests run to compare factors of parental relationship by dropout status. There was a statistically significant group mean difference in scores for "Did you make more decisions than your parents about things you did and places you went?" between high school graduates ($M = 3.13$, $SD = 1.251$) and high school non-completers ($M = 4.20$, $SD = 1.160$; $t = -5.265$, $p = 0.000$). There was a statistically significant group mean difference in scores for "How often did your parents really listen to your problems?" between graduates ($M = 3.47$, $SD = 1.184$) and non-completers ($M = 2.04$, $SD = 0.928$; $t = 8.914$, $p = 0.000$). There was a statistically significant group mean difference in scores for "How often did your parents make you feel they loved you?" between graduates ($M = 4.12$,

SD = 1.133) and non-completers (*M* = 2.49, *SD* = 1.014; *t* = 8.916, *p* = 0.000). There was a statistically significant group mean difference in scores for "How did you feel about the way you got along with your parents?" between high school graduates (*M* = 3.65, *SD* = 1.110) and high school non-completers (*M* = 2.07, *SD* = 1.074; *t* = 8.769, *p* = 0.000). Therefore, the null hypotheses is rejected in every case and there is a group mean difference in the population for all the above variables.

Table 36

T-Test Comparing High School Non-Completers on Factors of Parental Relationship

	t	*df*	Mean difference	95% C.I.	*p*
Did you make more decisions than your parents about things you did and places you went?	- 5.265	255	- 1.068	-0.467, - 0.668	0.000
How often did your parents really listen to your problems?	8.914	77.535*	1.430	1.110, 1.749	0.000
How often did your parents make you feel they loved you?	8.916	256	1.628	1.269, 1.988	0.000
How did you feel about the way you got along with your parents?	8.769	257	1.588	1.231, 1.944	0.000

Note. * Assumption of homogeneity of variance violated.

The results in Table 37 indicate a significant positive correlation existed between "How did you feel about your school?" and "How did you feel about your teachers at school?" (*r* = 0.835, *p* < 0.01). Using Cohen's (1988) benchmarks, this relationship would be classified as a strong effect size. A significant positive correlation was found between "How did you feel about your school?" and "How did you feel about the courses you were taking at school?" (*r* = 0.785, *p* < 0.01). This relationship would be classified as a strong effect size (Cohen, 1988).

A significant positive correlation was found to exist between "How did you feel about your teachers at school?" and "How did you feel about the courses you were taking at school?" ($r = 0.832$, $p < 0.01$). A strong positive correlation was found to exist between "How did you feel about your school?" and "How did you feel about your school principal?" ($r = 0.655$, $p < 0.01$). A strong positive correlation was found to exist between "How did you feel about your teachers at school?" and "How did you feel about your school principal?" ($r = 0.706$, $p < 0.01$). A strong positive correlation was found to exist between "How did you feel about the courses you were taking at school?" and "How did you feel about your school principal?" ($r = 0.663$, $p < 0.01$).

Table 37

Correlation Matrix for Domains of School Experience

	1	2	3	4
How did you feel about your school? (1)	1	-	-	-
How did you feel about your teachers at school? (2)	0.835*	1	-	-
How did you feel about the courses you were taking at school? (3)	0.785*	0.832*	1	-
How did you feel about your school principal? (4)	0.655*	0.706*	0.663*	1

Note. * $p < 0.01$.

Tables 38 and 39 show the results of a series of independent sample t-tests run to compare factors of school experience by dropout status. There was a statistically significant group mean difference in scores for "How did you feel about your school?" between high school graduates ($M = 3.44$, $SD = 1.150$) and high school non-completers ($M = 2.00$, $SD = 1.022$; $t = 7.755$, $p = 0.000$). There was a statistically significant group mean difference in scores for "How

did you feel about your teachers at school?" between high school graduates (M = 3.65, SD = 1.015) and high school non-completers (M = 2.00, SD = 0.929; t = 10.033, p = 0.000). There was a statistically significant group mean difference in scores for "How did you feel about the courses you were taking at school?" between high school graduates (M = 3.55, SD = 1.001) and high school non-completers (M = 2.02, SD = 0.917; t = 9.455, p = 0.000). There was a statistically significant group mean difference in scores for "How did you feel about your school principal?" between high school graduates (M = 3.48, SD = 1.060) and high school non-completers (M = 2.00, SD = 0.889; t = 8.632, p = 0.000). Therefore, the null hypotheses is rejected in every case and there is a group mean difference in the population for all the above questions.

Table 38

Comparing High School Graduates and High School Non-Completers on Factors of School Experience

	Status	*n*	*M*	*SD*	Std. Error
How did you feel about your school?	Graduated	213	3.44	1.150	0.079
	Dropped out	45	2.00	1.022	0.152
How did you feel about your teachers at school?	Graduated	213	3.65	1.015	0.070
	Dropped out	45	2.00	0.929	0.139
How did you feel about the courses you were taking at school?	Graduated	213	3.55	1.001	0.069
	Dropped out	45	2.02	0.917	0.137
How did you feel about your school principal?	Graduated	214	3.48	1.060	0.072
	Dropped out	44	2.00	0.889	0.134

Note. SD = Standard Deviation.

Table 39

T-Test Comparing High School Non-Completers on Factors of School Experience

	t	*df*	Mean difference	95% C.I.	*p*
How did you feel about your school?	7.755	256	1.437	1.072, 1.801	0.000
How did you feel about your teachers at school?	10.033	256	1.648	1.324, 1.971	0.000
How did you feel about the courses you were taking at school?	9.455	256	1.532	1.213, 1.851	0.000
How did you feel about your school principal?	8.632	256	1.477	1.140, 1.813	0.000

Correlations for Scales and Dropout Status

To measure the relationships between peer influence, parental relationships, school experience, and dropout rates, a series of Pearson's Product-Moment Correlations and Point Bi-Serial Correlations were run. As peer influence, parental relationship, school experience are all continuous measures, Pearson's Product-Moment Correlation was the most appropriate statistic for assessing the correlations between those three variables. Dropout is a dichotomous measure, so Point Biserial Correlation was the most appropriate bivariate correlation to assess the relationship between, parental relationship, school experience, and dropout.

The results in Table 40 indicate a positive correlation exists between school experience and parental relationships ($r = 0.412$, $p < 0.01$). Using Cohen's (1988) benchmarks, this would be classified as a moderate to large effect size. A weak negative correlation was found between peer influence and parental relationship ($r = -0.186$, $p < 0.01$), indicating that as peer influence increases, the strength of parental relationships decreases. A moderately strong statistically

significant negative relationship was also found to exist between peer influence and school experience (r = - 0.433, $p < 0.01$), suggesting that as peer influence increases, school experience decreases.

Table 40

Correlation Matrix for Scales

	1	2	3	4
Parental relationship (1)	1	-	-	-
School experience (2)	0.412*	1	-	-
Peer influence (3)	- 0.186*	- 0.433*	1	-
Dropout (4)	- 0.403*	- 0.535*	0.510*	1

Note. * $p < 0.01$.

$H_0$1.There is no significant correlation between Peer Influence and Dropout.

$H_0$2. There is no significant correlation between Parental Relationship and Dropout.

$H_0$3. There is no significant correlation between School Experience and Dropout.

Research Hypothesis 1: There is a significant correlation between Peer Influence and Dropout.

Research Hypothesis 2: There is a significant correlation between Parental Relationship and Dropout.

Research Hypothesis 3: There is a significant correlation between School Experience and Dropout.

In terms of hypothesis testing, significant correlations were found to exist between peer influence, parental relationships, school experience, and dropout. A significant positive correlation was also found between peer influence and dropout rates. Therefore, the null hypothesis is rejected, and the data indicates that as peer influence scores increase, so does the

likelihood of high school dropout ($p < 0.01$). Using Cohen's (1988) benchmarks, the magnitude of the observed relationship was large ($r_{pb} = 0.510$).

Further, significant negative correlation was also found to exist between parental relationship and dropout rates ($p < 0.01$). Therefore, the null hypothesis is rejected, and the data indicates that as parental relationships increase, high school dropout decreases. The magnitude of this relationship was found to be moderate ($r_{pb} = - 0.403$) (Cohen, 1988).

Moreover, a significant negative correlation was found to exist between school experience and dropout rates ($r_{pb} = - 0.535$). Therefore, the null hypothesis is rejected, and the data indicates that as school experience increases, high school dropout decreases. The magnitude of this relationship was large (Cohen, 1988).

Logistic Regression Analyses

RQ1. To what extent is peer influence predictive of high school non-completion?

The first research question was designed to determine if non-completion could be predicted by peer influence. To answer this question, a direct logistic regression model was run with peer influence as the independent variable and high school non-completion as the dependent variable. The results in Table 41 show a significant model was found (χ^2 (1) = 65.058, p = 0.000). The significant chi-square suggests that the model has a significant difference in -2Log Likelihoods between the explanatory model and the null model. An insignificant Hosmer and Lemeshow test suggest a good model fit (p = 0.403). The relationship between peer influence and dropout was found to be significant at the 0.001 Alpha level (Wald= 47.058, p = 0.000). Analysis of Nagelkerke's R^2 indicated that the model explains 37.4% of the observed variance in dropout. These results depict that for every unit increase in peer influence the odds of dropping out are increased by a factor of 5.777 (95% C.I. = 3.5000, 9.536). The fact that the 95%

confidence interval does not cross 1 suggests that this relationship is likely to exist in the population as well.

Table 41

Binomial Logistic Regression for Peer Influence and Dropout

Independent variable	β	*SE*	Wald	*p*	Odds	95% C.I.
Peer influence	1.754	0.256	47.058	0.000	5.777	(3.500, 9.536)
Constant	- 6.631	0.822	65.111	0.000	0.001	
X^2 (*P*)	65.058 (0.000)					
Nagelkerke R^2	0.374					

Note. Dependent Variable is Dropout; 0 = Graduate, 1 = Dropout; *n* = 256.

RQ2. To what extent is the parental relationship predictive of high school non-completion?

The second research question was designed to determine if non-completion could be predicted by parental relationship. To answer this question, a direct logistic regression analysis was run with parental relationship as the independent variable and non-completion as the dependent variable. The results in Table 42 show a statistically significant model was found (χ^2 (1) = 41.512, p = 0.000). While a significant Hosmer and Lemeshow test suggested the model may be a poor fit (p = 0.042), the significant chi-square suggested that the model has a statistically significant difference in -2Log Likelihoods between the explanatory model and the null model. The relationship between parental relationship and dropout was found to be significant at the 0.001 Alpha level (Wald= 33.413, p = 0.000). Analysis of Nagelkerke's R^2 indicates that the model explains 24.7% of the observed variance in dropout. These results depict that for every unit increase in parental relationship the odds of dropping out are decreased

by a factor of 3.717 (1/0.269) (95% C.I. = 5.813, 2.381). The fact that the 95% confidence interval does not cross 1 suggests that this relationship is likely to exist in the population as well.

Table 42

Binomial Logistic Regression for Parental Relationship and Dropout

Independent variable	β	*SE*	Wald	*p*	Odds	95% C.I.
Parental relationship	- 1.313	0.227	33.413	0.000	0.269	(0.172, 0.420)
Constant	2.600	0.689	14.222	0.000	13.458	
X^2 (*P*)	41.512 (0.000)					
Nagelkerke R^2	0.247					

Note. Dependent Variable is "Dropout"; 0 = Graduate, 1 = Dropout; *n* = 257.

RQ3. To what extent is the school experience predictive of high school non-completion?

The third research question was concerned with determining how well high school non-completion could be predicted by school experience. To answer this question, a direct logistic regression was run with school experience as the independent variable and non-completion as the dependent variable. The results in Table 43 show a statistically significant model was found (χ^2 (1) = 73.003, p = 0.000). The significant chi-square suggests that the model has a statistically significant difference in -2Log Likelihoods between the explanatory model and the null model. An insignificant Hosmer and Lemeshow test suggested a good model fit (p = 0.056). The relationship between school experience and dropout was found to be significant at the 0.001 Alpha level (Wald = 49.793, p = 0.000). Analysis of Nagelkerke's R^2 indicates that the model explains 41.3% of the observed variance in dropout. These results depict that for every unit increase in school experience the odds of dropping out are decreased by a factor of 4.348

(1/0.230) (95% C.I. = 6.536, 2.890). The fact that the 95% confidence interval does not cross 1 suggests that this relationship is likely to exist in the population as well.

Table 43

Binomial Logistic Regression for School Experience and Dropout

Independent variable	β	*SE*	Wald	*p*	Odds	95 % C.I.
School experience	- 1.471	0.208	49.793	0.000	0.230	(0.153, 0.346)
Constant	2.575	0.564	20.863	0.000	13.138	
X^2 (*P*)	73.003 (0.000)					
Nagelkerke R^2	0.413					

Note. Dependent Variable is "Dropout"; 0 = Graduate, 1 = Dropout; *n* = 256.

Full Model

Direct logistic regression was performed to assess the impact of a number of factors on the likelihood that participants would drop out of high school. The model contained three independent variables (peer influence, parental relationship, and school experience). The full model containing all predictors was statistically significant (χ^2 [3, *n* = 252] = 102.596, *p* = 0.000), indicating that the model was able to distinguish between participants who dropped out of school and those who graduated. The non-significant Hosmer and Lemeshow tests suggested a good model fit (*p* = 0.485). The model explained 55.8% of the variation in dropout and was able to classify 89.7 % of cases.

Table 44 shows that all three independent variables were statistically significant. The strongest predictor in the model was peer influence, recording an odds ratio of 3.444 (95% C.I. = 1.949, 6.088). This indicated that, controlling for other variables in the model, a one-unit increase in peer influence score was associated with a 3.444 odds increase in likelihood of

dropping out. Parental relationship was the second strongest predictor in the model ($p = 0.001$, OR = 2.67, 95% C.I. = 4.85, 1.47). Controlling for other variables in the model, a one-unit increase in parental relationship is associated with a decrease in the odds of dropping out by a factor of 2.67. School experience was also a significant predictor ($p = 0.000$, OR = 2.49, 95% C.I. = 4.12, 1.51). Controlling for other factors in the model, a one-unit increase in school experience decreased the likelihood of dropping out by a factor of 2.49.

This model should be interpreted with caution because the three variables were highly correlated with each other, and thus, multicollinearity may be an issue (violates assumption of multicollinearity). This aspect of the study is discussed in the limitation section.

Table 44

Logistic Regression Predicting Dropout

Independent variable	β	*SE*	Wald	*p*	Odds	95% C.I.
Peer influence	1.237	0.291	18.117	0.000	3.444	(1.949, 6.088)
Parental relationship	- 0.982	0.306	10.302	0.001	0.375	(0.206, 0.682)
School experience	- 0.912	0.256	12.641	0.000	0.402	(0.243, 0.664)
Constant	0.693	1.411	0.241	0.623	2.001	-
X^2 (*P*)	102.596 (0.000)	-	-	-	-	-
Nagelkerke R^2	0.558	-	-	-	-	-

Note. Dependent Variable is Dropout: 0 = Graduate, 1 = Dropout; $n = 256$.

Summary

Chapter IV presented this study's data analysis and results. The topics addressed were the survey instrument, data analysis, and results. A correlational approach with a predictive design was used to determine which independent variables were significant in influencing a student to not complete high school. Of the three independent variables (peer influence, parental

relationship, and school experience), the strongest predictor of high school non-completion was peer influence, followed by parental relationship, then school experience. Chapter V will provide the study's findings and recommendations.

CHAPTER V

SUMMARY, FINDINGS, AND RECOMMENDATIONS

Introduction

Chapter V provides a summary of the study's findings, limitations, implications, and recommendations for further research. The purpose of this quantitative study was to identify contributing factors that can predict high school non-completion. Specifically, the investigator sought to examine the gap in literature concerning the influence that peers, parents, and the school experience have on students who drop out of high school.

The study used a quantitative design and data were collected from 261 participants who completed an online survey. The survey questions were created to correspond to the research questions. This study was designed to answer the following three research questions:

1. To what extent is peer influence predictive of high school non-completion?
2. To what extent is the parental relationship predictive of high school non-completion?
3. To what extent is the school experience predictive of high school non-completion?

In order to accomplish a comparative analysis, both high school non-completers and high school graduates from Southwest Pennsylvania were invited to complete the survey. Of those participants who completed the study's survey, 46 participants (17.6%) were high school non-completers and 215 participants (82.4%) were high school graduates. This percentage reflects the U.S. demographics of high school non-completers and high school graduates (DePaoli et al., 2016).

Summary of the Findings

This section will present a summary of the findings in two parts. First, a summary of the demographic data is provided to give a general overview of characteristics about the study's population. Then an overview of the study's findings is presented.

Summary of Demographic Data

The data gained from the demographic survey measured the percentage of participants who graduated from high school and those who dropped out of high school. The sample was comprised of 215 (82.4%) high school graduates and 46 (17.6%) high school non-completers. The participants were asked to respond to questions measuring the influence of their peers, their parents, and the school environment on their high school participation. All three mean scores indicate that these attributes had influence, but peer influence had the highest score.

The survey measured the distribution of annual income for participants. Fifty-nine participants (22.8%) reported an annual income between $10,000 and $20,000. Moreover, 49 participants (18.9%) reported an annual income between $20,001 and $30,000. However, 52 participants (20.1%) earned an annual income greater than $50,000. The data show that of the participants who graduated from high school, 50 participants (23.5%) reported an annual income greater than $50,000, compared to just two participants (4.3%) who dropped out of high school. These findings support the scholarly literature that high school graduates tend to earn higher incomes than high school non-completers. This study's data on annual earnings also links poverty with high school non-completion.

The survey measured the educational breakdown of the sample and revealed that nearly half of the participants, 121 participants (46.5%), received an Associate's or Bachelor's degree. Slightly over one-third of the group, 93 participants (35.8%), either completed high school or

earned their GED. The smallest group of participants, 46 participants (17.7%), were non-completers. The percentage of non-completers in this sample mirrored the national average of 18% for high school non-completers (DePaoli et al., 2016).

The distribution of ages for dropping out of high school was also calculated. Most of those who dropped out of high school, 21 participants (47.7%), left school at the age of 17. The next largest group, 20 participants (45.5%), dropped out of high school at the age of 16. Only one participant (2.3%) in the study dropped out of high school prior to the age of 16, and just two participants (4.5%) responded that they dropped out of school at the age of 18. The data support the decision by states such as Oregon and Rhode Island to increase the compulsory school attendance age to 18.

The survey also collected data on the grade level in which participants dropped out of high school. The data show that 24 participants (58.5%) dropped out of high school in 10th grade. The second largest group, 10 participants (24.4%), dropped out of high school in 11th grade. The smallest number, 4 participants (9.8%), dropped out of high school in 12th grade along with 4 participants (9.8%) who responded they dropped out in 9th grade. As a result, this study's findings indicate that grades 10 and 11 are highly vulnerable times for dropping out of high school.

The reasons for dropping out of high school were reported by the participants as well. The most common reasons for dropping out of school were "I was bored with school and wanted a change" reported by 12 participants (27.3%), "My grades were too low" reported by eight participants (18.2%), and "I wanted to work instead of being in school" reported by seven participants (15.9%). The least reported reason for leaving school was "I became a parent," reported by one participant (2.3%). The data confirm that schools must provide welcoming and

engaging environments that encourage students at risk of dropping out to persevere and remain in school (Gietz & McIntosh, 2014).

The survey also collected data on the participants' siblings' educational status. The analysis shows that 179 participants' siblings (68.8%) graduated from high school. However, 64 participants (24.6%) had siblings that did not graduate from high school.

Furthermore, the data reveal that of the 46 participants who dropped out of high school, 37 participants (80.4%) reported they had a sibling who also dropped out of high school. Of the 214 participants who graduated from high school, 27 participants (12.6%) reported a sibling who dropped out of high school. This finding indicates a factor present in the home that influences a student to either graduate or drop out of high school. According to Kramer (2014), younger siblings learn from older siblings what can or cannot be done successfully. Therefore, sibling non-completion could serve as an early warning indicator to identify students at risk for dropping out of high school.

The next section presents a summary of the study's findings as they pertain to the research questions. The results from the data analysis in Chapter IV were used to answer the research questions. In addition, key citations and pertinent literature from Chapters I and II were used to support the interpretation of the data.

Findings Pertaining to Research Questions

The research results suggest that of the three independent variables (peer influence, parental relationship, and school experience) the strongest predictor of high school non-completion is peer influence. The next strongest predictor of high non-completion is parental relationship, followed by school experience. This section will expand upon these findings.

Research Question 1

To what extent is peer influence predictive of high school non-completion?

Data analysis. This study's first research question was designed to determine if high school non-completion could be predicted by peer influence. The data analysis indicates that most participants reported a moderately strong relationship with their friends. In terms of individual domains within the 5-point Peers Influence scale, most mean scores were moderate, except for "How many of your friends had been in trouble with the police because of alcohol or drugs?" ($M = 1.90$) and "How many of your friends dropped out or wanted to drop out of school?" ($M = 1.95$). Low scores on these two questions suggest that most participants did not have friends in trouble with the police because of alcohol or drug related issues, nor did the majority of participants have friends who dropped out or wanted to drop out of school. It is also plausible that the respondents were reluctant to answer these two particular questions truthfully.

In addition, a weak significant negative correlation was found between peer influence and parental relationship, indicating that as peer influence increases, the strength of parental relationships decreases. A moderately strong significant negative relationship was also found to exist between peer influence and school experience, suggesting that as peer influence increases, school experience decreases. Additionally, a significant positive correlation was found between peer influence and dropout rates. Therefore, the null hypothesis is rejected, and the data indicate that as peer influence scores increase, so does the likelihood of high school non-completion. The magnitude of this relationship is large.

The data analysis shows that all three independent variables (peer influence, parental relationship, and school experience) are statistically significant. However, the strongest predictor in the model is peer influence, recording an odds ratio of 3.444. This ratio indicates

that when controlling for other variables in the model, a one-unit increase in peer influence score is associated with a 3.444 odds increase in likelihood of dropping out. Therefore, the data indicate that peer influence is strongly predictive of high school non-completion.

Supporting literature. Adolescent students have a strong need to feel accepted by their peer group. Ananga (2011) suggested that students who do not feel accepted by their peers are at an increased risk for academic disengagement and non-completion of high school. Likewise, studies suggest that positive peer influence is an important component for encouraging students to remain in school and graduate (Chaudry & Wimer, 2016). In addition, Fall and Roberts (2012) maintained that a student's educational achievement could be related to peer influence.

The influence that peers have on their fellow students is well documented. Laursen, Hafen, Kerr, and Stattin (2012) defined peer influence as the social influence exerted by peers, which causes the adolescent to behave differently. The body of literature revealed both the positive and negative influences that peers have on students as a predictor of high school completion (Vollet et al., 2017). For these reasons, the literature supports this study's findings that peer influence is predictive of high school non-completion.

Research Question 2

To what extent is the parental relationship predictive of high school non-completion?

Data analysis. This study's second research question was composed to determine if high school non-completion could be predicted by the parental relationship. The data analysis suggests that the parental relationship is predictive of high school non-completion. An independent sample t-test was also conducted to compare parental relationship scores between high school graduates and high school non-completers. The results show that there is a statistically significant group means difference in scores for high school graduates. Therefore,

the null hypothesis is rejected, and the data indicate that there is a statistically significant group means difference in parental relationship between high school graduates and high school non-completers in the population. On average, high school graduates scored higher in parental relationships than high school non-completers. The magnitude of the difference in the means is large.

Parental relationship is the second strongest predictor in the model. Controlling for other variables in the model, a one-unit increase in parental relationship is associated with a decrease in the odds of dropping out by a factor of 2.67. Therefore, the data indicates that parental relationship is moderately predictive of high school non-completion.

The survey also measured the participants' mothers' educational status. Most of the 204 participants' mothers (78.8%) were high school graduates. However, 52 participants (20.1%) reported that their mothers had dropped out of high school. A chi-square test for independence indicates a statistically significant association between a participant's high school dropout status and the mother's high school dropout status.

Furthermore, the data show that of the 45 participants who dropped out of high school, 20 participants (44.4%) reported that their mothers had also dropped out of high school. Whereas, for the 214 participants who graduated from high school, 32 participants (15%) reported that their mothers dropped out of high school. This finding reveals the importance a mother has in the academic life of a student. A mother is a key adult figure in the student's life; the mother's education and valuation of education can directly affect the student's academic achievement. For example, a poorly educated mother may not possess the academic ability or recognize the importance of assisting the student with homework. It can be difficult for the student to have

educational aspirations if the parent is not supporting and encouraging the student to persevere and academically succeed (Saunders, Kraus, Barone, & Biringen, 2015).

Likewise, the study measured the participants' fathers' educational status. Overall, 185 participants (71.4%) had fathers who graduated high school. However, 60 participants (23.2%) reported that their fathers dropped out of high school. A chi-square test for independence indicates a statistically significant association between a participant's high school dropout status and the father's high school dropout status.

Moreover, the data indicate that of the 45 participants who dropped out of high school, 22 participants (48.9%) reported that their fathers also dropped out of high school. Whereas, for the 214 participants who graduated from high school, 38 participants (17.8%) reported that their fathers dropped out of high school. This finding indicates the importance a father has in the academic life of a student. A father is a significant adult figure in the student's life by modeling how to be successful in society. Therefore, the father's level of education can directly influence a student's academic achievement and future aspirations. For example, an under-educated father may lack the academic ability to assist the student with homework and setting educational goals.

The survey also measured the high school living situation of participants in the study. A majority of the 161 participants (62.2%) lived with both their mother and father. Whereas, 48 participants (18.5%) lived with only their mother, just seven participants (2.7%) lived with only their father. Additionally, 22 participants (8.5%) lived with a parent and stepparent. A chi-square test for independence indicates a statistically significant association between high school dropout status and the student's living situation. This association is reflected in this study's data by showing that of the 161 participants (62.2%) who lived with both their mother and father, only 19 participants (41.3%) dropped out of high school.

Supporting literature. Students tend to do better in school when they have positive interactions with their parents. Bronfenbrenner (1979) stated that a key aspect in a student's development is the need for close relationships with parents who provide affirmation and support. High quality parental relationships enable a student to persevere and accomplish challenging tasks even amid hardships and difficult experiences (Skinner, Pitzer, & Steele, 2016).

Good student-parent relationships are important predictors of a student's social relationships and academic success (Wang, Deng, & Yang, 2016). Research findings show the strong influence that the student-parent relationship has on the student's overall personal development (Bronfenbrenner, 1986). Ruholt, Gore, and Dukes (2015) described a supportive parental relationship as behavior in which parents praise their children, show them affection, listen to them, and are attentive to their physical, emotional, and academic needs. A study indicated that students who experienced positive relationships with their parents tended to be more engaged in school and have greater high school graduation rates (Amato, Patterson, & Beattie, 2015).

Furthermore, a parent's education level tends to influence the education level of their children (Dubow, Boxer, & Huesmann, 2009). Community efforts must be made to assist parents in completing their high school education. In so doing, society can increase the likelihood that the parent's student will also complete high school. In addition, parents who complete high school tend to realize an improvement in their physical, emotional, and financial well-being. Therefore, parents who graduate from high school benefit their students and society (Zath et al., 2016).

Changes in the living arrangements of a student can also influence whether the student graduates from high school. Research has supported the idea that a student's home life directly affects the student's well-being. Studies identified the need for students to have stability in their lives, especially at home (McCoy & Raver, 2014). Students living with both their mother and father in a safe, stable, and nurturing home experienced the lowest risk of high school non-completion, teen pregnancy, and poverty in adulthood (Amato, Patterson, & Beattie, 2015; McCoy & Raver, 2014). By comparison, students living in a single parent family appeared to experience negative outcomes at a higher rate (Schmeer, 2011; Waldfogel, Craigie & Brooks-Gunn, 2010). Therefore, research supports this study's data that parental influence is predictive of high school non-completion.

Research Question 3

To what extent is the school experience predictive of high school non-completion?

Data analysis. This study's third research question was created to determine if high school non-completion could be predicted by the student's school experience. A statistically significant negative correlation was found to exist between school experience and high school non-completion. Therefore, the null hypothesis is rejected, and the data indicate that as a positive school experience increases high school dropout decreases. The magnitude of this relationship is large.

School experience is a significant predictor of high school non-completion. Controlling for other factors in the model, a one-unit increase in school experience decreases the likelihood of dropping out of high school by a factor of 2.49. Therefore, the data indicates that a student's school experience is moderately predictive of high school non-completion.

The survey also measured the physical description of the participants' high schools. Most participants who graduated high school (72.8%) perceived their high school facility as being "Well-kept," compared to 23.9% of participants who dropped out of high school. A chi-square test for independence indicates a statistically significant association between high school dropout status and description of high school facility. This study's findings indicate a connection between the physical condition of the school and high school non-completion.

Participants were asked to describe the location of their high school. The majority of participants (44.8%) came from suburban high schools, followed by rural (33.6%), and lastly, urban/city (21.6%) schools. A chi-square test for independence indicates no statistically significant association between high school dropout status and location of high school.

Participants were also asked to describe the size of their high schools. Most participants (26.3%) attended schools with student body populations of 500 or less. Another 25.9% attended schools with student body populations between 501 and 1,000, while 25.9% attended schools that had student body populations between 1,001 and 2,000. A chi-square test for independence indicates a statistically significant association between high school dropout status and size of high school. A substantial group, 28.3% of participants, dropped out of high schools with enrollment between 2,001 and 3,000 students; 9.4% of participants who graduated high school attended schools with enrollment of this size.

Supporting literature. Whether the student has a positive or negative school experience can influence the student's decision to either academically engage and graduate from high school or disengage and drop out. Groves and Welsh (2010) characterized school experience as the student's viewpoint, opinions, and insights about the experiences they had while attending

school. Zath et al. (2016) held that a greater effort must be made to identify and help students who begin to withdraw socially and academically from school.

What students experience while attending school is a factor that contributes to high school non-completion. Public schools have a responsibility to embrace and educate every student regardless of the socioeconomic or ethnic background (Hughes, Newkirk, & Stenhgem, 2007; Jackson & Howard, 2014). Studies indicate that students do better academically and socially in schools where they perceive a safe, welcoming, and engaging environment (Gietz & McIntosh, 2014; Zath et al., 2016).

Likewise, the condition of the school building affects learning. The quality of the facility has an influence on the students' school experience and consequently, their graduation rate (Lavy & Nixon, 2017). Students and teachers require a well-maintained facility that provides good lighting, clean air, and a comfortable, quiet, learning environment.

Research indicates that smaller class sizes improved scores on exams and increased graduation rates, especially for underprivileged students (Balfanz, Bridgeland, Bruce, & Fox, 2013). Researchers, though, disagreed on the impact that school size has on high school non-completion rates. The information available on the effect that school size has on student achievement appears to be contradictory. For example, one journal article indicates that smaller schools are more likely to have engaging cultures and report higher graduation rates than schools with larger student populations (Schwartz, Stiefel, & Wiswall, 2013). Other studies, however, suggested that a school's size is less important than the social, cultural, and academic environment (Balfanz et al., 2013; Humlum & Smith, 2015).

A somewhat common belief in society is that larger schools are less safe, less caring, and not as engaging as smaller schools (Schwartz, Stiefel, & Wiswall, 2013). However, Kahne,

Sporte, De La Torre, and Easton (2008) reported that smaller high schools often lack the positive attributes ascribed to them. For example, the findings did not support the idea that schools with smaller enrollment had better graduation rates, stronger teaching, or increased achievement levels when compared to larger high schools (Humlum & Smith, 2015). Therefore, the size of school by enrollment appears to be less important to student retention than the student-teacher ratio, quality of curriculum and instruction, and the amount of educational funding (Balfanz et al., 2013). School enrollment sizes and school cultures are complex issues that require further study and discussion. However, this study's findings indicate that a student's school experience is predictive of high school non-completion.

Limitations of the Study

The results of this study are not without limitations. Most of the study's limitations were anticipated in Chapter I. However, as the study progressed, additional limitations were discovered. The study's limitations are listed and discussed in this section. A study's limitations in quantitative research are those factors or challenges that cannot be controlled (Creswell & Creswell, 2018). Limitations can influence a study's validity and reliability (Simon & Goes, 2013).

The first limitation in this study is that the quantitative data were collected from a small sample of adults including both high school graduates and non-graduates. Therefore, the results are limited to those individuals who agreed to be a part of this study. The second limitation is that no attempt was made to survey participants with a specific age, gender, or socioeconomic status. The third limitation is that there are potential risk factors that can lead to high school non-completion that were not considered in this study. The fourth limitation is that each of the participants was surveyed only once.

The fifth limitation of this study is that data were collected through a self-reporting survey. Although this method can provide efficiencies in time and money, there are limitations that must be addressed. These limitations can include participants skipping questions, responding with inaccurate responses, or misunderstanding the meaning of certain questions.

The sixth limitation is that the study received a low response rate. Of the 5,500 adults invited to participate, only 261 (5%) completed the survey. A low response rate can cause nonresponse bias to occur and may skew the data collected.

The seventh limitation for this study is the internal reliability for two of the study's independent variables. The two independent variables are peer influence and parental relationship. The internal reliability of the items that make up the study's independent variables was measured. Cronbach's Alpha for school experience was found to be highly reliable (5 items; $\alpha = 0.921$). Cronbach's Alpha for the four peer influence items and the three parental relationship items were 0.640 and 0.586 respectively.

Although the reliability of the peer influence scale ($\alpha = 0.640$) was slightly lower than the widely accepted standard ($\alpha = 0.70$) (DeVellis, 2012), this Alpha is likely sensitive to the small number of items in the scale. Briggs and Cheek (1986) suggested that because the mean inter-item correlation (0.368) for the items is above 0.2, this scale can be regarded as reliable. Furthermore, the reliability of the parental relationship Scale ($\alpha = 0.586$) was a little lower than the widely accepted standard ($\alpha = 0.70$) (DeVellis, 2012), this Alpha is also likely sensitive to the small number of items in the scale. Briggs and Cheek (1986) suggested that since the mean inter-item correlation (0.268) for the items is above 0.2, this scale can be regarded as reliable.

Implications of Findings

Results from this study have implications for educational leaders, policymakers, and researchers. Main and Whatman (2016) held that Ecological Systems Theory is a useful framework in answering why students academically disengage and drop out of high school. Therefore, the implications of these findings are presented using Ecological Systems Theory as the basis for discussion.

First Implication

This study examined student relationships, called microsystems, which exist directly between the student and the student's peers, parents, and school (Bronfenbrenner, 1979; Neal & Neal, 2013). These direct relationships can have a predictive influence on whether the student graduates or drops out of high school. Main and Whatman (2016) asserted that researchers must not focus solely on the student and school environment but should also consider the influence that peers have on a student's decision to drop out of high school.

This study's findings support the assertion made by Main and Whatman (2016) with the microsystem of peer influence having the greatest influence on high school non-completion, followed by the parental relationship, and last, the student's school experience. This research indicates that as peer influence increases in the student's life, parental relationships, and school experience decreases. Consequently, these attributes led to an increase in high school non-completion.

As a result, the first implication is that schools must provide trained counselors who assist students in learning how to develop and maintain positive social skills, productive school behavior, and effective study habits. Students should learn how to cultivate and maintain constructive peer relationships through one-on-one and small group sessions led by

knowledgeable and skilled facilitators. For example, schools could develop supervised student-mentoring programs where older students befriend and mentor younger students.

Second Implication

This study also examined the quality of the student's parental relationship and the corresponding predictive influence it has on the student's decision to either graduate or drop out of high school. Parents with students at risk of dropping out of high school may require support and training from the school and community to improve their parenting skills. The Ecological Systems Theory identifies the interconnected or overlapping relationships between a student's parents, school, and community as the mesosystem (Bronfenbrenner, 1979; Neal & Neal, 2013). Main and Whatman (2016) held that researchers should recognize the interconnected influence that parents, school, and the community have on a student's decision to drop out of high school.

The research findings support the claim made by Main and Whatman (2016) that the overlapping mesosystem of parental influence, school experience, and the community has a significant influence on high school non-completion. This study's findings indicate that positive student-parent relationships could decrease the rate of high school non-completion. Ecological Systems Theory promotes the idea that students need to feel accepted and cared about by their parents, teachers, and other significant adults in their lives (Fivush & Merrill, 2016).

Therefore, the second implication is that schools should collaborate with community groups to provide training and support to parents. Developing healthy student-parent relationships can be accomplished through community-based parenting support groups and social agencies. Knowledgeable and caring adults should be available to advocate on behalf of students and their parents to ensure students receive the support and resources required to remain academically engaged and on track to graduate. For example, this type of support could make

certain every student has a safe place to live, enough food to eat, medical care, academic tutoring, role models, career planning, and behavioral counseling. Additionally, schools should provide caring teachers who adapt the learning environment and instructional methods to meet the needs of the student at risk. Ideally, schools should provide curriculum and instruction that inspires and engages the learner.

Third Implication

The macrosystem is the primary culture in which the student lives (Bronfenbrenner, 1979; Neal & Neal, 2013). For example, the student may live in a culture influenced by poverty. This study occurred in Southwestern Pennsylvania with study participants living in rural, suburban, and urban communities.

Most participants (includes both high school graduates and non-completers) in the study (58.3%) reported earning less than $30,000 a year in household income. This information is specific to the population of interest and indicates that the majority of study participants who dropped out of high school live in economic poverty. Of the participants who graduated from high school, 50 participants (23.5%) reported an annual income greater than $50,000, as compared to two participants (4.3%) who dropped out of high school.

A reliable indicator for the likelihood of high school non-completion is a family's income level (Rumberger, 2011). A chi-square test for independence indicates a statistically significant association between high school non-completion status and the family's annual income. Past research indicates that poverty has a negative influence on the graduation rate of high school students (Chaudry & Wimer, 2016).

Families that experience economic poverty often suffer from food insecurity (Wight, Kaushal, Waldfogel, & Garfinkel, 2014). Food insecurity is defined as a person not having

enough food available to sustain an active and healthy life (Bernal, Frongillo, Herrera, & Rivera, 2014). An insufficient quantity and quality of food can have adverse effects on a student's physical, intellectual, and emotional development. As a result, students from economically impoverished families are often placed in reduced price or free lunch programs at school (Wight et al., 2014). Students who are placed on reduced price or free lunch programs can experience shame or embarrassment that can disengage the student from school (Bandura, 2006). Research indicates that students on reduced price or free lunch programs at school are at an increased risk for high school non-completion (Suh & Suh, 2007). Therefore, supplemental food programs can provide a predictive indicator for students who are at a heightened risk for disengaging from school and dropping out.

Consequently, the third implication is that schools and community-based organizations must collaborate to provide students in economic poverty with the needed resources to remain academically engaged in school and graduate. Poverty is a major contributor to the high school non-completion problem in the U.S. (Chaudry & Wimer, 2016). Poverty influences every aspect of a student's life, including the denial of opportunities available to wealthier students and can create an uneven playing field that is difficult to surmount. As a result, every effort must be made by the school and community to mitigate the detrimental effects of poverty on students.

Fourth Implication

Lastly, this research studied the age in which the participants dropped out of high school. The time span or age the student dropped out of school is a part of the chronosystem and is composed of all the events that occur within the student's lifespan (Bronfenbrenner, 1979). For the purpose of this study, the time span was limited to the point in time where the student either graduated or dropped out of high school. Dropping out of high school is the end product of a

progression of events that result from multiple factors occurring in the student's life with telltale indicators along the way (DePaoli et al., 2016). The problem of high school non-completion does not happen in isolation; a student does not arbitrarily decide one day to drop out of high school.

The research indicates that the majority of high school non-completers for this study dropped out of school when they were 17 years of age. The sample included 215 high school graduates (82.4%), and 46 high school non-completers (17.6%). Most of those who dropped out of high school left school at the age of 17 (47.7%). The next largest group dropped out of high school at the age of 16 (45.5%). Based on the data, identification and personalized intervention must begin early and continue through to high school graduation.

Therefore, the fourth implication is that schools must develop comprehensive data driven systems that identify students at risk by tracking student absences, disruptive behavior, and course failure. When a student is identified to be at risk of non-completion, an immediate and multi-tiered intervention must occur to re-engage the student academically. These systems must be in place and monitoring the student's progress well before high school. Mac Iver and Messel (2013) held that a comprehensive and multi-tiered approach to identifying and re-engaging students at risk of dropping out was essential. Various factors, such as personal struggles, peer influence, parental relationships, and school experience, all contributing to influence a student to academically disengage and drop out of high school. Hence, knowledgeable and caring adults must intervene early to keep the student on track to graduate by providing support and guidance.

Recommendations for Future Research

This research has offered a detailed quantitative study on three factors that contribute to high school non-completion. However, this study is only a starting point for this important

topic. The need for continuing research is essential to better understand and mitigate the high school non-completion problem. As a result, a number of other aspects of the high school non-completion phenomenon warrant further investigation.

The high school non-completion problem is a complex issue that has many contributing factors. A qualitative study would be beneficial in obtaining rich data to enable educators and policymakers to have a better understanding of the high school non-completion problem. Small group and one-on-one interviews that explore the personal reasons for dropping out of high school would provide detailed data helpful to researchers. Therefore, a phenomenological study with in-depth interviews of high school non-completers is needed.

Because of the national focus on academic standards in public schools, a renewed debate is occurring among educators and policymakers on the effectiveness of grade retention as a method to improve academic deficiencies in students. It is reported that grade retention is often used in a disproportionate manner among minority and lower socioeconomic students and is connected to an increase in high school non-completion (Martorell & Mariano, 2018). Thus, a study to identify effective alternatives to the regressive practice of grade retention is required to help students succeed academically and graduate from high school.

The value that parents place on education may serve to influence a student's decision to either graduate or drop out of high school. The parent's belief about the importance of education may be generational from parents to children. This research showed a significant relationship between a mother's or father's non-completion of high school and non-completion by the participant and other siblings. Therefore, if high school non-completion can be generational within some families, what are the factors that make it so? For that reason, a study to determine if high school non-completion can be generational would be beneficial.

There appears to be a gap in the literature offering schools guidance on what grade level to implement an early warning system to identify students in danger of academically disengaging. Some researchers have concluded an effective early warning system should track student absenteeism, classroom behavior, and academic failure (Balfanz, Herzog, & MacIver, 2007). The high school non-completion literature also affirmed the importance for early identification of those students who are at risk for dropping out (Iachini, Rogelberg, Terry, & Lutz, 2016). This study's data indicate that the majority of students dropped out of high school in 10th grade. However, further research is required to determine the appropriate grade level for schools to introduce a comprehensive early warning and intervention system.

A popular initiative to reduce the high school dropout rate is to increase the compulsory school attendance age. Increasing the compulsory school attendance age to 18 would provide educators more time to provide support and guidance to the student. This research shows that most students dropped out of high school at the age of 17. The next largest group dropped out of high school at the age of 16. As a result, further research is required to determine if increasing the compulsory school attendance age to 18 would reduce the high school non-completion rate.

The ongoing segregation of communities in the U.S. based on race and socioeconomic factors continues to contribute to the high school non-completion problem (Peguero, Ovink, & Li, 2016). These communities and their students often suffer from bias, insufficient services, and limited resources. Research indicates that when compared to the general population, a greater rate of high school non-completion occurs among students of color and poverty (Bowers & Sprott, 2012). This study found a significant association between high school non-completion and low income. Therefore, a study to determine if high school non-completion risk identifiers

and intervention practices differ depending on the student's culture, race, ethnicity, or socioeconomic status is needed.

Conclusion

The results of this research support the body of evidence regarding the factors leading to high school non-completion. Furthermore, this study adds to the literature by identifying factors that are predictive of high school non-completion. Additionally, this study's implications and recommendations for further research can assist future educators, policy makers, and researchers in their efforts to reduce the high school non-completion rate.

The personal consequences of not graduating from high school are significant and long lasting. Students who do not earn a high school diploma typically confront greater obstacles in adulthood when compared to their peers who graduate from high school. High school non-completers often experience adverse effects on their future economic well-being, personal health, and social inclusion (Chaudry & Wimer, 2016; Rumberger, 2011; Sagatun, Wentzel-Larsen, Heyerdahl, & Lien, 2016).

The economic cost to society is equally substantial. Belfield and Levin (2007) compared high school non-completers to students who graduated from high school and reported the average high school non-completer costs the economy approximately $240,000 over a lifetime. This economic loss to society is the result of less taxes paid, a greater need for Medicaid, higher occurrences of criminal behavior, and increased reliance on public assistance programs (Belfield & Levin, 2007; Rumberger, 2011).

It is essential for our society to continue highlighting and addressing the high school non-completion problem. A combined effort involving the home, school, community, and government is required to educate and graduate every high school student. Educators must be

alert to students exhibiting negative behaviors indicative of school disengagement and possess the knowledge and resources to intervene. Because youth are the nation's future, society has a duty to ensure that all students receive a quality education and the opportunity to fulfill their potential.

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Appendix A

IRB Approval Letter

Indiana University of Pennsylvania
www.iup.edu

Institutional Review Board for the
Protection of Human Subjects
School of Graduate Studies and Research
Stright Hall, Room 113
210 South Tenth Street
Indiana, Pennsylvania 15705-1048

P 724-357-7730
F 724-357-2715
irb-research@iup.edu
www.iup.edu/irb

December 15, 2017

Dear Peter Hipple:

Your proposed research project, "A Quantitative Study of Factors That Contribute to High School Students' Non-Completion," (Log No. 17-307) has been reviewed by the IRB and is approved. In accordance with 45CFR46.101 and IUP Policy, your project is exempt from continuing review. This approval does not supersede or obviate compliance with any other University requirements, including, but not limited to, enrollment, degree completion deadlines, topic approval, and conduct of university-affiliated activities.

You should read all of this letter, as it contains important information about conducting your study.

Now that your project has been approved by the IRB, there are elements of the Federal Regulations to which you must attend. IUP adheres to these regulations strictly:

1. You must conduct your study exactly as it was approved by the IRB.
2. Any additions or changes in procedures must be approved by the IRB before they are implemented.
3. You must notify the IRB promptly of any events that affect the safety or well-being of subjects.
4. You must notify the IRB promptly of any modifications of your study or other responses that are necessitated by any events reported in items 2 or 3.

The IRB may review or audit your project at random *or* for cause. In accordance with IUP Policy and Federal Regulation (45CFR46.113), the Board may suspend or terminate your project if your project has not been conducted as approved or if other difficulties are detected

Although your human subjects review process is complete, the School of Graduate Studies and Research requires submission and approval of a Research Topic Approval Form (RTAF) before you can begin your research. If you have not yet submitted your RTAF, the form can be found at http://www.iup.edu/page.aspx?id=91683.

While not under the purview of the IRB, researchers are responsible for adhering to US copyright law when using existing scales, survey items, or other works in the conduct of research. Information regarding copyright law and compliance at IUP, including links to sample permission request letters, can be found at http://www.iup.edu/page.aspx?id=165526.

I wish you success as you pursue this important endeavor.

Sincerely,

Jennifer Roberts, Ph.D.
Chairperson, Institutional Review Board for the Protection of Human Subjects
Professor of Criminology

JLR:bkj

Cc: Frank Corbett, Faculty Advisor

Appendix B

Site Approval Letter

Westmoreland County Food Bank, Inc.
Ending Hunger Here at Home

December 1, 2017

Peter Hipple
Doctoral Candidate
Indiana University of Pennsylvania

Dear Pete,

It was a pleasure to speak with you concerning your upcoming research project on factors that contribute to high school students' non-completion. The survey and supporting material you provided has been reviewed. Your request for permission to distribute online survey invitation flyers through the Westmoreland County Food Bank's network of food pantries has received approval. I have attached a list of our food pantries and expected service numbers for use in providing the flyers for distribution during the months of February and March of 2018.

I look forward to reviewing the results of this study and thank you for selecting our agency as a partner for your project. Please keep me informed of any changes or updates in the time line for your project. I can be reached at 724-468-8660 ext. 20, or via email at texie@westmorelandfoodbank.org.

Sincerely,

Texie L. Waddell

Appendix C

Survey Invitation Flyer

Take this 3-minute online survey to help reduce high school non-completion, and receive a chance to win one of four $50 Amazon gift cards!

Please go to the link below to access the online survey!

https://tinyurl.com/y8y2jtws

If you have any questions or concerns about this study, please contact the researcher, Peter Hipple, by phone at 724-244-8657, or by email at p.hipple@iup.edu. The researcher's supervisor, Dr. Frank Corbett, can be contacted by phone at 724-357-7730, or by email at frank.corbett@iup.edu.

This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone 724-357-7730).

Appendix D

Voluntary Informed Consent

You are invited to participate in an online survey on factors that contribute to high school non-completion. This is a research project conducted by Peter Hipple, a doctoral student at Indiana University of Pennsylvania. The survey should take approximately 3 minutes to complete.

PARTICIPATION
Your participation in this online survey is voluntary. You may refuse to take part in the research or withdraw from the study at any time without penalty. You are free to decline to answer any particular question you do not wish to answer for any reason. You can withdraw from the online survey by closing the survey window. However, you cannot withdraw from the study after you submit your survey responses because the dataset is anonymous.

BENEFITS
You will receive no direct benefits from participating in this research study, other than a chance to win one of four $50 Amazon gift cards. However, your responses may help educators learn more about the reasons for student disengagement and high school non-completion and contribute to designing strategies to increase the high school graduation rate. To enter the gift card lottery, simply provide your email address when prompted in the survey.

RISKS
There is the risk that you may find some of the survey questions to be distressing as you think about your experiences and this may cause you emotional discomfort. As a researcher, I am not qualified to provide counseling services, and I will not be following up with you after this study. If you feel upset after completing the survey or find that some questions or aspects of the survey caused you distress, talking with a qualified emotional health clinician may help. If you need assistance, please contact the U.S. Department of Health & Human Services Helpline at 1-877-726-4727 (Monday-Friday 8am-8pm EST) or go online at MentalHealth.gov. In the case of an emergency, please call 911.

CONFIDENTIALITY
Federal regulations maintain that all data and materials be kept secure for three years. The researcher will keep your data in a locked filing cabinet and password protected computer in the researcher's home office for at least three years. No one will be able to identify you or your answers, and no one will know whether you participated in this study. To maintain confidentiality, your contact information for the gift card lottery will not be connected to your survey responses. The researcher, Pete Hipple, will contact you if you are a winner of one of the gift cards. All participant information will be kept confidential. This means that the researcher will not disclose participant identities or identifiable survey responses to anyone else.

CONTACT
If you have questions at any time about the study or the procedures, you may contact the researcher by phone at 724-244-8657 or email at p.hipple@iup.edu. If needed, you may also

contact the researcher's supervisor, Dr. Frank Corbett, Jr., by phone at 724-357-7560 or email at frank.corbett@iup.edu.

If you believe you have not been treated according to the descriptions in this form, or that your rights as a participant in research have not been honored during the course of this project, or you have any questions, concerns, or complaints that you wish to address to someone other than the researcher, you may contact the Indiana University of Pennsylvania Institutional Review Board at Stright Hall, Room 113, 210 South Tenth Street, Indiana, PA 15705-1081, or call 724-357-7730, or email irb-research@iup.edu.

CONSENT
If you have read the above information, are 20 years of age or older, and voluntarily agree to participate in this study, please select "**Next**" to begin the survey.

Thank you,

Peter Hipple

This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724-357-7730).

Appendix E

Permission to Use Survey

On Tue, 7 Nov 2017 22:48:04 +0000 "Knight, Kevin" <k.knight@tcu.edu> wrote:
Hi Peter,

You have our permission to use any of the forms (including the PMES Scales) we make available for free from our website, www.ibr.tcu.edu.

Best regards with your study,
Kevin
~~~~~~

Kevin Knight, Ph.D. Deputy Director
Institute of Behavioral Research Texas Christian University
Box 298740
Fort Worth, TX 76129
e-mail: k.knight@tcu.edu web: http://www.ibr.tcu.edu
~~~~~~

-----Original Message-----
From: Peter Hipple [mailto:p.hipple@iup.edu] Sent: Tuesday, November 7, 2017 4:12 PM To: IBR MAIL <ibr@tcu.edu>
Subject: Permission To Use TCU/PMES Scales FFS

Hello,

My name is Pete Hipple, and I am a doctoral student in the Professional Education Department at Indiana University of Pennsylvania. My dissertation study will concentrate on the contributing factors that are predictive of high school non-completion. My research questions will explore to what extent relationships influence high school non-completion.

I believe the TCU/PMES Scales on Family, Friends, and Self would be appropriate for my study's data collection. I am asking for your permission to use this survey for my quantitative study. The population I am studying will be high school dropouts who are 20 years of age and older. Therefore, I am requesting your permission to modify certain questions to past tense where appropriate. Other than modifying the tense of certain questions, the content of the questions would remain the same. I would be happy to answer any questions you may have and share the results of my completed study with you.

If you have questions at any time about the study or the procedures, you may contact me by phone at 724-244-8657 or email at p.hipple@iup.edu. If needed, you may also contact my dissertation chairperson, Dr. Frank Corbett, Jr., by phone at 724-357-7560 or email at frank.corbett@iup.edu.

I look forward to hearing from you,
Pete Hipple

Appendix F

Survey

PEERS, PARENTS, AND SCHOOL SURVEY

Thank you for agreeing to take this survey. Your responses will remain confidential.

- It will take you approximately 3 minutes to complete.
- There is no right or wrong answer.
- You are not required to answer any questions that you choose to not answer.
- This is a survey about when you were in high school.
- The information you give may assist educators in developing programs to increase high school graduation rates in high school.
- First, you will be asked to answer some questions about yourself.
- Your email address will be kept confidential and will only be used to select and notify four Amazon gift card winners.
- Please provide your email address for a chance to win one of four $50 Amazon gift cards.

Email address: _____

Please continue to the next page

PLEASE ANSWER THE FOLLOWING QUESTIONS ABOUT YOURSELF.

(Check the circle for the appropriate answer)

1. What is your age?
   - ○ 20-24 years old
   - ○ 25-34 years old
   - ○ 35-44 years old
   - ○ 45-54 years old
   - ○ 55-64 years old
   - ○ 65-74 years old
   - ○ 75 years or older

2. What is your ethnicity (Race)?
   - ○ White
   - ○ Hispanic or Latino
   - ○ Black or African American
   - ○ Native American or American Indian
   - ○ Asian/Pacific Islander
   - ○ Other: _____
   - ○ I prefer not to answer

3. What is your employment status?
   - ○ Employed
   - ○ Self-employed
   - ○ Out of work
   - ○ A homemaker
   - ○ A student
   - ○ Military
   - ○ Retired
   - ○ Unable to work

Please continue to the next page

PLEASE ANSWER THE FOLLOWING QUESTIONS ABOUT YOURSELF.

(Check the circle for the appropriate answer)

4. What is your annual income?
   - ○ Less than $10,000
   - ○ $10,000 - $20, 000
   - ○ $20,001 - $30, 000
   - ○ $30,001 - $50, 000
   - ○ Greater than $50,000
   - ○ I prefer not to answer

5. Did you drop out of high school?

   (Please answer 'Yes' if you dropped out, even if you later earned a high school diploma or college degree.)

   - ○ Yes
   - ○ No

   (Please skip questions 6, 7, & 8, if you answered No.)

6. At what age did you drop out of high school?

   Please write the age you dropped out of high school here: _____

7. What was the highest grade you attended before dropping out of high school?

   Please write the highest grade you attended here: _____

Please continue to the next page

PLEASE ANSWER THE FOLLOWING QUESTIONS ABOUT YOURSELF.

(Check the circle for the appropriate answer)

8. What is the main reason you dropped out of high school?
   - ○ I needed to work to help my family.
   - ○ I wanted to work instead of being in school.
   - ○ My grades were too low.
   - ○ I was absent too many days from school.
   - ○ I went to jail.
   - ○ I had drug and/or alcohol related problems.
   - ○ I became a parent.
   - ○ I was expelled from school because of behavior issues.
   - ○ I was bored with school and wanted a change.
   - ○ Other reason: _____

9. Did your mother graduate from high school?
   - ○ Yes
   - ○ No
   - ○ I don't know

10. Did your father graduate from high school?
   - ○ Yes
   - ○ No
   - ○ I don't know

11. Do you have siblings who dropped out of high school?
   - ○ Yes
   - ○ No
   - ○ I don't know
   - ○ I don't have any siblings

Please continue to the next page

PLEASE ANSWER THE FOLLOWING QUESTIONS ABOUT YOURSELF.

(Check the circle for the appropriate answer)

12. Whom did you live with MOST of the time while you were in high school?

- ○ Mother only
- ○ Father only
- ○ Both Mother and Father
- ○ Both Mother and Stepfather
- ○ Both Father and Stepmother
- ○ Grandparent(s) or other family member
- ○ Close family friend
- ○ Foster care families
- ○ Other caregiver: _____

13. How would you describe your high school?

- ○ Well-kept
- ○ Ok, but needed repairs
- ○ Run down

14. How would you describe the area in which your high school was located?

- ○ Urban/City
- ○ Suburban
- ○ Rural

15. How many students were in your high school?

- ○ 0-500
- ○ 501-1000
- ○ 1001-2000
- ○ 2001-3000
- ○ 3001 and more
- ○ I don't know

Please continue to the next page

NOW THINK BACK TO WHEN YOU WERE IN <u>HIGH SCHOOL</u>!

The next part of this survey is interested in knowing about your experiences with your friends, parents, and school while attending high school.

Please continue to the next page

PART A					
READ EACH ITEM AND CIRCLE THE ANSWER	**NEVER**	**RARELY**	**SOME-TIMES**	**OFTEN**	**ALMOST ALWAYS**
When you attended high school…					
16. did you spend time hanging out with your friends?	0	1	2	3	4
17. did you make more decisions than your parents about things you did and places you went?	0	1	2	3	4
18. how often did your parents really listen to your problems?	0	1	2	3	4
19. how often did your parents make you feel they loved you?	0	1	2	3	4
PART B					
READ EACH ITEM AND CIRCLE THE ANSWER	**NONE**	**A FEW**	**SOME**	**MOST**	**ALL**
When you attended high school, how many of your friends…					
20. liked school?	0	1	2	3	4
21. had been in trouble with the police because of alcohol or drugs?	0	1	2	3	4
22. dropped out or wanted to drop out of school?	0	1	2	3	4
PART C					
READ EACH ITEM AND CIRCLE THE ANSWER	**VERY UNHAPPY**	**MOSTLY UNHAPPY**	**NEITHER HAPPY NOR UNHAPPY**	**MOSTLY HAPPY**	**VERY HAPPY**
When you attended high school, how did you feel about…					
23. the way you got along with your parents?	0	1	2	3	4
24. your school?	0	1	2	3	4
25. your teachers at school?	0	1	2	3	4
26. the courses you were taking at school?	0	1	2	3	4
27. your school principal?	0	1	2	3	4

Please continue to the next page

As a researcher, I am not qualified to provide counseling services, and I will not be following up with you after this study. If you feel upset after completing the survey or find that some questions or aspects of the survey caused you distress, talking with a qualified emotional health clinician may help. If you need assistance, please contact the U.S. Department of Health & Human Services Helpline at 1-877-726-4727 (Monday-Friday, 8 am-8 pm ET) or go online at MentalHealth.gov. In the case of an emergency, please call 911.

---------- End of Survey ----------
Thank you!